MIB REFERENCE GUIDE

Extreme NetIron MIB Reference Guide, 06.1.00

Supporting NetIron OS 06.1.00

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Contents

Preface

Document conventions

The document conventions describe text formatting conventions, command syntax conventions, and important notice formats used in Extreme technical documentation.

Notes, cautions, and warnings

Notes, cautions, and warning statements may be used in this document. They are listed in the order of increasing severity of potential hazards.

NOTE
A Note provides a tip, guidance, or advice, emphasizes important information, or provides a reference to related information.

ATTENTION
An Attention statement indicates a stronger note, for example, to alert you when traffic might be interrupted or the device might reboot.

CAUTION
A Caution statement alerts you to situations that can be potentially hazardous to you or cause damage to hardware, firmware, software, or data.

DANGER
A Danger statement indicates conditions or situations that can be potentially lethal or extremely hazardous to you. Safety labels are also attached directly to products to warn of these conditions or situations.

Text formatting conventions

Text formatting conventions such as boldface, italic, or Courier font may be used to highlight specific words or phrases.

Format	Description
bold text	Identifies command names.
	Identifies keywords and operands.
	Identifies the names of GUI elements.
	Identifies text to enter in the GUI.
italic text	Identifies emphasis.
	Identifies variables.
	Identifies document titles.
`Courier font`	Identifies CLI output.

Format	Description
	Identifies command syntax examples.

Command syntax conventions

Bold and italic text identify command syntax components. Delimiters and operators define groupings of parameters and their logical relationships.

Convention	Description
bold text	Identifies command names, keywords, and command options.
italic text	Identifies a variable.
[ ]	Syntax components displayed within square brackets are optional. Default responses to system prompts are enclosed in square brackets.
{ **x** | **y** | **z** }	A choice of required parameters is enclosed in curly brackets separated by vertical bars. You must select one of the options.
x | **y**	A vertical bar separates mutually exclusive elements.
< >	Nonprinting characters, for example, passwords, are enclosed in angle brackets.
...	Repeat the previous element, for example, *member*[*member*...].
\	Indicates a "soft" line break in command examples. If a backslash separates two lines of a command input, enter the entire command at the prompt without the backslash.

Extreme resources

Visit the Extreme website to locate related documentation for your product and additional Extreme resources.

White papers, data sheets, and the most recent versions of Extreme software and hardware manuals are available at www.extremenetworks.com. Product documentation for all supported releases is available to registered users at www.extremenetworks.com/support/documentation.

Document feedback

Quality is our first concern at Extreme, and we have made every effort to ensure the accuracy and completeness of this document. However, if you find an error or an omission, or you think that a topic needs further development, we want to hear from you.

You can provide feedback in two ways:

- Use our short online feedback form at http://www.extremenetworks.com/documentation-feedback-pdf/
- Email us at internalinfodev@extremenetworks.com

Provide the publication title, part number, and as much detail as possible, including the topic heading and page number if applicable, as well as your suggestions for improvement.

Contacting Extreme Technical Support

As an Extreme customer, you can contact Extreme Technical Support using one of the following methods: 24x7 online or by telephone. OEM customers should contact their OEM/solution provider.

If you require assistance, contact Extreme Networks using one of the following methods:

- GTAC (Global Technical Assistance Center) for immediate support
  - Phone: 1-800-998-2408 (toll-free in U.S. and Canada) or +1 408-579-2826. For the support phone number in your country, visit: www.extremenetworks.com/support/contact.
  - Email: support@extremenetworks.com. To expedite your message, enter the product name or model number in the subject line.
- GTAC Knowledge - Get on-demand and tested resolutions from the GTAC Knowledgebase, or create a help case if you need more guidance.
- The Hub - A forum for Extreme customers to connect with one another, get questions answered, share ideas and feedback, and get problems solved. This community is monitored by Extreme Networks employees, but is not intended to replace specific guidance from GTAC.
- Support Portal - Manage cases, downloads, service contracts, product licensing, and training and certifications.

Before contacting Extreme Networks for technical support, have the following information ready:

- Your Extreme Networks service contract number and/or serial numbers for all involved Extreme Networks products
- A description of the failure
- A description of any action(s) already taken to resolve the problem
- A description of your network environment (such as layout, cable type, other relevant environmental information)
- Network load at the time of trouble (if known)
- The device history (for example, if you have returned the device before, or if this is a recurring problem)
- Any related RMA (Return Material Authorization) numbers

About This Document

What's new in this document

On October 30, 2017, Extreme Networks, Inc. acquired the data center networking business from Brocade Communications Systems, Inc. This document has been updated to remove or replace references to Brocade Communications, Inc. with Extreme Networks., Inc., as appropriate.

Supported hardware and software

The hardware platforms in the following table are supported by this release of this guide.

TABLE 1 Supported devices

ExtremeRouting XMR Series	ExtremeRouting MLX Series	ExtremeSwitching CES 2000 Series	ExtremeRouting CER 2000 Series
XMR 4000	MLX-4	CES 2024C	CER 2024C
XMR 8000	MLX-8	CES 2024F	CER-RT 2024C
XMR 16000	MLX-16	CES 2048C	CER 2024F
XMR 32000	MLX-32	CES 2048CX	CER-RT 2024F
	MLXe-4	CES 2048F	CER 2048C
	MLXe-8	CES 2048FX	CER-RT 2048C
	MLXe-16		CER 2048CX
	MLXe-32		CER-RT 2048CX
			CER 2048F
			CER-RT 2048F
			CER 2048FX
			CER-RT 2048FX

Supported software

For the complete list of supported features and the summary of enhancements and configuration notes for this release, refer to the *Extreme NetIron Release Notes*.

Overview of the Unified IP MIB

Introduction

The Management Information Base (MIB) is a database of objects that can be used by a Network Management System (NMS) to manage and monitor devices on the network. The MIB can be retrieved by a network management system that uses Simple Network Management Protocol (SNMP). The MIB structure determines the scope of management access allowed by a device. By using SNMP, a manager application can issue read or write operations within the scope of the MIB.

The Unified IP MIB consolidates proprietary MIBs used by Extreme NetIron devices into one proprietary MIB file. With this consolidation, all MIBs from IP devices are fully synchronized from one device to another. It also ensures that each MIB object across various IP products have consistent definition. The SNMP Manager can compile MIBs safely from various platforms and not expect to get warnings due to conflicting OIDs, data types, or enumeration. The supported standard MIBs are not affected.

The Unified IP MIB is not backward-compatible; for this reason, if you have Extreme devices that do not support the Unified IP MIB, you may need to rewrite your SNMP scripts if the scripts contain objects that were changed in the Unified IP MIB.

Obtaining and installing the Unified IP MIBs

You can obtain the Unified IP MIBs by downloading the file from the Extreme Technical Support website.

After obtaining the MIB, follow the instructions for your network management system (NMS) to be able to use the MIB with your system.

Downloading the MIB from the Technical Support website

To download the MIB from the Extreme Technical Support website, you must have a user name and password to access the Extreme support site and perform the following steps.

1. Go to http://www.extremenetworks.com in your Web browser.
2. Log in with your user name and password.
3. Click the Downloads tab, and then click the Knowledge Portal link.
4. Log in to the Knowledge Portal, and then click the Software tab.
5. Click the product name. Each product release has a link for its corresponding MIB.
6. Navigate to the link for the MIB and either open the file or save it to disk.

Downloading the MIB from the Extreme FTP site

You can also download the MIB from the Knowledge Portal. Contact Extreme Technical Support for details. For the latest edition of this document, which contains the most up-to-date information, refer to the Product Manuals tab at http://www.extremenetworks.com .

Importing Unified IP MIB into a UNIX environment

You can import the Unified IP MIB into third-party network management applications, such as HP OpenView. By default, the Unified IP MIB files are in DOS ASCII format that uses the following characters:

- CR/LF - Indicates the end of a line
- ^Z - Indicates the end of a file

However, in a UNIX environment, the characters LF are used to indicate the end of a line. No character indicates the end of a file. Thus, if you need to import the Unified IP MIB into a UNIX environment, you must use a tool that converts the DOS ASCII into UNIX ASCII, such as the dos2unix tool.

Reloading MIBs into a third-party NMS

Third-party network management systems, such as HP OpenView may have problems reloading MIB files. Ensure that you must upload the following when reloading the Extreme IP MIBs:

- Unload the Enterprise MIBs which were installed from the previous upgrade before reloading any new Enterprise MIB file.
- Unload the Standard MIBs which were installed from the previous upgrade before reloading any new Standard MIB file.

Standard objects

The Unified IP MIB supports certain standard MIB objects, which are derived from Request for Comments (RFCs) documents. Refer to Supported Standard MIBs on page 25 for details on the supported standard MIBs.

Proprietary objects

Proprietary objects are MIB objects that have been developed specifically to manage Extreme IP devices. The object identifier (OID) for these MIB objects begin with *1.3.6.1.4.1.1991* . In this manual, the prefix *1.3.6.1.4.1.1991* is represented by the characters *brcdIp.*

For example, the OID for the object snChassis is *1.3.6.1.4.1.1991.1.1.1* , but documented as *brcdIp.1.1.1* in this manual.

SNMP support

The SNMPv3 engine is supported on the Extreme IP devices. The SNMPv3 engine can accept V1, V2c, and V3 packet formats.

NOTE
If the SNMP GET-BULK request with a high count of max-repetitions, then the device will respond with the total count of 10.

Supported Standard MIBs

Supported on Extreme NetIron devices

The following RFCs are supported on the XMR Series, MLX Series, MLX Series, CES 2000 Series, and CER 2000 Series devices.

- 1213 - MIB II
- 1493 - Bridge MIB (excluding filtering of objects)
- 1724 - RIPv2 MIB

  NOTE
  Beginning from NetIron 05.9.00 release, the objects or tables from RFC 1724 (rip2GlobalRouteChanges, rip2GlobalQueries , rip2IfStatTable, and rip2IfConfTable) supports VRF.

- 1850 - OSPF Version 2 Management Information Base
- 2465 - Management Information Base for IP Version 6: Textual Conventions and General Group

  NOTE
  Beginning from NetIron 05.9.00 release, The MIB objects of **ipv6IfTable**, **ipv6AddrPrefixTable**, **ipv6AddrTable**, **ipv6RouteTable**, and **ipv6NetToMediaTable** has VRF support.

- 2674 - 802.1Q and 802.1p Bridge MIB
- 2787 - VRRP MIB (Refer to RFC 2787: Definitions of Managed Objects for the Virtual Router Redundancy Protocol on page 32 for details.)
- 2819 - Remote Network Monitoring Management Information Base
- 2863 - Interfaces Group MIB
- 2932 - Multicast Routing MIB for IPv4 (Refer to RFC 2932: IPv4 Multicast Routing MIB on page 42 for details.)
- 2933 - IGMP MIB (Refer to RFC 2933: Internet Group Management Protocol MIB on page 45 for details.)
- 2934 - PIM MIB (Refer to RFC 2934: Protocol Independent Multicast MIB for IPv4 on page 47 details.)
- 3289 - Management Information Base for the Differentiated Services Architecture
- 3418 - Management Information Base (MIB) for the SNMP (Refer to GUID-93508027-0165-4924-A512-D19F1F0510F4 for details.)
- 3592 - SDH/SONET MIB (partially supported)
- 3635 - Ethernet-Like MIB (Replaces RFC 2665)
- 3812 - MPLS TE Standard MIB
- 3813 - Multiprotocol Label Switching (MPLS) Label Switching Router (LSR) Management Information Base (MIB)
- 4022 - Management Information Base for the Transmission Control Protocol (TCP)
- 4087 - IP Tunnel MIB
- 4113 - Management Information Base for the User Datagram Protocol (UDP)
- 4292 - IP Forwarding MIB
- 4293 - Management Information Base for the Internet Protocol (IP). (Refer to RFC 4293: Management Information Base for the Internet Protocol (IP) on page 76 for details.)
- RFC 4363: Definitions of Managed Objects for Bridges with Traffic Classes, Multicast Filtering, and Virtual LAN Extensions. (Refer to RFC 4363: Definitions of Managed Objects for Bridges with Traffic Classes, Multicast Filtering, and Virtual LAN Extensions on page 80 for details.)
- 4382 - MPLS/BGP Layer 3 Virtual Private Network (VPN) Management Information Base

- 4444 - Management Information Base for Intermediate System to Intermediate System (IS-IS) (Refer to RFC 4444: Management Information Base for Intermediate System to Intermediate System (IS-IS) on page 81 for details.)
- 4807 - IP Security Policy Database Configuration Management Information Base
- draft-ietf-bfd - Bidirectional Forwarding Detection Management Information Base
- draft-ietf-pwe3-enet-mib-11.txt - Ethernet Pseudo Wire (PW) Management Information Base

RFC compliance - management

- 854 - TELNET
- 1445 - Administrative Model for SNMPv2 - Support for View Subtree (partially supported)
- 1492 - TACACS+
- 2030 - SNTP
- 2068 - HTTP
- 2284 - PPP EAP - Support EAP extension
- 2578 - SNMPv2
- 2579 - Textual Conventions for SMIv2
- 2865 - RADIUS
- 2866 - RADIUS Accounting
- 2868 - RADIUS Attributes for Tunnel Protocol (partially supported)
- 2869 - RADIUS Extensions - EAP Message (type 79) and Message-Authenticator (type 80)
- 3164 - BSD Syslog Protocol
- 3176 - sFlow (Refer to RFC 3176: InMon Corporation's sFlow: A Method for Monitoring Traffic in Switched and Routed Networks on page 50 for details.)
- 3410 - SNMPvV3
- 3411 - Architecture for SNMP
- 3412 - Message Processing and Dispatching for SNMP
- 3413 - Simple Network Management Protocol (SNMP) Applications (partially supported)
- 3414 - USM for SNMPv3
- 3415 - VACM for SNMPvV3
- 3416 - Version 2 of the Protocol Operations for the SNMP
- 3579 - RADIUS Support for Extensible Authentication Protocol (EAP) (partially supported)
- 3584 - Coexistence between Version 1, Version 2, and Version 3 of the Internet-standard Network Management Framework
- 3815 - Managed Objects for the Multiprotocol Label Switching (MPLS) and Label Distribution Protocol (LDP)
- 3826 - The Advanced Encryption Standard (AES) Cipher Algorithm in the SNMP User-based Security Model
- 4188 - Definitions of Managed Objects for Bridges
- 4251 - The Secure Shell (SSH) Protocol Architecture
- 4252 - The Secure Shell (SSH) Authentication Protocol
- 4253 - The Secure Shell (SSH) Transport Protocol
- 4254 - The Secure Shell (SSH) Connection Protocol
- 4273 - Definitions of Managed Objects for BGP-4 (Refer to RFC 4273: Definitions of Managed Objects for BGP-4 on page 66 for details.)

- draft-ietf-idr-bgp4-mibv2-12 MIB on page 67 — Definitions of Managed Objects for the Fourth Version of Border Gateway Protocol (BGP-4), Second Version
- 4330 - Simple Network Time Protocol (SNTP) Version 4 for IPv4 and IPv6
- draft-grant-tacacs-02.txt - The TACACS+ Protocol
- draft-ietf-pwe3-pw-mib-11.txt - PW-STD-MIB Definitions (read-only)

IEEE standards

- IEEE8021-CFM-MIB on page 108 — IEEE 802.1ag CFM MIB
- IEEE8021-SECY-MIB on page 113— IEEE 802.1ag SECY MIB
- IEEE8023-LAG-MIB on page 116— IEEE 802.3 LAG MIB

LLDP MIB support

The following standard MIBs are supported on the Extreme NetIron devices with LLDP capability.

The following MIBs are in the 802.1AB standard, Station and Media Access Control Connectivity Discovery:

- GUID-0E64D355-A740-471B-92CE-86EEE2562684
- GUID-1BFD911B-ED1F-4161-BBCE-0DD36956A4EE
- GUID-3918721C-6658-479B-9863-45EF4720C81D

LLDP\LLDP-MED MIB support

The following standard MIBs are supported on Extreme NetIron devices with LLDP\LLDP-MED capability.

- LLDP-EXT-DOT1-MIB
- LLDP-EXT-DOT3-MIB

The following MIB is in the ANSI/TIA-1057 standard, Link Layer Discovery Protocol (LLDP) for Media Endpoint Devices (MED):

- LLDP-EXT-MED-MIB

RFC 1493: Definitions of Managed Objects for Bridges

The following groups are supported on the Extreme NetIron devices.

NOTE
RFC 4188 obsoletes RFC 1493 on the XMR Series, MLX Series, MLX Series, CES 2000 Series, and CER 2000 Series devices.

Object group name	Object identifier
dot1dBridge	1.3.6.1.2.1.17
dot1dBase	1.3.6.1.2.1.17.1
dot1dStp	1.3.6.1.2.1.17.2

Object group name	Object identifier
dot1dTp	1.3.6.1.2.1.17.4

NOTE
The dot1dTpFdbTable (OID 1.3.6.1.2.1.17.4.4) in RFC 1493 is used to find dynamically learned MAC addresses. Statically configured MAC addresses are in the snFdbTable (refer to Forwarding database static table information on page 313).

NOTE
The SNMP MIB object dot1dStpPortTable (OID 1.3.6.1.2.1.17.2.15) does not display information for tagged ports that belong to an 802.1W RSTP configuration. The design of that MIB table is based on a Single STP standard, and does not accommodate Multiple STPs. Thus, the table displays information only for SSTP and for tagged and untagged ports.

NOTE
RFC 4188 has been converted to SMIv2 format. The object dot1dStpPortPathCost32 was added to support IEEE 802. The existing MIB dot1dStpPortPathCost has an upper range of 65535. Over that value, this MIB stays at the upper value and you should access dot1dStpPortPathCost32, which has a higher upper-range value.

RFC 1757: Remote Network Monitoring Management Information Base

NOTE
This RFC is obsolete and is replaced by RFC 2819 for the XMR Series, MLX Series, MLX Series, CES 2000 Series, and CER 2000 Series devices.

Object group name	Object identifier
rmon	1.3.6.1.2.1.16
statistics	1.3.6.1.2.1.16.1
history	1.3.6.1.2.1.16.2
alarm	1.3.6.1.2.1.16.3
event	1.3.6.1.2.1.16.9

The following object groups in RFC 1757 are not supported on the Extreme NetIron devices:

- hosts
- hostTopN
- matrix
- filter
- capture (packet capture)

RFC 1850: OSPF Version 2 Management Information Base

The following tables from RFC 1850 are supported on the XMR Series, MLX Series, MLX Series, CES 2000 Series, and Extreme NetIron CER Series devices.

NOTE
Beginning with NetIron 05.9.00 release, the following MIB objects except ospfTrap from RFC 1850 has VRF support.

Object	Object identifier	Supported?
ospfGeneralGroup	1.3.6.1.2.1.14.1	Yes
ospfAreaTable	1.3.6.1.2.1.14.2	Yes
ospfStubAreaTable	1.3.6.1.2.1.14.3	Yes. SET operation is not supported.
ospfLsdbTable	1.3.6.1.2.1.14.4	Yes
ospfHostTable	1.3.6.1.2.1.14.6	Yes. SET operation is not supported.
ospfIfTable	1.3.6.1.2.1.14.7	Yes
ospfIfMetricTable	1.3.6.1.2.1.14.8	Yes. SET operation is not supported.
ospfVirtIfTable	1.3.6.1.2.1.14.9	Yes
ospfNbrTable	1.3.6.1.2.1.14.10	Yes. SET operation is not supported.
ospfVirtNbrTable	1.3.6.1.2.1.14.11	Yes
ospfExtLsdbTable	1.3.6.1.2.1.14.12	Yes
ospfAreaAggregateTable	1.3.6.1.2.1.14.14	Yes
ospfTrap	1.3.6.1.2.1.14.16	Yes
ospfTrapControl	1.3.6.1.2.1.14.16.1	Yes

RFC 2096: IP Forwarding Table MIB

RFC 2096 is supported on the Extreme NetIron devices. RFC 2096 is obsoleted by RFC 4292 and it supports both IPv4 and IPv6 forwarding tables.

Object group name	Object identifier
ipCidrRouteDest	1.3.6.1.2.1.4.24.4.1.1
ipCidrRouteMask	1.3.6.1.2.1.4.24.4.1.2
ipCidrRouteTos	1.3.6.1.2.1.4.24.4.1.3
ipCidrRouteNextHop	1.3.6.1.2.1.4.24.4.1.4
ipCidrRouteIfIndex	1.3.6.1.2.1.4.24.4.1.5
ipCidrRouteType	1.3.6.1.2.1.4.24.4.1.6
ipCidrRouteProto	1.3.6.1.2.1.4.24.4.1.7
ipCidrRouteAge	1.3.6.1.2.1.4.24.4.1.8
ipCidrRouteInfo	1.3.6.1.2.1.4.24.4.1.9
ipCidrRouteNextHopAS	1.3.6.1.2.1.4.24.4.1.10
ipCidrRouteMetric1	1.3.6.1.2.1.4.24.4.1.11
ipCidrRouteMetric2	1.3.6.1.2.1.4.24.4.1.12
ipCidrRouteMetric3	1.3.6.1.2.1.4.24.4.1.13
ipCidrRouteMetric4	1.3.6.1.2.1.4.24.4.1.14
ipCidrRouteMetric5	1.3.6.1.2.1.4.24.4.1.15
ipCidrRouteStatus	1.3.6.1.2.1.4.24.4.1.16

RFC 2233: The Interfaces Group MIB using SMIv2

The interface entry table or ifXTable is based on RFC 2233. It contains information about the interfaces. Each sub-layer is considered to be an interface. This table contains entries for the ATM physical ports, as well as for any sub-interfaces that have been configured.

Beginning from NetIron 05.9.00 release, ifTable, ifXTable, and ifStackTable MIB objects support VRF.

Object group name	Object identifier
ifMIB	1.3.6.1.2.1.31
ifMIBObjects	1.3.6.1.2.1.31.1
ifTable	1.3.6.1.2.1.2.2
ifXTable	1.3.6.1.2.1.31.1.1
ifStackTable	1.3.6.1.2.1.31.1.2
ifConformance	1.3.6.1.2.1.31.2
ifCounterDiscontinuityGroup	1.3.6.1.2.1.31.2.1.13

RFC 2515: Definitions of Managed Objects for ATM Management

Only the following object groups from RFC 2515 are supported on devices that support ATM.

ATM interface configuration parameters table

The ATM Interface Configuration Table from RFC 2515 contains the configuration of cell layers on the ATM interface of a local device. This information is in addition to the information contained in the ifTable.

The table contains one entry for each ATM interface port. AAL5 virtual channel connection performance statistics table on page 31 has the object identifier for the atmInterfaceConf table.

ATM interface transmission convergence sub-layer table

The ATM Interface Transmission Convergence sub-layer table from RFC 2515 contains configuration and state parameters of the ATM interfaces that use the Transmission Convergence sub-layer for carrying ATM cells over SONET/SDH or DS3. AAL5 virtual channel connection performance statistics table on page 31 has the object identifier for the atmInterfaceTC table.

AAL5 virtual channel connection performance statistics table

The ATM Adaptation Layer Type 5 (AAL5) virtual channel connection performance statistics table from RFC 2515 contains the performance statistics of a virtual channel connection at the interface associated with an AAL5 entity in an ATM host or ATM switch. Table 2 has the object identifier for the aal5Vcc table.

TABLE 2 Object group names and OIDs

Object group name	Object identifier
atmMIB	1.3.6.1.2.1.37
atmMIBObjects	1.3.6.1.2.1.37.1

TABLE 2 Object group names and OIDs (continued)

Object group name	Object identifier
atmInterfaceConfTable	1.3.6.1.2.1.37.1.2
atmInterfaceTCTable	1.3.6.1.2.1.37.1.4
aal5VccTable	1.3.6.1.2.1.37.1.12
atmTCMIB	1.3.6.1.2.1.37.3

Other object groups from this RFC are not supported.

RFC 2787: Definitions of Managed Objects for the Virtual Router Redundancy Protocol

The XMR Series, MLX Series, MLX Series, CES 2000 Series, CER 2000 Series devices support RFC 2787, Definitions of Managed Objects for the Virtual Router Redundancy Protocol.

> **NOTE**
> SNMP support for VRRP MIBs is limited only to IPv4 and not supported on IPv6.

The following are the VRRP MIB groups:

- vrrpOperations (OID: 1.3.6.1.2.1.68.1)
- vrrpStatistics (OID: 1.3.6.1.2.1.68.2)
- vrrpConformance (OID: 1.3.6.1.2.1.68.3)

VRRP operations table (vrrpOperTable)

The operations table for a VRRP router that consists of a sequence (one or more conceptual rows) of vrrpOperEntry objects.

Object	Object identifier	Supported?
vrrpOperTable	1.3.6.1.2.1.68.1.3	Yes
vrrpOperVrId	1.3.6.1.2.1.68.1.3.1.1	Yes
vrrpOperVirtualMacAddr	1.3.6.1.2.1.68.1.3.1.2	Yes
vrrpOperState	1.3.6.1.2.1.68.1.3.1.3	Yes
vrrpOperAdminState	1.3.6.1.2.1.68.1.3.1.4	Yes
vrrpOperPriority	1.3.6.1.2.1.68.1.3.1.5	Yes
vrrpOperIpAddrCount	1.3.6.1.2.1.68.1.3.1.6	Yes
vrrpOperPrimaryIpAddr	1.3.6.1.2.1.68.1.3.1.8	Yes
vrrpOperAdvertisementInterval	1.3.6.1.2.1.68.1.3.1.11	Yes
vrrpOperPreemptMode	1.3.6.1.2.1.68.1.3.1.12	Yes
vrrpOperProtocol	1.3.6.1.2.1.68.1.3.1.14	Yes
vrrpOperRowStatus	1.3.6.1.2.1.68.1.3.1.15	Yes

VRRP associated IP address table (vrrpAssoIpAddrTable)

The table of addresses associated with the virtual router.

Object	Object identifier	Supported?
vrrpAssoIpAddr	1.3.6.1.2.1.68.1.4.1.1	Yes
vrrpAssoIpAddrRowStatus	1.3.6.1.2.1.68.1.4.1.2	Yes

VRRP router statistics (vrrpStatistics)

The table of MIB objects represents the VRRP statistics.

Object	Object identifier	Supported?
vrrpRouterChecksumErrors	1.3.6.1.2.1.68.2.1	Yes
vrrpRouterVersionErrors	1.3.6.1.2.1.68.2.2	Yes
vrrpRouterVrIdErrors	1.3.6.1.2.1.68.2.3	Yes

VRRP router statistics (vrrpRouterStatsTable)

The table of MIB objects represents the total number of VRRP packets received with an invalid VRRP checksum value.

Object	Object identifier	Supported?
vrrpStatsBecomeMaster	1.3.6.1.2.1.68.2.4.1.1	Yes
vrrpStatsAdvertiseRcvd	1.3.6.1.2.1.68.2.4.1.2	Yes
vrrpStatsAdvertiseIntervalErrors	1.3.6.1.2.1.68.2.4.1.3	Yes
vrrpStatsAuthFailures	1.3.6.1.2.1.68.2.4.1.4	Yes
vrrpStatsIpTtlErrors	1.3.6.1.2.1.68.2.4.1.5	Yes
vrrpStatsPriorityZeroPktsRcvd	1.3.6.1.2.1.68.2.4.1.6	Yes
vrrpStatsPriorityZeroPktsSent	1.3.6.1.2.1.68.2.4.1.7	Yes
vrrpStatsInvalidTypePktsRcvd	1.3.6.1.2.1.68.2.4.1.8	Yes
vrrpStatsAddressListErrors	1.3.6.1.2.1.68.2.4.1.9	Yes
vrrpStatsInvalidAuthType	1.3.6.1.2.1.68.2.4.1.10	Yes
vrrpStatsAuthTypeMismatch	1.3.6.1.2.1.68.2.4.1.11	Yes
vrrpStatsPacketLengthErrors	1.3.6.1.2.1.68.2.4.1.12	Yes

Notifications

The following table lists the supported notifications for RFC 2787.

Object group name	Object identifier
vrrpTrapNewMaster	1.3.6.1.2.1.68.0.1
vrrpTrapAuthFailure	1.3.6.1.2.1.68.0.2
vrrpTrapPacketSrc	1.3.6.1.2.1.68.1.5
vrrpTrapAuthErrorType	1.3.6.1.2.1.68.1.6

RFC 2819: Remote Network Monitoring Management Information Base

On the MLX Series devices, interface statistics from the following objects of the etherStatsTable are preserved when the **clear statistics** command is entered on the CLI, if the **snmp-server preserve-statistics** command is enabled:

- etherStatsDropEvents
- etherStatsOctets
- etherStatsPkts
- etherStatsBroadcastPkts
- etherStatsMulticastPkts
- etherStatsCRCAlignErrors
- etherStatsUndersizePkts
- etherStatsOversizePkts
- etherStatsFragments
- etherStatsPkts64Octets
- etherStatsPkts65to127Octets
- etherStatsPkts128to255Octets
- etherStatsPkts256to511Octets
- etherStatsPkts512to1023Octets
- etherStatsPkts1024to1518Octets

History control group

On the Extreme NetIron devices, the history control group controls the periodic statistical sampling of data from various types of networks. The following objects in the historyControlTable store configuration entries that each define an interface, polling period, and other parameters:

- historyControlIndex
- historyControlDataSource
- historyControlBucketsRequested
- historyControlBucketsGranted
- historyControlInterval
- historyControlOwner
- historyControlStatus

Ethernet history group

On the Extreme NetIron devices, the Ethernet history group records periodic statistical samples from a network and stores them for later retrieval. The following objects of the group define the etherHistoryTable for Ethernet networks:

- etherHistoryIndex
- etherHistorySampleIndex
- etherHistoryIntervalStart

- etherHistoryDropEvents
- etherHistoryOctets
- etherHistoryPkts
- etherHistoryBroadcastPkts
- etherHistoryMulticastPkts
- etherHistoryCRCAlignErrors
- etherHistoryUndersizePkts
- etherHistoryOversizePkts
- etherHistoryFragments
- etherHistoryJabbers
- etherHistoryCollisions
- etherHistoryUtilization

Alarm group

On the Extreme NetIron devices, the Alarm group periodically takes statistical samples from variables in the probe and compares them to thresholds that have been configured. The alarm table stores configuration entries that each define a variable, polling period, and threshold parameters:

- alarmIndex
- alarmInterval
- alarmVariable
- alarmSampleType
- alarmValue
- alarmStartupAlarm
- alarmRisingThreshold
- alarmFallingThreshold
- alarmRisingEventIndex
- alarmFallingEventIndex
- alarmOwner
- alarmStatus

Event group

On the Extreme NetIron devices, the following objects in the Event group control the generation and notification of events from the devices. Each entry in the eventTable describes the parameters of the event that can be triggered:

- eventIndex
- eventDescription
- eventType
- eventCommunity
- eventLastTimeSent
- eventOwner

- eventStatus

RFC 2863: The Interfaces Group MIB

RFC 2863 is supported on the XMR Series, MLX Series, MLX Series, CES 2000 Series, and Extreme NetIron CER Series devices.

ifIndex

On the XMR Series, MLX Series, MLX Series, CES 2000 Series, and CER 2000 Series devices, there can be 20, 40, 48, or 64 ifIndexes per module. The default is 20. Use the **snmp-server max-ifindex-per-module 40** command to change the ifIndex to 40 (for example, for backward-compatibility).

On the XMR Series, MLX Series, MLX Series, CES 2000 Series, and CER 2000 Series devices, every trunk group will appear as a row within the ifTable and ifXTable. The ifIndex range involves all the physical ports, virtual ports, loopback ports, multicast tunnels, GRE tunnels, MPLS tunnels, and Trunks in that order.

Use the Get operations on snInterfaceLookupIfIndex (indexed by ifIndex) to get InterfaceId (in a simple OID form).

Table 3 details the XMR Series or MLX Series index ranges, and they are subject to change from one release to the next.

TABLE 3 XMR Series or MLX Series index ranges

	4-slot	8-slot	16-slot	32-slot	Allocation
Physical port	1-192	1-384	1-768	1-1536	48 per slot
Mgmt port	2	2	2	2	1 active, 1 standby
Virtual port	255 default, 40 minimum, 4096 maximum	255 default, 40 minimum, 4096 maximum	255 default, 40 minimum, 4096 maximum	255 default, 40 minimum, 4096 maximum	
Loopback port	64 default	64 default	64 default	64 default	
IP tunnels	8192	8192	8192	8192	
MPLS tunnels	16384	16384	16384	16384	
Trunk	128 default, 128 minimum, 256 maximum	128 default, 128 minimum, 256 maximum	128 default, 128 minimum, 256 maximum	128 default, 128 minimum, 256 maximum	

ifIndex assignment persistance

The following interfaces have ifIndex assignments that are persistent across reboots and switchover operations:

- Physical ports
- Virtual ports
- Loopback ports

NOTE
The ifIndex should be derived from the snIfIndexLookupTable using the InterfaceId (in OID form), instead of assuming that the ifIndex will always stay persistent across reloads.

On the following interfaces, IfIndex assignments are not persistent across reboots and switchover operations:

- MPLS tunnel interfaces (on NetIron devices)
- Trunk ports

- IP/GRE tunnels

ifType for interfaces

On XMR Series, MLX Series, MLX Series, CES 2000 Series, and CER 2000 Series devices, ifType for all Ethernet interfaces (10/100 Mbps, 1 Gbps, and 10 Gbps) returns the value **ethernetCsmacd(6)** as mandated by RFC 2665.

If the snmp-server legacy iftype command is configured on the device CLI, ifType returns **gigabitEthernet(117)** or **fastEther(62)**. If the command is not configured (or **no snmp-server legacy iftype** is used) then ifType returns the value **ethernetCsmacd(6)**.

Statistics for virtual routing interfaces on 8x10 modules

The ifTable and ifXTable display information for switched and routed packets on virtual routing interfaces of the 8x10 modules installed on the XMR Series, MLX Series, and MLX Series devices. This feature is available on XMR Series, MLX Series, and MLX Series devices. The **extended-counter routed-switched** command must be configured to enable separate accounting of switched and routed packets on virtual routing interfaces.

ifTable attributes

The following MIB attributes of the ifTable return information for switched and routed packets for the 8x10 modules on the Extreme devices.

MIB attribute	Physical	Virtual	Loopback	IP tunnel	MPLS tunnel	Trunk	GRE tunnel
ifInOctets	Yes	Yes	No	No	No	Yes	Yes
ifOutOctets	Yes	Yes	No	No	Yes	Yes	No
ifInUcastPkts	Yes	Yes	No	Yes	No	Yes	Yes
ifOutUcastPkts	Yes	Yes	No	No	Yes	Yes	No
ifInNUcastPkts	Yes	No	No	No	No	Yes	No
ifInDiscards	Yes	No	No	No	No	Yes	No
ifInErrors	Yes	No	No	No	No	Yes	No
ifInUnknownProtos	Yes	No	No	No	No	Yes	No
ifOutNUcastPkts	Yes	No	No	No	No	Yes	No
ifOutDiscards	Yes	No	No	No	No	Yes	No
ifOutErrors	Yes	No	No	No	No	Yes	No
ifOutQLen	Yes	No	No	No	No	Yes	No

ifXTable attributes

The following MIB attributes of the ifXTable return information for switched and routed packets for the 8x10 modules on the Extreme devices.

MIB attribute	Physical	Virtual	Loopback	IP tunnel	MPLS tunnel	Trunk	GRE tunnel
ifHCInOctets	Yes	Yes	No	No	No	Yes	Yes
ifHCOutOctets	Yes	Yes	No	Yes	Yes	Yes	No
ifHCInUcastPkts	Yes	Yes	No	Yes	No	Yes	No

MIB attribute	Physical	Virtual	Loopback	IP tunnel	MPLS tunnel	Trunk	GRE tunnel
ifHCOutUcastPkts	Yes	Yes	No	Yes	Yes	Yes	No
ifInMulticastPkts	Yes	No	No	No	No	Yes	No
ifInBroadcastPkts	Yes	No	No	No	No	Yes	No
ifOutMulticastPkts	Yes	No	No	No	No	Yes	No
ifOutBroadcastPkts	Yes	No	No	No	No	Yes	No
ifHCInMulticastPkts	Yes	No	No	No	No	Yes	No
ifHCInBroadcastPkts	Yes	No	No	No	No	Yes	No
ifHCOutMulticastPkts	Yes	No	No	No	No	Yes	No
ifHCOutBroadcastPkts	Yes	No	No	No	No	Yes	No
ifLinkUpDownTrapEnable	No	No	No	No	No	No	Yes

NOTE

The Exteme NetIron devices support the GRE tunnels, IP tunnels, and MPLS tunnels.

Preserved SNMP statistics on interfaces

SNMP statistics in the ifTable and ifXTable for physical interfaces on MLX Series and other NetIron devices are preserved when the **snmp-server preserve-statistics** command is configured. After configuring **snmp-server preserve-statistics,** the SNMP statistics listed in the following tables are separated from the CLI statistics. When the **clear statistics** *interface-type interface-id* command is entered, the command clears only CLI statistics, leaving the SNMP statistics intact.

IF-MIB (RFC 2863) ifTable objects

Statistics from the following objects in the ifTable are preserved when the **snmp-server preserve-statistics** command is enabled on the CLI.

ifTable objects	Syntax
ifIndex 1.3.6.1.2.1.2.2.1.1	InterfaceIndex
ifDescr 1.3.6.1.2.1.2.2.1.2	DsiplayString
ifType 1.3.6.1.2.1.2.2.1.3	IANAifType
ifMtu 1.3.6.1.2.1.2.2.1.4	Integer32
ifSpeed 1.3.6.1.2.1.2.2.1.5	Gauge32

ifTable objects	Syntax
ifAdminStatus 1.3.6.1.2.1.2.2.1.7	PhysAddress
ifOperStatus 1.3.6.1.2.1.2.2.1.8	Integer
ifInOctets 1.3.6.1.2.1.2.2.1.10	Counter32
ifInUcastPkts 1.3.6.1.2.1.2.2.1.11	Counter32
ifInNUcastPkts 1.3.6.1.2.1.2.2.1.12 **NOTE** This object is deprecated in the 8x10 modules installed on the MLX Series, XMR Series, and MLX Series devices.	Counter32
ifInDiscards 1.3.6.1.2.1.2.2.1.13	Counter32
ifInErrors 1.3.6.1.2.1.2.2.1.14	Counter32
ifInUnknownProtos 1.3.6.1.2.1.2.2.1.15	Counter32
ifOutOctets 1.3.6.1.2.1.2.2.1.16	Counter32
ifOutUcastPkts 1.3.6.1.2.1.2.2.1.17	Counter32
ifOutNUcastPkts 1.3.6.1.2.1.2.2.1.18 **NOTE** This object is deprecated in the 8x10 modules installed on the MLX Series, XMR Series, MLX Series devices.	Counter32
ifOutDiscards 1.3.6.1.2.1.2.2.1.19	Counter32
ifOutErrors 1.3.6.1.2.1.2.2.1.20	Counter32

IF-MIB (RFC 2863) ifXTable objects

Statistics from the following objects in the ifXTable are preserved when the **snmp-server preserve-statistics** command is enabled on the CLI.

ifXTable objects	Syntax
ifName 1.3.6.1.2.1.31.1.1.1.1	DisplayString

ifXTable objects	Syntax
ifInMulticastPkts 1.3.6.1.2.1.31.1.1.1.2	Counter32
ifInBroadcastPkts 1.3.6.1.2.1.31.1.1.1.3	Counter32
ifOutMulticastPkts 1.3.6.1.2.1.31.1.1.1.4	Counter32
ifOutBroadcastPkts 1.3.6.1.2.1.31.1.1.1.5	Counter32
ifHCInOctets 1.3.6.1.2.1.31.1.1.1.6	Counter64
ifHCInUcastPkts 1.3.6.1.2.1.31.1.1.1.7	Counter64
ifHCInMulticastPkts 1.3.6.1.2.1.31.1.1.1.8	Counter64
ifHCInBroadcastPkts 1.3.6.1.2.1.31.1.1.1.9	Counter64
ifHCOutOctets 1.3.6.1.2.1.31.1.1.1.10	Counter64
ifHCOutUcastPkts 1.3.6.1.2.1.31.1.1.1.11	Counter64
ifHCOutMulticastPkts 1.3.6.1.2.1.31.1.1.1.12	Counter64
ifHCOutBroadcastPkts 1.3.6.1.2.1.31.1.1.1.13	Counter64
ifLinkUpDownTrapEnable 1.3.6.1.2.1.31.1.1.1.14 **NOTE** This object is used to control the generation of traps of the physical and GRE tunnel interfaces. By default, traps are enabled per interfaces for physical interfaces and disabled for tunnel interfaces.	Integer
ifHighSpeed 1.3.6.1.2.1.31.1.1.1.15	Gauge32
ifPromiscuousMode 1.3.6.1.2.1.31.1.1.1.16	TruthValue
ifConnectorPresent 1.3.6.1.2.1.31.1.1.1.17	TruthValue
ifAlias 1.3.6.1.2.1.31.1.1.1.18	DisplayString
ifCounterDiscontinuityTime 1.3.6.1.2.1.31.1.1.1.19	TimeStamp

EthernetLike-MIB (RFC 2665) dot3StatsTable objects (Ethernet ports only)

Statistics from the following objects in the dot3StatsTable are preserved when the **snmp-server preserve-statistics** command is enabled on the CLI.

dot3StatsTable objects	Syntax
dot3StatsIndex 1.3.6.1.2.1.10.7.2.1.1	Interface Index
dot3StatsAlignmentErrors 1.3.6.1.2.1.10.7.2.1.2	Counter32
dot3StatsFCSErrors 1.3.6.1.2.1.10.7.2.1.3	Counter32
dot3StatsSingleCollisionFrames 1.3.6.1.2.1.10.7.2.1.4	Counter32
dot3StatsMultipleCollisionFrames 1.3.6.1.2.1.10.7.2.1.5	Counter32
dot3StatsSQETestErrors 1.3.6.1.2.1.10.7.2.1.6	Counter32
dot3StatsDeferredTransmissions 1.3.6.1.2.1.10.7.2.1.7	Counter32
dot3StatsLateCollisions 1.3.6.1.2.1.10.7.2.1.8	Counter32
dot3StatsExcessiveCollisions 1.3.6.1.2.1.10.7.2.1.9	Counter32
dot3StatsInternalMacTransmitErrors 1.3.6.1.2.1.10.7.2.1.10	Counter32
dot3StatsCarrierSenseErrors 1.3.6.1.2.1.10.7.2.1.11	Counter32
dot3StatsFrameTooLongs 1.3.6.1.2.1.10.7.2.1.13	Counter32
dot3StatsInternalMacReceiveErrors 1.3.6.1.2.1.10.7.2.1.16	Counter32
dot3StatsEtherChipSet 1.3.6.1.2.1.10.7.2.1.17 NOTE This object is deprecated.	Object Identifier
dot3StatsSymbolErrors 1.3.6.1.2.1.10.7.2.1.18	Counter32
dot3StatsDuplexStatus 1.3.6.1.2.1.10.7.2.1.19	Integer

RMON-MIB (RFC 2819) etherStatsTable objects (Ethernet ports only)

Statistics from the following objects in the etherStatsTable are preserved when the **snmp-server preserve-statistics** command is enabled on the CLI.

NOTE
The following etherStatsTable objects are supported on the Extreme NetIron devices.

etherStatsTable objects	Syntax
etherStatsDropEvents 1.3.6.1.2.1.16.1.1.1.3	Counter32
etherStatsOctets 1.3.6.1.2.1.16.1.1.1.4	Counter32
etherStatsPkts 1.3.6.1.2.1.16.1.1.1.5	Counter32
etherStatsBroadcastPkts 1.3.6.1.2.1.16.1.1.1.6	Counter32
etherStatsMulticastPkts 1.3.6.1.2.1.16.1.1.1.7	Counter32
etherStatsCRCAlignErrors 1.3.6.1.2.1.16.1.1.1.8	Counter32
etherStatsUndersizePkts 1.3.6.1.2.1.16.1.1.1.9	Counter32
etherStatsOversizePkts 1.3.6.1.2.1.16.1.1.1.10	Counter32
etherStatsFragments 1.3.6.1.2.1.16.1.1.1.11	Counter32
etherStatsPkts64Octets 1.3.6.1.2.1.16.1.1.1.14	Counter32
etherStatsPkts65to127Octets 1.3.6.1.2.1.16.1.1.1.15	Counter32
etherStatsPkts128to255Octets 1.3.6.1.2.1.16.1.1.1.16	Counter32
etherStatsPkts256to511Octets 1.3.6.1.2.1.16.1.1.1.17	Counter32
etherStatsPkts512to1023Octets 1.3.6.1.2.1.16.1.1.1.18	Counter32
etherStatsPkts1024to1518Octets 1.3.6.1.2.1.16.1.1.1.19	Counter32

RFC 2932: IPv4 Multicast Routing MIB

Support for RFC 2932 is available on the MLX Series, MLX Series, XMR Series, CES 2000 Series, and CER 2000 Series devices.

NOTE
This MIB is not VRF-aware. MIB entries are based on the default VRF IP multicast routing tables.

NOTE
The ipMRouteBoundaryTable and ipMRouteScopeNameTable tables of RFC 2932 are not supported on the MLX Series, MLX Series, XMR Series, CES 2000 Series, and CER 2000 Series devices.

IP multicast scalar

Beginning with NetIron 05.9.00, the following MIB objects have VRF support.

Object	Object identifier	Supported?
ipMRouteEnable	1.3.6.1.2.1.83.1.1.1	Yes. Use either the [**no**] **ip multicast-routing** or **[no] router pim** command to configure IP multicast routing on the router.
ipMRouteEntryCount	1.3.6.1.2.1.83.1.1.7	Yes. Use the **show ip pim mcache** [**count**] command to display the number of rows in the ipMRouteTable.

ipMRouteTable (IP multicast route table)

Use the **show ip pim mcache** command to display the information for the IP multicast route table.

Use the **show ip route** and **show ip mroute** commands to display the route information (ipMRouteRtAddress, ipMRouteRtMask, and ipMRouteRtType).

The SET request is not supported for this table.

Object	Object identifier	Supported?
ipMRouteGroup	1.3.6.1.2.1.83.1.1.2.1.1	Yes, but read-only.
ipMRouteSource	1.3.6.1.2.1.83.1.1.2.1.2	Yes, but read-only.
ipMRouteSourceMask	1.3.6.1.2.1.83.1.1.2.1.3	Yes, but read-only.
ipMRouteUpstreamNeighbor	1.3.6.1.2.1.83.1.1.2.1.4	Yes, but read-only.
ipMRouteInIfIndex	1.3.6.1.2.1.83.1.1.2.1.5	Yes, but read-only.
ipMRouteUpTime	1.3.6.1.2.1.83.1.1.2.1.6	Yes, but read-only.
ipMRouteExpiryTime	1.3.6.1.2.1.83.1.1.2.1.7	Yes, but read-only.
ipMRoutePkts	1.3.6.1.2.1.83.1.1.2.1.8	Yes, but read-only.
ipMRouteDifferentInIfPackets	1.3.6.1.2.1.83.1.1.2.1.9	No NOTE This object is not supported on the MLX Series, MLX Series, XMR Series, CES 2000 Series, and CER 2000 Series devices.
ipMRouteOctets	1.3.6.1.2.1.83.1.1.2.1.10	No NOTE This object is not supported on the MLX Series, MLX Series, XMR Series, CES 2000 Series, and CER 2000 Series devices.

Object	Object identifier	Supported?
ipMRouteProtocol	1.3.6.1.2.1.83.1.1.2.1.11	Yes, but read-only.
ipMRouteRtProto	1.3.6.1.2.1.83.1.1.2.1.12	Yes, but read-only.
ipMRouteRtAddress	1.3.6.1.2.1.83.1.1.2.1.13	Yes, but read-only.
ipMRouteRtMask	1.3.6.1.2.1.83.1.1.2.1.14	Yes, but read-only.
ipMRouteRtType	1.3.6.1.2.1.83.1.1.2.1.15	No **NOTE** This object is not supported on the MLX Series, MLX Series, XMR Series, CES 2000 Series, and CER 2000 Series devices.
ipMRouteHCOctets	1.3.6.1.2.1.83.1.1.2.1.16	No **NOTE** This object is not supported on the MLX Series, MLX Series, XMR Series, CES 2000 Series, and CER 2000 Series devices.

ipMRouteNextHopTable (IP multicast route next hop table)

In this table, "*NextHop*" refers to the downstream traffic.

The following CLI commands display information about the objects in the IP multicast route next hop table:

- show ip pim mcache
- show ip pim neighbor

The SET request is not supported for this table.

Object	Object identifier	Supported?
ipMRouteNextHopGroup	1.3.6.1.2.1.83.1.1.3.1.1	No
ipMRouteNextHopSource	1.3.6.1.2.1.83.1.1.3.1.2	No
ipMRouteNextHopSourceMask	1.3.6.1.2.1.83.1.1.3.1.3	No
ipMRouteNextHopIfIndex	1.3.6.1.2.1.83.1.1.3.1.4	No
ipMRouteNextHopAddress	1.3.6.1.2.1.83.1.1.3.1.5	No
ipMRouteNextHopState	1.3.6.1.2.1.83.1.1.3.1.6	Yes, but read-only. Always shows forwarding(2).
ipMRouteNextHopUpTime	1.3.6.1.2.1.83.1.1.3.1.7	Yes, but read-only.
ipMRouteNextHopExpiryTime	1.3.6.1.2.1.83.1.1.3.1.8	Yes, but read-only.
ipMRouteNextHopClosestMemberHop	1.3.6.1.2.1.83.1.1.3.1.9	Yes, but read-only.
ipMRouteNextHopProtocol	1.3.6.1.2.1.83.1.1.3.1.10	Yes, but read-only.
ipMRouteNextHopPkts	1.3.6.1.2.1.83.1.1.3.1.11	No **NOTE** This object is not supported on the MLX Series, MLX Series, XMR Series, CES 2000 Series, and CER 2000 Series devices.

ipMRouteInterfaceTable (IP multicast route interface table)

This is the IP multicast route table for interfaces.

The **show ip pim interface** command is used to display information about this table.

The following interface-level commands are used to create an entry to the IP multicast route interface table:

- **ip pim**
- **ip pim-sparse**
- **ip pim ttl-threshold** *value*

The SET request is not supported for this table. Beginning with NetIron 05.9.00 release, the following MIB objects have VRF support.

Object	Object identifier	Supported?
ipMRouteInterfaceIfIndex	1.3.6.1.2.1.83.1.1.4.1.1	Yes
ipMRouteInterfaceTtl	1.3.6.1.2.1.83.1.1.4.1.2	Yes
ipMRouteInterfaceProtocol	1.3.6.1.2.1.83.1.1.4.1.3	Yes, but read-only.
ipMRouteInterfaceRateLimit	1.3.6.1.2.1.83.1.1.4.1.4	Yes
ipMRouteInterfaceInMcastOctets	1.3.6.1.2.1.83.1.1.4.1.5	Yes, but read-only.
ipMRouteInterfaceOutMcastOctets	1.3.6.1.2.1.83.1.1.4.1.6	Yes, but read-only.
ipMRouteInterfaceHCInMcastOctets	1.3.6.1.2.1.83.1.1.4.1.7	Yes, but read-only.
ipMRouteInterfaceHCOutMcastOctets	1.3.6.1.2.1.83.1.1.4.1.8	Yes, but read-only.

RFC 2933: Internet Group Management Protocol MIB

RFC 2933 is supported on the MLX Series, MLX Series, XMR Series, CES 2000 Series, and CER 2000 Series devices:

The following limitations apply to the support of RFC 2933 on the MLX Series devices:

- IGMP Snooping is not supported.
- Tables are read-only.
- VRF support is only for the default VRF.
- Data is available only for physical ports.

igmpInterfaceTable (IGMP interface table)

The **show ip igmp interface** command is used to display information about the IGMP interface table. Beginning with NetIron 05.9.00 release, the following igmpInterfaceTable MIB objects have VRF support.

The SET request is not supported for this table.

Object	Object identifier	Supported?
igmpInterfaceIfIndex	1.3.6.1.2.1.85.1.1.1.1	Yes
igmpInterfaceQueryInterval	1.3.6.1.2.1.85.1.1.1.2	Yes
igmpInterfaceStatus	1.3.6.1.2.1.85.1.1.1.3	Yes

Object	Object identifier	Supported?
		NOTE On MLX Series, MLX Series, XMR Series, CES 2000 Series, and CER 2000 Series, the constant value for this object is active(1).
igmpInterfaceVersion	1.3.6.1.2.1.85.1.1.1.4	Yes
igmpInterfaceQuerier	1.3.6.1.2.1.85.1.1.1.5	Yes, but read-only.
igmpInterfaceQueryMaxResponseTime	1.3.6.1.2.1.85.1.1.1.6	Yes
igmpInterfaceQuerierUpTime	1.3.6.1.2.1.85.1.1.1.7	Yes, but read-only.
igmpInterfaceQuerierExpiryTime	1.3.6.1.2.1.85.1.1.1.8	Yes, but read-only.
igmpInterfaceVersion1QuerierTimer	1.3.6.1.2.1.85.1.1.1.9	No. **NOTE** This object is not supported on the MLX Series, MLX Series, XMR Series, CES 2000 Series, and CER 2000 Series devices.
igmpInterfaceWrongVersionQueries	1.3.6.1.2.1.85.1.1.1.10	No. **NOTE** This object is not supported on the MLX Series, MLX Series, XMR Series, CES 2000 Series, and CER 2000 Series devices.
igmpInterfaceJoins	1.3.6.1.2.1.85.1.1.1.11	Yes, but read-only.
igmpInterfaceProxyIfIndex	1.3.6.1.2.1.85.1.1.1.12	No. Returns “0”.
igmpInterfaceGroups	1.3.6.1.2.1.85.1.1.1.13	Yes, but read-only.
igmpInterfaceRobustness	1.3.6.1.2.1.85.1.1.1.14	Yes
igmpInterfaceLastMemQueryIntvl	1.3.6.1.2.1.85.1.1.1.15	Yes, but read-only. **NOTE** This object is not supported on the MLX Series, MLX Series, XMR Series, CES 2000 Series, and CER 2000 Series devices.

igmpCacheTable (IGMP cache table)

Use the **show ip igmp group** command to display information about the IGMP cache table. Beginning with NetIron 05.9.00 release, the following igmpCacheTable MIB objects have VRF support.

The SET request is not supported for this table.

Object	Object identifier	Supported?
igmpCacheAddress	1.3.6.1.2.1.85.1.2.1.1	Yes
igmpCacheIfIndex	1.3.6.1.2.1.85.1.2.1.2	Yes
igmpCacheSelf	1.3.6.1.2.1.85.1.2.1.3	Yes
igmpCacheLastReporter	1.3.6.1.2.1.85.1.2.1.4	Yes, but read-only.

Object	Object identifier	Supported?
		NOTE On MLX Series, MLX Series, XMR Series, CES 2000 Series, and CER 2000 Series, the constant value for this object is 0.
igmpCacheUpTime	1.3.6.1.2.1.85.1.2.1.5	Yes, but read-only.
igmpCacheExpiryTime	1.3.6.1.2.1.85.1.2.1.6	Yes, but read-only.
igmpCacheStatus	1.3.6.1.2.1.85.1.2.1.7	Yes, but read-only. **NOTE** On MLX Series, MLX Series, XMR Series, CES 2000 Series, and CER 2000 Series, the constant value for this object is active(1).
igmpCacheVersion1HostTimer	1.3.6.1.2.1.85.1.2.1.8	Yes, but read-only.

RFC 2934: Protocol Independent Multicast MIB for IPv4

The following PIM MIB objects are supported on the MLX Series, MLX Series, XMR Series, CES 2000 Series, and CER 2000 Series, only default VRF is supported.

Support for RFC 2934 in these devices is presented in the following sections.

Object	Object identifier	Supported?
pimJoinPruneInterval	1.3.6.1.3.61.1.1.1	Yes, but read-only. **NOTE** The SET operation is not supported.

pimInterfaceTable (PIM interface table)

Use the **show ip pim interface** command to display information about the PIM interface table.

The SET request is not supported for this table.

Object	Object identifier	Supported?
pimInterfaceIfIndex	1.3.6.1.3.61.1.1.2.1.1	Yes
pimInterfaceAddress	1.3.6.1.3.61.1.1.2.1.2	Yes, but read-only.
pimInterfaceNetMask	1.3.6.1.3.61.1.1.2.1.3	Yes, but read-only.
pimInterfaceMode	1.3.6.1.3.61.1.1.2.1.4	Yes **NOTE** On MLX Series, MLX Series, XMR Series, CES 2000 Series, and CER 2000 Series, only dense and sparse modes are supported.

Object	Object identifier	Supported?
pimInterfaceDR	1.3.6.1.3.61.1.1.2.1.5	Yes, but read-only.
pimInterfaceHelloInterval	1.3.6.1.3.61.1.1.2.1.6	Yes
pimInterfaceStatus	1.3.6.1.3.61.1.1.2.1.7	Yes
pimInterfaceJoinPruneInterval	1.3.6.1.3.61.1.1.2.1.8	Yes
pimInterfaceCBSRPreference	1.3.6.1.3.61.1.1.2.1.9	Yes NOTE On MLX Series, MLX Series, XMR Series, CES 2000 Series, and CER 2000 Series, the constant value for this object is 0.

pimNeighborTable (PIM neighbor table)

Use the **show ip pim neighbor** command to display information about the PIM neighbor table.

The SET request is not supported for this table.

NOTE
Beginning with NetIron 05.9.00 release, the following MIB objects have VRF support.

Object	Object identifier	Supported?
pimNeighborAddress	1.3.6.1.3.61.1.1.3.1.1	Yes
pimNeighborIfIndex	1.3.6.1.3.61.1.1.3.1.2	Yes, but read-only.
pimNeighborUpTime	1.3.6.1.3.61.1.1.3.1.3	Yes, but read-only.
pimNeighborExpiryTime	1.3.6.1.3.61.1.1.3.1.4	Yes, but read-only.
pimNeighborMode	1.3.6.1.3.61.1.1.3.1.5	Yes, but read-only.

pimIpMRouteTable (PIM IP multicast route table)

The **show ip pim mcache** command displays information about the PIM IP multicast route table.

NOTE
Beginning with NetIron 05.9.00 release, the following MIB objects have VRF support.

Object	Object identifier	Supported?
ipMRouteGroup	1.3.6.1.2.1.83.1.1.2.1.1	Yes, but read-only.
ipMRouteSource	1.3.6.1.2.1.83.1.1.2.1.2	Yes, but read-only.
ipMRouteSourceMask	1.3.6.1.2.1.83.1.1.2.1.3	Yes, but read-only.
pimIpMRouteUpstreamAssertTimer	1.3.6.1.3.61.1.1.4.1.1	Yes, but read-only.
pimIpMRouteAssertMetric	1.3.6.1.3.61.1.1.4.1.2	Yes, but read-only.
pimIpMRouteAssertMetricPref	1.3.6.1.3.61.1.1.4.1.3	Yes, but read-only.
pimIpMRouteAssertRPTBit	1.3.6.1.3.61.1.1.4.1.4	No.

Object	Object identifier	Supported?
		NOTE This object is not supported on the MLX Series, MLX Series, XMR Series, CES 2000 Series, and CER 2000 Series devices.
pimIpMRouteFlags	1.3.6.1.3.61.1.1.4.1.5	No. NOTE This object is not supported on the MLX Series, MLX Series, XMR Series, CES 2000 Series, and CER 2000 Series devices.

pimIpMRouteNextHopTable (PIM IP multicast route next hop table)

The **show ip pim mcache sg** command displays information about the PIM IP multicast route next hop table.

NOTE
Beginning with NetIron 05.9.00 release, the following MIB objects have VRF support.

Object	Object identifier	Supported?
ipMRouteNextHopGroup	1.3.6.1.2.1.83.1.1.3.1.1	Yes
ipMRouteNextHopSource	1.3.6.1.2.1.83.1.1.3.1.2	Yes
ipMRouteNextHopSourceMask	1.3.6.1.2.1.83.1.1.3.1.3	Yes
ipMRouteNextHopIfIndex	1.3.6.1.2.1.83.1.1.3.1.4	Yes
ipMRouteNextHopAddress	1.3.6.1.2.1.83.1.1.3.1.5	Yes
pimIpMRouteNextHopPruneReason	1.3.6.1.3.61.1.1.7.1.2	Yes, but read-only.

pimRpTable (PIM RP table)

NOTE
On the MLX Series, MLX Series, XMR Series, CES 2000 Series, and CER 2000 Series, this table has been replaced by pimRpSetTable (PIM RP set table) on page 49

Object	Object identifier	Supported?
pimRPGroupAddress	1.3.6.1.3.61.1.1.5.1.1	Yes, but read-only and only active groups.
pimRPAddress	1.3.6.1.3.61.1.1.5.1.2	Yes, but read-only.
pimRPState	1.3.6.1.3.61.1.1.5.1.3	Yes, but read-only and value is always up(1).
pimRPStateTimer	1.3.6.1.3.61.1.1.5.1.4	No.
pimRPLastChange	1.3.6.1.3.61.1.1.5.1.5	No.
pimRPRowStatus	1.3.6.1.3.61.1.1.5.1.6	Yes, but read-only.

pimRpSetTable (PIM RP set table)

Use the **show ip pim rp-set** command to display information about the PIM RP set table.

Object	Object identifier	Supported?
pimRpSetGroupAddress	1.3.6.1.3.61.1.1.6.1.1	Yes
pimRpSetGroupMask	1.3.6.1.3.61.1.1.6.1.2	Yes
pimRpSetAddress	1.3.6.1.3.61.1.1.6.1.3	Yes
pimRpSetHoldTime	1.3.6.1.3.61.1.1.6.1.4	Yes, but read-only.
pimRpSetExpiryTime	1.3.6.1.3.61.1.1.6.1.5	Yes, but read-only.
pimRpSetComponent	1.3.6.1.3.61.1.1.6.1.6	Yes, but only one PIM domain is supported.

pimCandidateRPTable (PIM candidate-RP table)

The **show ip pim bsr** command displays information about the PIM candidate-RP table.

NOTE
Beginning with NetIron 05.9.00 release, the following MIB objects have VRF support.

Object	Object identifier	Supported?
pimCandidateRPGroupAddress	1.3.6.1.3.61.1.1.11.1.1	Yes
pimCandidateRPGroupMask	1.3.6.1.3.61.1.1.11.1.2	Yes.
pimCandidateRPAddress	1.3.6.1.3.61.1.1.11.1.3	Yes
pimCandidateRPRowStatus	1.3.6.1.3.61.1.1.11.1.4	Yes. Returns "active".

pimComponentTable (PIM component table)

This table contain objects specific to PIM domain and has only one row for each domain to which the router is connected. Beginning with NetIron 05.9.00 release, the following MIB objects have VRF support.

Use the **ip pim border** command at the interface level to stop the flooding of the bootstrap messages.

The **show ip pim bsr** command displays information about the PIM component table.

Object	Object identifier	Supported?
pimComponentIndex	1.3.6.1.3.61.1.1.12.1.1	Yes
pimComponentBSRAddress	1.3.6.1.3.61.1.1.12.1.2	Yes, but read-only.
pimComponentBSRExpiryTime	1.3.6.1.3.61.1.1.12.1.3	Yes, but read-only.
pimComponentCRPHoldTime	1.3.6.1.3.61.1.1.12.1.4	Yes
pimComponentStatus	1.3.6.1.3.61.1.1.12.1.5	Yes. Returns "active".

RFC 3176: InMon Corporation's sFlow: A Method for Monitoring Traffic in Switched and Routed Networks

RFC 3176 MIBs enable you to configure the sFlow Export feature. Support for this RFC is available on the following devices:

- MLX Series devices
- MLX Series devices
- XMR Series
- CES 2000 Series and CER 2000 Series devices

The following groups from RFC 3176 are supported in the devices.

Object	Object identifier	Description
sFlowAgent	1.3.6.1.4.1.4300.1.1	The sFlow agent sampler.
sFlowVersion	1.3.6.1.4.1.4300.1.1.1	Returns a version string (for example, "1.2; Extreme").
sFlowAgentAddressType	1.3.6.1.4.1.4300.1.1.2	Returns value 1 (IPv4).
sFlowAgentAddress	1.3.6.1.4.1.4300.1.1.3	Management IP.
sFlowTable	1.3.6.1.4.1.4300.1.1.4	sFlow Table.
sFlowDataSource	1.3.6.1.4.1.4300.1.1.4.1.1	ifIndex of sFlow port.
sFlowOwner	1.3.6.1.4.1.4300.1.1.4.1.2	Always null. Not supported in the CLI.
sFlowTimeout	1.3.6.1.4.1.4300.1.1.4.1.3	Always 0. Not supported in the CLI.
sFlowPacketSamplingRate	1.3.6.1.4.1.4300.1.1.4.1.4	Port sampling rate. Set this value to 0 to disable sFlow for a port.
sFlowCounterSamplingInterval	1.3.6.1.4.1.4300.1.1.4.1.5	Global counter poll interval.
sFlowMaximumHeaderSize	1.3.6.1.4.1.4300.1.1.4.1.6	Always 128.
sFlowMaximumDatagramSize	1.3.6.1.4.1.4300.1.1.4.1.7	Always 1400.
sFlowCollectorAddressType	1.3.6.1.4.1.4300.1.1.4.1.8	Returns unknown(0), ipv4(1), or ipv6(2)
sFlowCollectorAddress	1.3.6.1.4.1.4300.1.1.4.1.9	Address of first collector. For other collectors, use snSflowCollectorTable. (Refer to RFC 3176: InMon Corporation's sFlow: A Method for Monitoring Traffic in Switched and Routed Networks.)
sFlowCollectorPort	1.3.6.1.4.1.4300.1.1.4.1.10	Port of first collector. For other collectors, use snSflowCollectorTable. (Refer to RFC 3176: InMon Corporation's sFlow: A Method for Monitoring Traffic in Switched and Routed Networks.)
sFlowDatagramVersion	1.3.6.1.4.1.4300.1.1.4.1.11	Always 4.

RFC 3289: Management Information Base for the Differentiated Services Architecture

The MLX Series, MLX Series, XMR Series, CES 2000 Series, and CER 2000 Series devices support RFC 3289, Management Information Base for the Differentiated Services Architecture.

diffServMultiFieldClfrTable

The following table defines the MIB objects that describe a classifier element for matching on various fields of an IP address and upper-layer protocol header.

NOTE

The following table supports only the SNMP GET and GET-NEXT options.

Object	Object identifier	Access
diffServMultiFieldClfrId	1.3.6.1.2.1.97.1.2.6.1.1	Incremental ID.

Object	Object identifier	Access
diffServMultiFieldClfrAddrType	1.3.6.1.2.1.97.1.2.6.1.2	The type of an IP address used by the classifier entry. • unknown(0) • ipv4(1) • ipv6(2)
diffServMultiFieldClfrDstAddr	1.3.6.1.2.1.97.1.2.6.1.3	Maps to the destination address.
diffServMultiFieldClfrDstPrefixLength	1.3.6.1.2.1.97.1.2.6.1.4	Maps to the destination address prefix length.
diffServMultiFieldClfrSrcAddr	1.3.6.1.2.1.97.1.2.6.1.5	Maps to the source address.
diffServMultiFieldClfrSrcPrefixLength	1.3.6.1.2.1.97.1.2.6.1.6	Maps to the source address prefix length.
diffServMultiFieldClfrDscp	1.3.6.1.2.1.97.1.2.6.1.7	Not supported.
diffServMultiFieldClfrFlowId	1.3.6.1.2.1.97.1.2.6.1.8	Not supported.
diffServMultiFieldClfrProtocol	1.3.6.1.2.1.97.1.2.6.1.9	Maps to a protocol.
diffServMultiFieldClfrDstL4PortMin	1.3.6.1.2.1.97.1.2.6.1.10	Maps to the destination port minimum.
diffServMultiFieldClfrDstL4PortMax	1.3.6.1.2.1.97.1.2.6.1.11	Maps to the destination port maximum.
diffServMultiFieldClfrSrcL4PortMin	1.3.6.1.2.1.97.1.2.6.1.12	Maps to the source port minimum.
diffServMultiFieldClfrSrcL4PortMax	1.3.6.1.2.1.97.1.2.6.1.13	Maps to the source port maximum.
diffServMultiFieldClfrStorage	1.3.6.1.2.1.97.1.2.6.1.14	Always returns volatile(2).
diffServMultiFieldClfrStatus	1.3.6.1.2.1.97.1.2.6.1.15	Always returns active(1).

NOTE

The diffServDataPathTable, diffServClfrTable, diffServClfrElementTable, diffServMeterTable, diffServTBParamTable, diffServActionTable, diffServDscpMarkActTable, diffServCountActTable, diffServAlgDropTable, diffServRandomDropTable, diffServQTable, diffServSchedulerTable, diffServMinRateTable, and diffServMaxRateTable are not supported on the MLX Series, MLX Series, XMR Series, CES 2000 Series, and CER 2000 Series devices.

RFC 3415: SNMP-VIEW-BASED-ACM-MIB

The following table lists the MIBs supported on the MLX Series, MLX Series, XMR Series, CES 2000 Series, and CER 2000 Series devices.

NOTE

Use **snmp-server context** *<context-name>* **vrf** *<vrf-name>* command to configure the SNMP contexts and associate it to VRF. Use **snmp-server mib community-name** *<community-name>* **context** *<context-name>* command to map SNMP community names with SNMP contexts.

Object group name	Object identifier	Supported?
vacmContextName	1.3.6.1.6.3.16.1.1.1.1	Yes. Read-only.

RFC 3418: Management Information Base (MIB) for the SNMP

RFC 3418, Management Information Base (MIB) for the Simple Network Management Protocol (SNMP) is supported on the MLX Series, MLX Series, XMR Series, CES 2000 Series, and Extreme NetIron CER Series devices.

Object group name	Object identifier	Supported?
sysDescr	1.3.6.1.2.1.1.1	Yes
sysObjectID	1.3.6.1.2.1.1.2	Yes
sysUpTime	1.3.6.1.2.1.1.3	Yes
sysContact	1.3.6.1.2.1.1.4	Yes
sysName	1.3.6.1.2.1.1.5	Yes
sysLocation	1.3.6.1.2.1.1.6	Yes
sysServices	1.3.6.1.2.1.1.7	Yes
sysORLastChange	1.3.6.1.2.1.1.8	Yes
sysORTable	1.3.6.1.2.1.1.9	Yes
sysORIndex	1.3.6.1.2.1.1.9.1.1	Yes
sysORID	1.3.6.1.2.1.1.9.1.2	Yes
sysORDescr	1.3.6.1.2.1.1.9.1.3	Yes
sysORUpTime	1.3.6.1.2.1.1.9.1.4	Yes

RFC 3584: SNMP-COMMUNITY-MIB

The following table lists the SNMP-Community table MIBs supported on the MLX Series, MLX Series, XMR Series, CES 2000 Series, and CER 2000 Series devices.

NOTE
Use **snmp-server enable mib snmp-community-mib** to enable SNMP community MIBs.

Object group name	Object identifier	Supported?
snmpCommunityIndex	1.3.6.1.6.3.18.1.1.1.1	Yes.
snmpCommunityName	1.3.6.1.6.3.18.1.1.1.2	Yes. Read-create.
snmpCommunitySecurityName	1.3.6.1.6.3.18.1.1.1.3	Yes. Read-create.
snmpCommunityContextEngineID	1.3.6.1.6.3.18.1.1.1.4	Yes. Read-only.
snmpCommunityContextName	1.3.6.1.6.3.18.1.1.1.5	Yes. Read-create.
snmpCommunityTransportTag	1.3.6.1.6.3.18.1.1.1.6	Yes. Read-create.
snmpCommunityStorageType	1.3.6.1.6.3.18.1.1.1.7	Yes. Read-create.
snmpCommunityStatus	1.3.6.1.6.3.18.1.1.1.8	Yes. Read-create.

RFC 3635: Definitions of Managed Objects for the Ethernet-like interface types

The following groups from RFC 3635 are supported on the MLX Series, MLX Series, XMR Series, CES 2000 Series, and CER 2000 Series devices.

NOTE
RFC 3635 obsoletes RFC 2665.

dot3StatsTable

The following table lists the dot3StatsTable MIB objects.

Object group name	Object identifier	Supported?
dot3StatsIndex	1.3.6.1.2.1.10.7.2.1.1	Yes
dot3StatsAlignmentErrors	1.3.6.1.2.1.10.7.2.1.2	Yes
dot3StatsFCSErrors	1.3.6.1.2.1.10.7.2.1.3	Yes
dot3StatsSingleCollisionFrames	1.3.6.1.2.1.10.7.2.1.4	Yes
dot3StatsMultipleCollisionFrames	1.3.6.1.2.1.10.7.2.1.5	Yes
dot3StatsSQETestErrors	1.3.6.1.2.1.10.7.2.1.6	Yes
dot3StatsDeferredTransmissions	1.3.6.1.2.1.10.7.2.1.7	Yes
dot3StatsLateCollisions	1.3.6.1.2.1.10.7.2.1.8	Yes
dot3StatsExcessiveCollisions	1.3.6.1.2.1.10.7.2.1.9	Yes
dot3StatsInternalMacTransmitErrors	1.3.6.1.2.1.10.7.2.1.10	Yes
dot3StatsCarrierSenseErrors	1.3.6.1.2.1.10.7.2.1.11	Yes
dot3StatsFrameTooLongs	1.3.6.1.2.1.10.7.2.1.13	Yes
dot3StatsInternalMacReceiveErrors	1.3.6.1.2.1.10.7.2.1.16	Yes
dot3StatsEtherChipSet	1.3.6.1.2.1.10.7.2.1.17	Yes
dot3StatsSymbolErrors	1.3.6.1.2.1.10.7.2.1.18	Yes
dot3StatsDuplexStatus	1.3.6.1.2.1.10.7.2.1.19	Yes
dot3StatsRateControlAbility	1.3.6.1.2.1.10.7.2.1.20	Yes. Always returns false(2).
dot3StatsRateControlStatus	1.3.6.1.2.1.10.7.2.1.21	Yes. Always returns Unknown(3).

dot3ControlTable

The following table lists the dot3ControlTable MIB objects.

Object group name	Object identifier	Supported?
dot3ControlFunctionsSupported	1.3.6.1.2.1.10.7.9.1.1	Yes
dot3ControlInUnknownOpcodes	1.3.6.1.2.1.10.7.9.1.2	Yes
dot3HCControlInUnknownOpcodes	1.3.6.1.2.1.10.7.9.1.3	Yes. Always returns 0 (zero).

dot3PauseTable

The following table lists the dot3PauseTable MIB objects.

Object group name	Object identifier	Supported?
dot3PauseAdminMode	1.3.6.1.2.1.10.7.10.1.1	Yes
dot3PauseOperMode	1.3.6.1.2.1.10.7.10.1.2	Yes
dot3InPauseFrames	1.3.6.1.2.1.10.7.10.1.3	Yes
dot3OutPauseFrames	1.3.6.1.2.1.10.7.10.1.4	Yes
dot3HCInPauseFrames	1.3.6.1.2.1.10.7.10.1.5	Yes. Always returns 0 (zero).
dot3HCOutPauseFrames	1.3.6.1.2.1.10.7.10.1.6	Yes. Always returns 0 (zero).

dot3HCStatsTable

The following table lists the dot3HCStatsTable MIB objects.

Object group name	Object identifier	Supported?
dot3HCStatsAlignmentErrors	1.3.6.1.2.1.10.7.11.1.1	Yes
dot3HCStatsFCSErrors	1.3.6.1.2.1.10.7.11.1.2	Yes
dot3HCStatsInternalMacTransmitErrors	1.3.6.1.2.1.10.7.11.1.3	Yes. Always returns 0 (zero).
dot3HCStatsFrameTooLongs	1.3.6.1.2.1.10.7.11.1.4	Yes
dot3HCStatsInternalMacReceiveErrors	1.3.6.1.2.1.10.7.11.1.5	Yes. Always returns 0 (zero).
dot3HCStatsSymbolErrors	1.3.6.1.2.1.10.7.11.1.6	Yes. Always returns 0 (zero).

RFC 3813: Multiprotocol Label Switching (MPLS) Label Switching Router (LSR) Management Information Base (MIB)

The MLX Series, MLX Series, XMR Series, CES 2000 Series, and CER 2000 Series devices support RFC 3813, Multiprotocol Label Switching (MPLS) Label Switching Router (LSR).

NOTE
Only the SNMP GET and GET-NEXT are supported. The SNMP SET is not supported for all the LSR MIB objects, except the mplsXCNotificationsEnable object.

MPLS interface table objects

The following table lists the MPLS interface table objects.

Object	Object identifier	Supported?
mplsInterfaceIndex	1.3.6.1.2.1.10.166.2.1.1.1.1	Yes
mplsInterfaceLabelMinIn	1.3.6.1.2.1.10.166.2.1.1.1.2	No
mplsInterfaceLabelMaxIn	1.3.6.1.2.1.10.166.2.1.1.1.3	No
mplsInterfaceLabelMinOut	1.3.6.1.2.1.10.166.2.1.1.1.4	No
mplsInterfaceLabelMaxOut	1.3.6.1.2.1.10.166.2.1.1.1.5	No
mplsInterfaceTotalBandwidth	1.3.6.1.2.1.10.166.2.1.1.1.6	Yes
mplsInterfaceAvailableBandwidth	1.3.6.1.2.1.10.166.2.1.1.1.7	Yes
mplsInterfaceLabelParticipationType	1.3.6.1.2.1.10.166.2.1.1.1.8	Yes

MPLS in-segment table objects

The following table lists the MPLS in-segment table objects.

Object	Object identifier	Supported?
mplsInSegmentIndex	1.3.6.1.2.1.10.166.2.1.4.1.1	No
mplsInSegmentInterface	1.3.6.1.2.1.10.166.2.1.4.1.2	No

Object	Object identifier	Supported?
mplsInSegmentLabel	1.3.6.1.2.1.10.166.2.1.4.1.3	Yes
mplsInSegmentLabelPtr	1.3.6.1.2.1.10.166.2.1.4.1.4	Yes
mplsInSegmentNPop	1.3.6.1.2.1.10.166.2.1.4.1.5	Yes
mplsInSegmentAddrFamily	1.3.6.1.2.1.10.166.2.1.4.1.6	Yes
mplsInSegmentXCIndex	1.3.6.1.2.1.10.166.2.1.4.1.7	Yes
mplsInSegmentOwner	1.3.6.1.2.1.10.166.2.1.4.1.8	Yes
mplsInSegmentTrafficParamPtr	1.3.6.1.2.1.10.166.2.1.4.1.9	Yes
mplsInSegmentRowStatus	1.3.6.1.2.1.10.166.2.1.4.1.10	Yes
mplsInSegmentStorageType	1.3.6.1.2.1.10.166.2.1.4.1.11	Yes

MPLS in-segment performance table objects

The following table lists the MPLS in-segment performance table objects.

Object	Object identifier	Supported?
mplsInSegmentPerfOctets	1.3.6.1.2.1.10.166.2.1.5.1.1	No
mplsInSegmentPerfPackets	1.3.6.1.2.1.10.166.2.1.5.1.2	Yes
mplsInSegmentPerfErrors	1.3.6.1.2.1.10.166.2.1.5.1.3	No
mplsInSegmentPerfDiscards	1.3.6.1.2.1.10.166.2.1.5.1.4	No
mplsInSegmentPerfHCOctets	1.3.6.1.2.1.10.166.2.1.5.1.5	No
mplsInSegmentPerfDiscontinuityTime	1.3.6.1.2.1.10.166.2.1.5.1.6	No

MPLS out-segment table objects

The following table lists the MPLS out-segment table objects.

Object	Object identifier	Supported?
mplsOutSegmentIndex	1.3.6.1.2.1.10.166.2.1.7.1.1	No
mplsOutSegmentInterface	1.3.6.1.2.1.10.166.2.1.7.1.2	No
mplsOutSegmentPushTopLabel	1.3.6.1.2.1.10.166.2.1.7.1.3	Yes
mplsOutSegmentTopLabel	1.3.6.1.2.1.10.166.2.1.7.1.4	Yes
mplsOutSegmentTopLabelPtr	1.3.6.1.2.1.10.166.2.1.7.1.5	Yes
mplsOutSegmentNextHopAddrType	1.3.6.1.2.1.10.166.2.1.7.1.6	Yes
mplsOutSegmentNextHopAddr	1.3.6.1.2.1.10.166.2.1.7.1.7	Yes
mplsOutSegmentXCIndex	1.3.6.1.2.1.10.166.2.1.7.1.8	Yes
mplsOutSegmentOwner	1.3.6.1.2.1.10.166.2.1.7.1.9	Yes
mplsOutSegmentTrafficParamPtr	1.3.6.1.2.1.10.166.2.1.7.1.10	Yes
mplsOutSegmentRowStatus	1.3.6.1.2.1.10.166.2.1.7.1.11	Yes
mplsOutSegmentStorageType	1.3.6.1.2.1.10.166.2.1.7.1.12	Yes

MPLS cross-connect table objects

The following table lists the MPLS cross-connect table objects.

Object	Object identifier	Supported?
mplsXCIndex	1.3.6.1.2.1.10.166.2.1.10.1.1	Yes
mplsXCInSegmentIndex	1.3.6.1.2.1.10.166.2.1.10.1.2	Yes
mplsXCOutSegmentIndex	1.3.6.1.2.1.10.166.2.1.10.1.3	Yes
mplsXCLspId	1.3.6.1.2.1.10.166.2.1.10.1.4	Yes
mplsXCLabelStackIndx	1.3.6.1.2.1.10.166.2.1.10.1.5	Yes
mplsXCOwner	1.3.6.1.2.1.10.166.2.1.10.1.6	Yes
mplsXCRowStatus	1.3.6.1.2.1.10.166.2.1.10.1.7	Yes
mplsXCStorageType	1.3.6.1.2.1.10.166.2.1.10.1.8	Yes
mplsXCAdminStatus	1.3.6.1.2.1.10.166.2.1.10.1.9	Yes
mplsXCOperStatus	1.3.6.1.2.1.10.166.2.1.10.1.10	Yes

The tables mplsInterfacePerfTable, mplsOutSegmentPerfTable, mplsLabelStackTable, and mplsInSegmentMapTable are not supported.

MPLS label stack scalar object

The following table lists the MPLS label stack scalar objects. The scalar objects mplsInSegmentIndexNext, mplsOutSegmentIndexNext, mplsXCIndexNext, and mplsLabelStackIndexNext are not supported.

Object	Object identifier	Supported?
mplsMaxLabelStackDepth	1.3.6.1.2.1.10.166.2.1.11	Yes. Always returns the maximum label stack depth of 3.

RFC 3815: Definitions of Managed Objects for the Multiprotocol Label Switching (MPLS), Label Distribution Protocol (LDP)

The MLX Series, MLX Series, XMR Series, CES 2000 Series, and CER 2000 Series devices support RFC 3815, Definitions of Managed Objects for the Multiprotocol Label Switching (MPLS), and Label Distribution Protocol (LDP).

Support for this MIB enables configuration and monitoring of the LDP.

mplsLdpLsr objects

Object	Object identifier	Supported?
mplsLdpLsrId	1.3.6.1.2.1.10.166.4.1.1	Yes
mplsLdpLsrLoopDetectionCapable	1.3.6.1.2.1.10.166.4.1.2	Returns none(1) or hopCountAndPathVector(5).

mplsLdpEntity objects

Object	Object identifier	Supported?
mplsLdpEntityLastChange	1.3.6.1.2.1.10.166.4.1.2.1	Always returns 0.

Object	Object identifier	Supported?
mplsLdpEntityIndexNext	1.3.6.1.2.1.10.166.4.1.2.2	Always returns 0.

mplsLdpEntity table

This mplsLdpEntity table contains information about MPLS Label Distribution Protocol Entities which exist on this Label Switching Router (LSR) or Label Edge Router (LER).

NOTE

The following table currently supports the read-only access.

Object	Object identifier	Supported?
mplsLdpEntityLdpId	1.3.6.1.2.1.10.166.4.1.2.3.1.1	Index
mplsLdpEntityIndex	1.3.6.1.2.1.10.166.4.1.2.3.1.2	Index
mplsLdpEntityProtocolVersion	1.3.6.1.2.1.10.166.4.1.2.3.1.3	Yes
mplsLdpEntityAdminStatus	1.3.6.1.2.1.10.166.4.1.2.3.1.4	The administrative status of the LDP Entity.The values are: • up(1) mapped to enable(1) • down(2) or testing(3) mapped to disable(2)
mplsLdpEntityOperStatus	1.3.6.1.2.1.10.166.4.1.2.3.1.5	Displays the operational status of this LDP Entity.The values are: • up(1) mapped to enabled(2) • down(2) mapped to disabled(3) • testing(3) mapped to disabled(3) • unknown(4) mapped to unknown(1) • dormant(5) mapped to disabled(3) • notpresent(6) mapped to disabled(3)
mplsLdpEntityTcpPort	1.3.6.1.2.1.10.166.4.1.2.3.1.6	Yes
mplsLdpEntityUdpDscPort	1.3.6.1.2.1.10.166.4.1.2.3.1.7	Yes
mplsLdpEntityMaxPduLength	1.3.6.1.2.1.10.166.4.1.2.3.1.8	Yes
mplsLdpEntityKeepAliveHoldTimer	1.3.6.1.2.1.10.166.4.1.2.3.1.9	Yes
mplsLdpEntityHelloHoldTimer	1.3.6.1.2.1.10.166.4.1.2.3.1.10	Yes
mplsLdpEntityInitSessionThreshold	1.3.6.1.2.1.10.166.4.1.2.3.1.11	Yes
mplsLdpEntityLabelDistMethod	1.3.6.1.2.1.10.166.4.1.2.3.1.12	Yes
mplsLdpEntityLabelRetentionMode	1.3.6.1.2.1.10.166.4.1.2.3.1.13	Yes
mplsLdpEntityPathVectorLimit	1.3.6.1.2.1.10.166.4.1.2.3.1.14	Yes
mplsLdpEntityHopCountLimit	1.3.6.1.2.1.10.166.4.1.2.3.1.15	Yes
mplsLdpEntityTransportAddrKind	1.3.6.1.2.1.10.166.4.1.2.3.1.16	The IP address of the interface from which hello messages are sent is used as the transport address in the hello message.Returns interface(1).
mplsLdpEntityTargetPeer	1.3.6.1.2.1.10.166.4.1.2.3.1.17	Yes
mplsLdpEntityTargetPeerAddrType	1.3.6.1.2.1.10.166.4.1.2.3.1.18	Displays the type of the internetwork layer address used for the Extended Discovery. Possible types: • ipv4(1) • ipv6(2)

Object	Object identifier	Supported?
		• unknown(0)
mplsLdpEntityTargetPeerAddr	1.3.6.1.2.1.10.166.4.1.2.3.1.19	Yes
mplsLdpEntityLabelType	1.3.6.1.2.1.10.166.4.1.2.3.1.20	Yes
mplsLdpEntityDiscontinuityTime	1.3.6.1.2.1.10.166.4.1.2.3.1.21	Yes
mplsLdpEntityStorageType	1.3.6.1.2.1.10.166.4.1.2.3.1.22	Yes
mplsLdpEntityRowStatus	1.3.6.1.2.1.10.166.4.1.2.3.1.23	Yes

mplsLdpEntityStats table

The mplsLdpEntityStats table is a read-only table which augments the mplsLdpEntityTable. This table keeps statistical information about the LDP Entities on the LSR. This table is read-only.

Object	Object identifier	Supported?
mplsLdpEntityStatsSessionAttempts	1.3.6.1.2.1.10.166.4.1.2.4.1.1	Yes
mplsLdpEntityStatsSessionRejectedNoHelloErrors	1.3.6.1.2.1.10.166.4.1.2.4.1.2	Yes
mplsLdpEntityStatsSessionRejectedAdErrors	1.3.6.1.2.1.10.166.4.1.2.4.1.3	Yes
mplsLdpEntityStatsSessionRejectedMaxPduErrors	1.3.6.1.2.1.10.166.4.1.2.4.1.4	Yes
mplsLdpEntityStatsSessionRejectedLRErrors	1.3.6.1.2.1.10.166.4.1.2.4.1.5	Yes
mplsLdpEntityStatsBadLdpIdentifierErrors	1.3.6.1.2.1.10.166.4.1.2.4.1.6	Yes
mplsLdpEntityStatsBadPduLengthErrors	1.3.6.1.2.1.10.166.4.1.2.4.1.7	Yes
mplsLdpEntityStatsBadMessageLengthErrors	1.3.6.1.2.1.10.166.4.1.2.4.1.8	Yes
mplsLdpEntityStatsBadTlvLengthErrors	1.3.6.1.2.1.10.166.4.1.2.4.1.9	Yes
mplsLdpEntityStatsMalformedTlvValueErrors	1.3.6.1.2.1.10.166.4.1.2.4.1.10	Yes
mplsLdpEntityStatsKeepAliveTimerExpErrors	1.3.6.1.2.1.10.166.4.1.2.4.1.11	Yes
mplsLdpEntityStatsShutdownReceivedNotifications	1.3.6.1.2.1.10.166.4.1.2.4.1.12	Yes
mplsLdpEntityStatsShutdownSentNotifications	1.3.6.1.2.1.10.166.4.1.2.4.1.13	Yes

mplsLdpSession objects

Object	Object identifier	Supported?
mplsLdpPeerLastChange	1.3.6.1.2.1.10.166.4.1.3.1	Unsupported, Always returns 0.
mplsLdpLspFecLastChange	1.3.6.1.2.1.10.166.4.1.3.2	Yes

mplsLdpPeer table

The mplsLdpPeer table has information about LDP peers known by Entities in the mplsLdpEntityTable. The information in this table is based on information from the Entity-Peer interaction during session initialization but is not appropriate for the mplsLdpSessionTable, because objects in this table may or may not be used in session establishment.

Object	Object identifier	Supported?
mplsLdpPeerLdpId	1.3.6.1.2.1.10.166.4.1.3.2.1.1	Yes

Object	Object identifier	Supported?
mplsLdpPeerLabelDistMethod	1.3.6.1.2.1.10.166.4.1.3.2.1.2	Yes
mplsLdpPeerPathVectorLimit	1.3.6.1.2.1.10.166.4.1.3.2.1.3	Yes
mplsLdpPeerTransportAddrType	1.3.6.1.2.1.10.166.4.1.3.2.1.4	Displays the type of the Internet address for themplsLdpPeerTransportAddr object. Possible types: • ipv4(1) • ipv6(2) • unknown(0)
mplsLdpPeerTransportAddr	1.3.6.1.2.1.10.166.4.1.3.2.1.5	Yes

mplsLdpSession table

The mplsLdpSession table contains information of sessions between the LDP Entities and LDP Peers. This table augments the mplsLdpPeerTable. Each row in this table represents a single session. This table is read-only.

Object	Object identifier	Supported?
mplsLdpSessionStateLastChange	1.3.6.1.2.1.10.166.4.1.3.3.1.1	Unsupported. Returns 0.
mplsLdpSessionState	1.3.6.1.2.1.10.166.4.1.3.3.1.2	Yes
mplsLdpSessionRole	1.3.6.1.2.1.10.166.4.1.3.3.1.3	Yes
mplsLdpSessionProtocolVersion	1.3.6.1.2.1.10.166.4.1.3.3.1.4	Yes
mplsLdpSessionKeepAliveHoldTimeRem	1.3.6.1.2.1.10.166.4.1.3.3.1.5	Yes
mplsLdpSessionKeepAliveTime	1.3.6.1.2.1.10.166.4.1.3.3.1.6	Yes
mplsLdpSessionMaxPduLength	1.3.6.1.2.1.10.166.4.1.3.3.1.7	Yes
mplsLdpSessionDiscontinuityTime	1.3.6.1.2.1.10.166.4.1.3.3.1.8	Yes

mplsLdpSessionStats table

A table of statistics between the LDP Entities and LDP Peers. This table is read-only.

Object	Object identifier	Supported?
mplsLdpSessionStatsUnknownMesTypeErrors	1.3.6.1.2.1.10.166.4.1.3.4.1.1	Yes
mplsLdpSessionStatsUnknownTlvErrors	1.3.6.1.2.1.10.166.4.1.3.4.1.2	Yes

mplsLdpHelloAdjacency table

A table of hello adjacencies for the sessions. This table is read-only.

Object	Object identifier	Supported?
mplsLdpHelloAdjacencyIndex	1.3.6.1.2.1.10.166.4.1.3.5.1.1.1	Index
mplsLdpHelloAdjacencyHoldTimeRem	1.3.6.1.2.1.10.166.4.1.3.5.1.1.2	Yes
mplsLdpHelloAdjacencyHoldTime	1.3.6.1.2.1.10.166.4.1.3.5.1.1.3	Yes
mplsLdpHelloAdjacencyType	1.3.6.1.2.1.10.166.4.1.3.5.1.1.4	Yes

mplsFec objects

A table of MPLS Forwarding Equivalence Class (FEC) objects.

Object	Object identifier	Supported?
mplsFecLastChange	1.3.6.1.2.1.10.166.4.1.3.8.1	Same data as mplsLdpLspFecLastChange.
mplsFecIndexNext	1.3.6.1.2.1.10.166.4.1.3.8.2	Unsupported. Always returns 0.

mplsFec table

The mplsFec table represents the FEC information associated with an LSP.

NOTE
This table currently supports read-only access.

Object	Object identifier	Supported?
mplsFecIndex	1.3.6.1.2.1.10.166.4.1.3.8.3.1.1	Index
mplsFecType	1.3.6.1.2.1.10.166.4.1.3.8.3.1.2	Yes
mplsFecAddrPrefixLength	1.3.6.1.2.1.10.166.4.1.3.8.3.1.3	Yes
mplsFecAddrType	1.3.6.1.2.1.10.166.4.1.3.8.3.1.4	Displays the value of this object and the type of the Internet address. Possible values: • ipv4(1) • ipv6(2) • unknown(0)
mplsFecAddr	1.3.6.1.2.1.10.166.4.1.3.8.3.1.5	Yes
mplsFecStorageType	1.3.6.1.2.1.10.166.4.1.3.8.3.1.6	Yes
mplsFecRowStatus	1.3.6.1.2.1.10.166.4.1.3.8.3.1.7	Yes

mplsLdpSessionPeerAddr table

The mplsLdpSessionPeerAddr table extends the mplsLdpSessionTable. This table is used to store Label Address information from Label Address Messages received by this LSR from Peers. This table is read-only and should be updated when Label Withdraw Address Messages are received (for example, rows should be deleted as appropriate).

NOTE
As more than one address may be contained in a Label Address Message, this table **sparse augments** the mplsLdpSessionTable's information.

Object	Object identifier	Supported?
mplsLdpSessionPeerAddrIndex	1.3.6.1.2.1.10.166.4.1.3.11.1.1	Index
mplsLdpSessionPeerNextHopAddrType	1.3.6.1.2.1.10.166.4.1.3.11.1.2	Displays the internetwork layer address type of this Next Hop Address as specified in the Label Address Message associated with this Session. Possible values: • ipv4(1) • ipv6(2) • unknown(0)

Object	Object identifier	Supported?
mplsLdpSessionPeerNextHopAddr	1.3.6.1.2.1.10.166.4.1.3.11.1.3	Yes

RFC 4022: Management Information Base for the Transmission Control Protocol (TCP)

The MLX Series, MLX Series, XMR Series, CES 2000 Series, and CER 2000 Series devices support RFC 4022, Management Information Base for Transmission Control Protocol (TCP). All objects have read-only access, except for the tcpConnectionState object in the tcpConnectionTable. The tcpConnectionState object has read-write access.

RFC 4087: IP Tunnel MIB

The following tables in RFC 4087 are supported on the MLX Series, MLX Series, XMR Series, CES 2000 Series, and CER 2000 Series devices.

tunnelIfTable

The tunnelIfTable contains information on configured tunnels.

Object names	Description
tunnelIfLocalAddress	Not supported as it is deprecated.
tunnelIfRemoteAddress	Not supported as it is deprecated.
tunnelIfEncapsMethod	Read-only. Only 6to4 and GRE tunnel types are supported. This is the encapsulation method used by the tunnel.
tunnelIfHopLimit	Read-only. This is the IPv4 time-to-live (TTL) or IPv6 Hop Limit to use in the outer IP header. A value of 0 indicates that the value is copied from the payload's header.
tunnelIfSecurity	Read-only. Returns ipsec(2) value for IPSec tunnels otherwise none(1).
tunnelIfTOS	Read-only.
tunnelIfFlowLabel	Read-only. Always returns -1 which indicates a wildcard as suggested by RFC 3595.
tunnelIfAddressType	Read-only.
tunnelIfLocalInetAddress	Read-only.
tunnelIfRemoteInetAddress	Read-only.
tunnelIfEncapsLimit	Read-only. This is the maximum number of additional encapsulations permitted for packets undergoing encapsulation at this node. A value of -1 indicates that no limit is present, except as a result of the packet size.

tunnelInetConfigTable

The tunnelInetConfigTable can be used to map a set of tunnel endpoints to the associated ifIndex value. Every row in the tunnelIfTable with a fixed destination address should have a corresponding row in the tunnelInetConfigTable.

Object names	Description
tunnelInetConfigAddressType	Read-only. Index value.
tunnelInetConfigLocalAddress	Read-only. Index value.
tunnelInetConfigRemoteAddress	Read-only. Index value.
tunnelInetConfigEncapsMethod	Read-only. Index value. This is the encapsulation method used by the tunnel. Only 6to4 and GRE tunnel types are supported.
tunnelInetConfigID	Read-only. Index value. Always 1 in 6 to 4 tunnel type.
tunnelInetConfigIfIndex	Read-only.
tunnelInetConfigStatus	Read-only. Always returns active(1).
tunnelInetConfigStorageType	Read-only. Always returns nonVolatile(3).

ifTable support

Support for the tunnelIfTable and tunnelInetConfigTable affects the ifTable (RFC 1213).

Object names	Description
ifIndex	Read-only. Index value.
ifDescr	Read-only.
ifType	Read-only.
ifMtu	Read-only.
ifSpeed	Read-only.
ifPhysAddress	Not supported.
ifAdminStatus	Read-only.
ifOperStatus	Read-only.
ifLastChange	Read-only. Always returns 0.
ifSpecific	Read-only. This is a deprecated MIB object.
ifInOctets	Not supported.
ifInUcastPkts	Read-only. Reports total received packet count from tunnel.
ifInNUcastPkts	Not supported. Returns 0. This is a deprecated MIB object.
ifInDiscards	Not supported.
ifInErrors	Not supported.
ifInUnknownProtos	Not supported.
ifOutOctets	Read-only.
ifOutUcastPkts	Read-only. Reports total transmitted packet count to tunnel and total received packet count from tunnel.
ifOutNUcastPkts	Not supported. Returns 0. This is a deprecated MIB object.
ifOutDiscards	Not supported.
ifOutErrors	Not supported.
ifOutQLen	Read-only.

ifXTable

Support for the tunnelIfTable and tunnelInetConfigTable also affects ifXTable (RFC 2233).

Object names	Description
ifName	Read-only.
ifInMulticastPkts	Read-only. Returns 0.
ifInBroadcastPkts	Not supported. Returns 0.
ifOutMulticastPkts	Read-only. Returns 0.
ifOutBroadcastPkts	Not supported. Returns 0.
ifHCInOctets	Read-only. Returns 0.
ifHCInUcastPkts	Read-only. Reports total received packet count from tunnel.
ifHCInBroadcastPkts	Not supported. Returns 0.
ifHCOutOctets	Read-only. Returns 0.
ifHCOutUcastPkts	Read-only. Reports total received packet count from tunnel.
ifHCOutMulticastPkts	Not supported. Returns 0.
ifHCOutBroadcastPkts	Not supported. Returns 0.
ifLinkUpDownTrapEnable	Read-only. Always returns disabled(2).
ifHighSpeed	Read-only.
ifPromiscuousMode	Read-only. Always returns true(1).
ifConnectorPresent	Read-only. Always returns false(2).
ifAlias	Read-only.
ifCounterDiscontinuityTime	Read-only.

RFC 4113: Management Information Base for the User Datagram Protocol (UDP)

RFC 4113, Management Information Base for the User Datagram Protocol (UDP) is supported on the MLX Series, MLX Series, XMR Series, CES 2000 Series, and CER 2000 Series devices.

All objects have read-only access.

RFC 4133: Entity MIB (Version 3)

RFC 4133, Entity MIB (Version 3) is supported on the MLX Series, MLX Series, XMR Series, CES 2000 Series, and CER 2000 Series devices.

Object group name	Object identifier	Supported?
entPhysicalTable	1.3.6.1.2.1.47.1.1.1	Yes
entPhysicalIndex	1.3.6.1.2.1.47.1.1.1.1.1	Yes. Not-accessible.
entPhysicalDescr	1.3.6.1.2.1.47.1.1.1.1.2	Yes
entPhysicalVendorType	1.3.6.1.2.1.47.1.1.1.1.3	Yes.

Object group name	Object identifier	Supported?
		NOTE This object is defined for assigning vendor type OIDs (For example, brcdIp.1.17.1.3.2.2 and brcdIp. 1.17.1.5.2) to various physical entities like chassis, power supply, Fan, MP, SFM, and various types of LP modules.
entPhysicalContainedIn	1.3.6.1.2.1.47.1.1.1.1.4	Yes
entPhysicalClass	1.3.6.1.2.1.47.1.1.1.1.5	Yes
entPhysicalParentRelPos	1.3.6.1.2.1.47.1.1.1.1.6	Yes
entPhysicalName	1.3.6.1.2.1.47.1.1.1.1.7	Yes
entPhysicalHardwareRev	1.3.6.1.2.1.47.1.1.1.1.8	Yes. NOTE The information is available only for MP, SFM, and LP modules.
entPhysicalFirmwareRev	1.3.6.1.2.1.47.1.1.1.1.9	Yes. NOTE The information is available only for MP, SFM, and LP modules.
entPhysicalSoftwareRev	1.3.6.1.2.1.47.1.1.1.1.10	Yes. NOTE The information is available only for MP, SFM, and LP modules.
entPhysicalSerialNum	1.3.6.1.2.1.47.1.1.1.1.11	Yes. Read-only.
entPhysicalMfgName	1.3.6.1.2.1.47.1.1.1.1.12	Yes
entPhysicalModelName	1.3.6.1.2.1.47.1.1.1.1.13	Yes
entPhysicalAlias	1.3.6.1.2.1.47.1.1.1.1.14	Yes. Read-only.
entPhysicalAssetID	1.3.6.1.2.1.47.1.1.1.1.15	Yes. Read-only.
entPhysicalIsFRU	1.3.6.1.2.1.47.1.1.1.1.16	Yes
entPhysicalMfgDate	1.3.6.1.2.1.47.1.1.1.1.17	Yes
entPhysicalUris	1.3.6.1.2.1.47.1.1.1.1.18	Yes. Read-only.
entPhysicalContainsTable	1.3.6.1.2.1.47.1.3.3	Yes
entLastChangeTime	1.3.6.1.2.1.47.1.4.1	Yes
entConfigChange	1.3.6.1.2.1.47.2.0.1	Yes NOTE This notification is generated when the value of entLastChangeTime is changed, and occurs if the time interval is 5 mins between the changes in the entLastChangeTime.

RFC 4273: Definitions of Managed Objects for BGP-4

NOTE

The definitions of managed objects for BGP-4 is used instead of RFC 1567, Definitions of Managed Objects for the Fourth Version of the Border Gateway Protocol (BGP-4) using SMIv2. RFC 1657 has been obsoleted by RFC 4273.

NOTE

Beginning with NetIron 05.9.00 release, the following BGP-4 MIBs have VRF support.

Object group name	Object identifier	Notes
bgpVersion	1.3.6.1.2.1.15.1	The vector of the supported BGP version numbers.
bgpLocalAS	1.3.6.1.2.1.15.2	The local autonomous system number. The MLX Series and NetIron devices return "AS_TRANS (23456)" if the number is greater than 16 bits.
bgpPeerTable	1.3.6.1.2.1.15.3	The bgpPeerRemoteAs object is the remote autonomous system number received in the BGP OPEN message. The MLX Series and NetIron devices return "AS_TRANS (23456)" for this object if the number is greater than 16 bits.
bgpPeerEntry	1.3.6.1.2.1.15.3.1	-
bgpPeerIdentifier	1.3.6.1.2.1.15.3.1.1	-
bgpPeerState	1.3.6.1.2.1.15.3.1.2	-
bgpPeerAdminStatus	1.3.6.1.2.1.15.3.1.3	-
bgpPeerNegotiatedVersion	1.3.6.1.2.1.15.3.1.4	-
bgpPeerLocalAddr	1.3.6.1.2.1.15.3.1.5	-
bgpPeerLocalPort	1.3.6.1.2.1.15.3.1.6	-
bgpPeerRemoteAddr	1.3.6.1.2.1.15.3.1.7	-
bgpPeerRemotePort	1.3.6.1.2.1.15.3.1.8	-
bgpPeerRemoteAs	1.3.6.1.2.1.15.3.1.9	-
bgpPeerInUpdates	1.3.6.1.2.1.15.3.1.10	-
bgpPeerOutUpdates	1.3.6.1.2.1.15.3.1.11	-
bgpPeerInTotalMessages	1.3.6.1.2.1.15.3.1.12	-
bgpPeerOutTotalMessages	1.3.6.1.2.1.15.3.1.13	-
bgpPeerLastError	1.3.6.1.2.1.15.3.1.14	-
bgpPeerFsmEstablishedTransitions	1.3.6.1.2.1.15.3.1.15	-
bgpPeerFsmEstablishedTime	1.3.6.1.2.1.15.3.1.16	-
bgpPeerConnectRetryInterval	1.3.6.1.2.1.15.3.1.17	-
bgpPeerHoldTime	1.3.6.1.2.1.15.3.1.18	-
bgpPeerKeepAlive	1.3.6.1.2.1.15.3.1.19	-
bgpPeerHoldTimeConfigured	1.3.6.1.2.1.15.3.1.20	-
bgpPeerKeepAliveConfigured	1.3.6.1.2.1.15.3.1.21	-
bgpPeerMinASOriginationInterval	1.3.6.1.2.1.15.3.1.22	-

Object group name	Object identifier	Notes
bgpPeerMinRouteAdvertisementInterval	1.3.6.1.2.1.15.3.1.23	-
bgpPeerInUpdateElapsedTime	1.3.6.1.2.1.15.3.1.24	-
bgpIdentifier	1.3.6.1.2.1.15.4	-
bgp4PathAttrTable	1.3.6.1.2.1.15.6	-
bgp4PathAttrEntry	1.3.6.1.2.1.15.6.1	-
bgp4PathAttrPeer	1.3.6.1.2.1.15.6.1.1	-
bgp4PathAttrIpAddrPrefixLen	1.3.6.1.2.1.15.6.1.2	-
bgp4PathAttrIpAddrPrefix	1.3.6.1.2.1.15.6.1.3	-
bgp4PathAttrOrigin	1.3.6.1.2.1.15.6.1.4	-
bgp4PathAttrASPathSegment	1.3.6.1.2.1.15.6.1.5	This object is the sequence of AS path segments. Each AS path segment is represented by a triplet of *type* , *length* , and *value* . The MLX Series, MLX Series, XMR Series, CES 2000 Series, and CER 2000 Series devices return "AS_TRANS" if the AS number is greater than 2 bytes.
bgp4PathAttrNextHop	1.3.6.1.2.1.15.6.1.6	-
bgp4PathAttrMultiExitDisc	1.3.6.1.2.1.15.6.1.7	-
bgp4PathAttrLocalPref	1.3.6.1.2.1.15.6.1.8	-
bgp4PathAttrAtomicAggregate	1.3.6.1.2.1.15.6.1.9	-
bgp4PathAttrAggregatorAS	1.3.6.1.2.1.15.6.1.10	The AS number of the last BGP4 speaker that performed route aggregation. A value of zero (0) indicates the absence of this attribute. The MLX Series, MLX Series, XMR Series, CES 2000 Series, and CER 2000 Series devices return "AS_TRANS (23456)" for this object if remote AS is greater than 16 bits.
bgp4PathAttrAggregatorAddr	1.3.6.1.2.1.15.6.1.11	-
bgp4PathAttrCalcLocalPref	1.3.6.1.2.1.15.6.1.12	-
bgp4PathAttrBest	1.3.6.1.2.1.15.6.1.13	-
bgp4PathAttrUnknown	1.3.6.1.2.1.15.6.1.14	-

draft-ietf-idr-bgp4-mibv2-12 MIB

The following section of draft-ietf-idr-bgp4-mibv2-12 defines MIB objects for managing the Border Gateway Protocol, version 4.

BGP4v2 per-peer session management information

The following table displays information about the BGP4v2 per-peer session management information group. Use the **show ip bgp neighbor***id* command to display the BGP4v2 per-peer session management information.

NOTE

The following table is not supported on the Extreme NetIron CES 2000 series BASE Packages device.

Name, OID, and syntax	Access	Description
bgp4V2PeerTable brcdIp.3.5.1.1.2	None	The BGP4v2 per-peer table. The table contains one entry per BGP peer and the information about the connections with the BGP peers.
bgp4V2PeerInstance brcdIp.3.5.1.1.2.1.1 Syntax: Unsigned32	None	Specifies the routing instance index. Some of the BGP implementations permit the creation of multiple instances of a BGP routing process. The implementations that do not support multiple routing instances, return 1 for this object. The VRF index is used to identify the peer instance. The VRF index is a zero-based index.
bgp4V2PeerLocalAddrType brcdIp.3.5.1.1.2.1.2 Syntax: InetAddressType	None	Specifies the address family of a local-end peering session. The following address types are supported: • ipv4(1) • ipv6(2)
bgp4V2PeerLocalAddr brcdIp.3.5.1.1.2.1.3 Syntax: InetAddress	None	Specifies the local IP address of the received BGP connection.
bgp4V2PeerRemoteAddrType brcdIp.3.5.1.1.2.1.4 Syntax: InetAddressType	None	Specifies the address family of a remote end peering session. The following address types are supported: • ipv4(1) • ipv6(2)
bgp4V2PeerRemoteAddr brcdIp.3.5.1.1.2.1.5 Syntax: InetAddress	None	Specifies the remote IP address of the received BGP peer.
bgp4V2PeerLocalPort brcdIp.3.5.1.1.2.1.6 Syntax: InetPortNumber	Read-only	Indicates the local port for the TCP connection between the BGP peers.
bgp4V2PeerLocalAs brcdIp.3.5.1.1.2.1.7 Syntax: InetAutonomousSystemNumber	Read-only	Indicates a Autonomous System (AS) is the peering session that represents itself to the remote peer. Some implementations of BGP can represent itself as multiple autonomous systems.
bgp4V2PeerLocalIdentifier brcdIp.3.5.1.1.2.1.8 Syntax: Bgp4V2IdentifierTC	Read-only	Specifies the BGP identifier of the local system for the peering session. It is required that all the values of bgp4V2PeerLocalIdentifier and bgp4V2PeerInstance objects must be identical.
bgp4V2PeerRemotePort brcdIp.3.5.1.1.2.1.9 Syntax: InetPortNumber	Read-only	Specifies the remote port for the TCP connection between the BGP peers.

Name, OID, and syntax	Access	Description
		NOTE The objects bgp4V2PeerLocalAddr, bgp4V2PeerLocalPort, bgp4V2PeerRemoteAddr, and bgp4V2PeerRemotePort provides the appropriate references to the standard MIB TCP connection table or to the IPv6 TCP MIB as referenced in RFC 4022.
bgp4V2PeerRemoteAs brcdIp.3.5.1.1.2.1.10 Syntax: InetAutonomousSystemNumber	Read-only	Specifies the remote AS number received in the BGP OPEN message.
bgp4V2PeerRemoteIdentifier brcdIp.3.5.1.1.2.1.11 Syntax: Bgp4V2IdentifierTC	Read-only	Specifies the BGP identifier of the received remote BGP peer. The entry received must be 0.0.0.0 unless the bgp4V2PeerState is in the openconfirm(5) or in established(6) state.
bgp4V2PeerAdminStatus brcdIp.3.5.1.1.2.1.12 Syntax: Integer	Read-only	Specifies whether the BGP finite state machine (FSM) for the remote peer is halted or running, the BGP FSM for a remote peer is halted after processing a stop event. Likewise, if in the running state after processing a start event. The bgp4V2PeerState is in the idle state when the FSM is halted. Although, some extensions such as Graceful Restart leaves the peer in the idle state with the FSM running. • halted(1) • running(2)
bgp4V2PeerState brcdIp.3.5.1.1.2.1.13 Syntax: Integer	Read-only	Indicates the BGP peer connection states: • idle(1) • connect(2) • active(3) • opensent(4) • openconfirm(5) • established(6)
bgp4V2PeerDescription brcdIp.3.5.1.1.2.1.14 Syntax: SnmpAdminString	Read-only	Specifies a user-configured description identifying the peer. The object must contain a description that is unique within the existing BGP instance for the peer.

BGP4v2 per-peer error management information

The following table contains the BGP4v2 per-peer error management information objects.

NOTE
The following table is not supported on the Extreme NetIron CES 2000 series BASE Packages device.

Name, OID, and syntax	Access	Description
bgp4V2PeerErrorsTable brcdIp.3.5.1.1.3	None	On a per-peer basis, the table reflects the last protocol-defined error encountered and reported on the peer session.
bgp4V2PeerLastErrorCodeReceived brcdIp.3.5.1.1.3.1.1 Syntax: Unsigned32	Read-only	Specifies the last error code received from the peer through a notification message on the connection. The field is zero(0), if no error occurs.
bgp4V2PeerLastErrorSubCodeReceived brcdIp.3.5.1.1.3.1.2 Syntax: Unsigned32	Read-only	Specifies the last error subcode received from the peer through a notification message on the connection. The field is zero(0), if no error occurs.
bgp4V2PeerLastErrorReceivedTime brcdIp.3.5.1.1.3.1.3 Syntax: TimeStamp	Read-only	Indicates the time stamp when the last notification is received from the peer.
bgp4V2PeerLastErrorReceivedText brcdIp.3.5.1.1.3.1.4 Syntax: SnmpAdminString	Read-only	Specifies the implementation-specific explanation of the error reported.
bgp4V2PeerLastErrorReceivedData brcdIp.3.5.1.1.3.1.5 Syntax: Octet String NOTE This object is not supported on MLX Series, MLX Series, XMR Series, CES 2000 Series, and CER 2000 Series devices	Read-only	Specifies the data of the last error code received by the peer. As per RFC 2578, some implementations have limitations dealing with Octet Strings that are larger than 255. So, the data is truncated.
bgp4V2PeerLastErrorCodeSent brcdIp.3.5.1.1.3.1.6 Syntax: Unsigned32	Read-only	Specifies the last error code sent to the peer through a notification message on the connection. The field is zero(0), if no error occurs.
bgp4V2PeerLastErrorSubCodeSent brcdIp.3.5.1.1.3.1.7 Syntax: Unsigned32	Read-only	Specifies the last error subcode sent to the peer through a notification message on the connection. The field is zero(0), if no error occurs.
bgp4V2PeerLastErrorSentTime brcdIp.3.5.1.1.3.1.8 Syntax: TimeStamp	Read-only	Indicates the time stamp when the last notification is sent to the peer.
bgp4V2PeerLastErrorSentText brcdIp.3.5.1.1.3.1.9 Syntax: SnmpAdminString	Read-only	Specifies the implementation-specific explanation of the error reported.
bgp4V2PeerLastErrorSentData brcdIp.3.5.1.1.3.1.10 Syntax: Octet String NOTE This object is not supported on MLX Series, MLX Series, XMR Series, CES 2000 Series, and CER 2000 Series devices	Read-only	Specifies the data of the last error code sent to the peer. As per RFC 2578, some implementations have limitations dealing with Octet Strings that are larger than 255. So, the data is truncated.

BGP4v2 per-peer event times table

The following table contains the BGP4v2 per-peer event times-related objects.

NOTE
The following table is not supported on the Extreme NetIron CES 2000 series BASE Packages device.

Name, OID, and syntax	Access	Description
bgp4V2PeerEventTimesTable brcdIp.3.5.1.1.4	None	A table reporting the per-peering session amount of time elapsed and update events while the peering session advanced into the established state.
bgp4V2PeerFsmEstablishedTime brcdIp.3.5.1.1.4.1.1 Syntax: Gauge32	Read-only	Indicates how long (in seconds) the peer has been in the established state or how long since the peer was last in the established state. The value of the object is set to zero(0) when a new peer is configured or when the router is booted. The value remains zero if the peer has never reached the established state.
bgp4V2PeerInUpdatesElapsedTime brcdIp.3.5.1.1.4.1.2 Syntax: Gauge32	Read-only	Indicates the elapsed time (in seconds) since the last BGP update message was received from the peer. The value of the object is set to zero(0) each time bgpPeerInUpdates is incremented.

BGP4v2 NLRI table

The following table contains the BGP4v2 Network Layer Reachability Information (NLRI) objects. Use the **show ip bgp routes detail** command to display all the BGP attributes of a route, such as communities. Use the **show ip bgp routes** command to display the entries learned through NLRI available in the update.

NOTE
The following table is not supported on the Extreme NetIron CES 2000 series BASE Packages device.

Name, OID, and syntax	Access	Description
bgp4V2NlriTable brcdIp.3.5.1.1.9	None	The BGP4v2-received path attribute table contains information about paths to destination networks received from all the BGP4 peers. Collectively, this represents the Adj-Ribs-In. For NLRI, the route in which the bgp4V2NlriBest object is true represents the route that is installed in the LocRib from the Adj-Ribs-In.
bgp4V2NlriIndex brcdIp.3.5.1.1.9.1.1 Syntax: Unsigned32 NOTE This object is not supported on MLX Series, MLX Series, XMR Series, CES 2000 Series, and CER 2000 Series devices	None	Specifies the index that allows multiple instances of a base prefix for a certain AFI-SAFI from a given peer. This is used to allow a peer in future implementations to send more than a single route instance and allow extensions that extend an NLRI field to send the same prefix while utilizing other extension-specific information. The index is always 1.
bgp4V2NlriAfi brcdIp.3.5.1.1.9.1.2 Syntax: Bgp4V2AddressFamilyIdentifierTC	None	Specifies the address family of the prefix for NLRI.

Name, OID, and syntax	Access	Description
		NOTE It is not necessary that an AFI definition is equivalent to an InetAddressType.
bgp4V2NlriSafi brcdIp.3.5.1.1.9.1.3 Syntax: Bgp4V2SubsequentAddressFamilyIdentifierTC	None	Specifies the subsequent address family of the prefix for NLRI.
bgp4V2NlriPrefixType brcdIp.3.5.1.1.9.1.4 Syntax: InetAddressType	None	Specifies the type of the IP address prefix in an NLRI field. The value of the object is derived from the appropriate value from the bgp4V2NlriAfi field. Where an appropriate InetAddressType is not available, the value of the object is unknown(0).
bgp4V2NlriPrefix brcdIp.3.5.1.1.9.1.5 Syntax: InetAddress	None	Indicates an IP address prefix in an NLRI field. The object is an IP address containing the prefix with the length specified by the bgp4V2NlriPrefixLen object. Any bits beyond the length specified by the bgp4V2NlriPrefixLen object are set to zero(0).
bgp4V2NlriPrefixLen brcdIp.3.5.1.1.9.1.6 Syntax: InetAddressPrefixLength	None	Indicates the length in bits of the address prefix in an NLRI field.
bgp4V2NlriBest brcdIp.3.5.1.1.9.1.7 Syntax: TruthVal	Read-only	Indicates whether the route is chosen as the best BGP4 route for the destination.
bgp4V2NlriCalcLocalPref brcdIp.3.5.1.1.9.1.8 Syntax: Unsigned32	Read-only	Specifies the degree of preference calculated by the receiving BGP4 speaker for an advertised route. The value of the object is zero (0) where the prefix is ineligible.
bgp4V2NlriOrigin brcdIp.3.5.1.1.9.1.9 Syntax: Integer	Read-only	Specifies the ultimate origin of the path information: • igp(1) - The networks that are interior. • egp(2) - The networks learned through an Exterior Gateway Protocol (EGP). • incomplete(3) - The networks that are learned by some other means.
bgp4V2NlriNextHopAddrType brcdIp.3.5.1.1.9.1.10 Syntax: InetAddressType	Read-only	Specifies the address family of the address for the border router that is used to access the destination network.
bgp4V2NlriNextHopAddr brcdIp.3.5.1.1.9.1.11 Syntax: InetAddress	Read-only	Specifies the address of the border router that is used to access the destination network. The address is the next-hop address received in the update packet associated with the prefix: • For RFC 2545 style double nexthops, the object contains the global scope next hop.

Name, OID, and syntax	Access	Description
		• For bgpPathAttrLinkLocalNextHop, the object contains the link local scope next hop, if it is present. • For bgp4V2NlriNextHopAddr, the object contains the link local next hop, if a mechanism is developed to use only a link local next hop.
bgp4V2NlriLinkLocalNextHopAddrType brcdIp.3.5.1.1.9.1.12 Syntax: InetAddressType	Read-only	Specifies the address type for an IPv6 link local address. The object is present only when receiving RFC 2545 style double nexthops. The object is present optionally in BGP implementations that do not support IPv6. The value of the object is unknown(0) when there is no IPv6 link local next hop present.
bgp4V2NlriLinkLocalNextHopAddr brcdIp.3.5.1.1.9.1.13 Syntax: InetAddress	Read-only	Indicates the value that contains an IPv6 link local address and is present only when receiving RFC 2545 style double nexthops. The object is present optionally in BGP implementations that do not support IPv6. The length of the object is zero(0) when there is no IPv6 link local next hop present.
bgp4V2NlriLocalPrefPresent brcdIp.3.5.1.1.9.1.14 Syntax: TruthVal	Read-only	Indicates if the value is true when the LOCAL_PREF value is sent in the UPDATE message. The value is always true.
bgp4V2NlriLocalPref brcdIp.3.5.1.1.9.1.15 Syntax: Unsigned32	Read-only	Specifies the degree of preference of the originating BGP4 speaker for an advertised route.
bgp4V2NlriMedPresent brcdIp.3.5.1.1.9.1.16 Syntax: TruthVal	Read-only	Indicates if the value is true when a Multi-Exit Discriminator (MED) value is sent in the UPDATE message.
bgp4V2NlriMed brcdIp.3.5.1.1.9.1.17 Syntax: Unsigned32	Read-only	Indicates the metric used to discriminate between multiple exit points to an adjacent autonomous system. When an MED value is absent but has a calculated default value, the object will contain the calculated value.
bgp4V2NlriAtomicAggregate brcdIp.3.5.1.1.9.1.18 Syntax: TruthVal	Read-only	Indicates if the value is true when the ATOMIC_AGGREGATE path attribute is present and indicates that NLRI cannot be made more specific.
bgp4V2NlriAggregatorPresent brcdIp.3.5.1.1.9.1.19 Syntax: TruthVal	Read-only	Indicates if the value is true when the AGGREGATOR path attribute is sent in the UPDATE message.
bgp4V2NlriAggregatorAS brcdIp.3.5.1.1.9.1.20 Syntax: InetAutonomousSystemNumber	Read-only	Specifies an AS number of the last BGP4 speaker that performed route aggregation. The value of the object is zero(0) when the bgp4V2NlriAggregatorPresent object is false.
bgp4V2NlriAggregatorAddr	Read-only	Specifies the IP address of the last BGP4 speaker that performed route aggregation. The

Name, OID, and syntax	Access	Description
brcdIp.3.5.1.1.9.1.21 Syntax: Bgp4V2IdentifierTC		value of the object is 0.0.0.0 when the bgp4V2NlriAggregatorPresent object is false.
bgp4V2NlriAsPathCalcLength brcdIp.3.5.1.1.9.1.22 Syntax: Unsigned32	Read-only	Indicates the value that represents the calculated length of the AS-Path according to the rules in the BGP specification. The value is used in route selection.
bgp4V2NlriAsPathString brcdIp.3.5.1.1.9.1.23 Syntax: SnmpAdminString	Read-only	Specifies a string depicting the AS-Path to the network, which is received from the peer that is advertised. The format of the string is implementation-dependent and it must be designed for operator readability. SnmpAdminString is capable of representing a maximum of 255 characters. This may lead to the string being truncated in the presence of a large AS-Path. NOTE It is recommended that when the content of the object is truncated, the final three octets should be reserved for the ellipses string (...). The bgp4V2NlriAsPath object gives access to the full AS-Path.
bgp4V2NlriAsPath brcdIp.3.5.1.1.9.1.24 Syntax: Octet String	Read-only	Specifies the contents of the BGP4 AS_PATH attribute to provide an authorized form of the BGP4 AS_PATH along with the human-readable bgp4V2NlriAsPathString object that can be truncated. The object is parsed using the rules defined for four-octet autonomous systems as defined in RFC 4893. RFC 4271 and RFC 5065 define the general format of the AS_PATH attribute and its code points. The AS_PATH attribute is composed of a sequence of AS segments. Each AS segment is represented in the following fields: • The path segment type and path segment are one octet in length each. Any one of the following can represent the path segment type field: – 1 - AS_SET (RFC 4721) – 2 - AS_SEQUENCE (RFC 4721) – 3 - AS_CONFED_SEQUENCE (RFC 3065) – 4 - AS_CONFED_SET (RFC 3065) • The path segment length field contains the number of autonomous systems (not the number of octets) in the path segment value field. • The path segment value field contains one or more autonomous system numbers, each encoded as a four

Name, OID, and syntax	Access	Description
		octet length field in network-byte order. NOTE An SNMP agent can truncate the objects that are less than its maximum theoretical length of 4072 octets. It is recommended that when such truncation occurs on the boundary of an encoded AS, the partial AS be discarded from the object and the object size adjusted accordingly. When such truncation happens, either alone or in conjunction with the truncation of a partially encoded AS, it will yield an empty path segment value. In that case, the path segment type and path segment length components of the truncated AS_PATH attributue are also discarded and the object size is adjusted accordingly.
bgp4V2NlriPathAttrUnknown brcdIp.3.5.1.1.9.1.25 Syntax: Octet String	Read-only	Specifies the path attributes that are not understood by the implementation are presented. These path attributes use the type, length, and value encoding from RFC 4271. NOTE An SNMP agent can truncate the objects that are less than its maximum theoretical length of 4072 octets.
bgp4V2NlriRxPathIdentifier brcdIp.3.5.1.1.9.1.26 Syntax: String	Read-only	Path identifier that identifies the incoming path. In order for a BGP speaker to advertise multiple paths for the same address prefix, a new identifier (Path Identifier) is introduced so that a particular path for an address prefix can be identified by the combination of the address prefix and the Path Identifier. The assignment of the Path Identifier for a path by a BGP speaker is purely a local matter. In order to carry the Path Identifier in an UPDATE message, the existing NLRI encodings are extended by prepending the Path Identifier field, which is of four-octets.
bgp4V2NlriTxPathIdentifier brcdIp.3.5.1.1.9.1.27 Syntax: String	Read-only	Path identifier that identifies the outgoing path. In order for a BGP speaker to advertise multiple paths for the same address prefix, a new identifier (Path Identifier) needs to be introduced so that a particular path for an address prefix can be identified by the combination of the address prefix and the Path Identifier. The assignment of the Path Identifier for a path by a BGP speaker is purely a local matter. In order to carry the Path Identifier in an UPDATE message, the existing NLRI encodings

Name, OID, and syntax	Access	Description
		are extended by prepending the Path Identifier field, which is of four-octets.

RFC 4292: IP Forwarding Table MIB

The MLX Series, MLX Series, XMR Series, CES 2000 Series, and CER 2000 Series devices support the entire RFC 4292 with the following exceptions. RFC 4292 replaces RFC 2096 and RFC 2465.

- The object inetCidrRouteDiscards is not supported.
- The objects in the inetCidrRouteTable has VRF support.
- All objects have read-only access.

RFC 4293: Management Information Base for the Internet Protocol (IP)

RFC 4293, Management Information Base for the Internet Protocol (IP) obsoletes the following:

- RFC 2011: SNMPv2 Management Information Base for the Internet Protocol using SMIv2
- RFC 2465: Management Information Base for IP Version 6: Textual Conventions and General Group
- RFC 2466: Management Information Base for IP Version 6: ICMPv6 Group

The following table summarizes the tables from the RFC that are supported.

Object group name	Object identifier	Supported IP version	Access
IP scalar variables	1.3.6.1.2.1.4	IPv4 and IPv6	Only the following objects have read-write access: • ipDefaultTTL • ipv6IpDefaultHopLimit • ipv6IpForwarding All other scalar variables are read-only.
ipNetToMediaTable	1.3.6.1.2.1.4.22	IPv4	All objects are read-only. Beginning from NetIron 05.9.00 release, this MIB object supports VRF.
ipv4InterfaceTable	1.3.6.1.2.1.4.28	IPv4	All objects are read-only. **NOTE** Beginning from NetIron 05.9.00 release, the MIB objects in ipv4InterfaceTable supports VRF.
ipv6InterfaceTable	1.3.6.1.2.1.4.30	IPv6	All objects are read-only.

Object group name	Object identifier	Supported IP version	Access
			NOTE Beginning from NetIron 05.9.00 release, the MIB objects in ipv6InterfaceTable supports VRF.
ipSystemStatsTable			
ipSystemStatsInOctets	1.3.6.1.2.1.4.31.1.1.5	None	Always returns 0.
ipSystemStatsHCInOctets	1.3.6.1.2.1.4.31.1.1.6	None	Always returns 0.
ipSystemStatsInAddrErrors	1.3.6.1.2.1.4.31.1.1.9	IPv4	IPv6 returns 0.
ipSystemStatsInUnknownProtos	1.3.6.1.2.1.4.31.1.1.10	IPv4	IPv6 returns 0.
ipSystemStatsInTruncatedPkts	1.3.6.1.2.1.4.31.1.1.11	IPv6	IPv4 returns 0.
ipSystemStatsInDiscards	1.3.6.1.2.1.4.31.1.1.17	IPv4	IPv6 returns 0.
ipSystemStatsOutNoRoutes	1.3.6.1.2.1.4.31.1.1.22	IPv4	IPv6 returns 0.
ipSystemStatsOutFragReqds	1.3.6.1.2.1.4.31.1.1.26	IPv4	IPv6 returns 0.
ipSystemStatsOutFragFails	1.3.6.1.2.1.4.31.1.1.28	IPv4	IPv6 returns 0.
ipSystemStatsOutTransmits	1.3.6.1.2.1.4.31.1.1.30	IPv4	IPv6 returns 0.
ipSystemStatsHCOutTransmits	1.3.6.1.2.1.4.31.1.1.31	IPv4	IPv6 returns 0.
ipSystemStatsOutOctets	1.3.6.1.2.1.4.31.1.1.32	None	Always returns 0.
ipSystemStatsHCOutOctets	1.3.6.1.2.1.4.31.1.1.33	None	Always returns 0.
ipSystemStatsInMcastPkts	1.3.6.1.2.1.4.31.1.1.34	None	Always returns 0.
ipSystemStatsHCInMcastPkts	1.3.6.1.2.1.4.31.1.1.35	None	Always returns 0.
ipSystemStatsInMcastOctets	1.3.6.1.2.1.4.31.1.1.36	None	Always returns 0.
ipSystemStatsHCInMcastOctets	1.3.6.1.2.1.4.31.1.1.37	None	Always returns 0.
ipSystemStatsOutMcastPkts	1.3.6.1.2.1.4.31.1.1.38	None	Always returns 0.
ipSystemStatsHCOutMcastPkts	1.3.6.1.2.1.4.31.1.1.39	None	Always returns 0.
ipSystemStatsOutMcastOctets	1.3.6.1.2.1.4.31.1.1.40	None	Always returns 0.
ipSystemStatsHCOutMcastOctets	1.3.6.1.2.1.4.31.1.1.41	None	Always returns 0.
ipSystemStatsInBcastPkts	1.3.6.1.2.1.4.31.1.1.42	None	Always returns 0.
ipSystemStatsHCInBcastPkts	1.3.6.1.2.1.4.31.1.1.43	None	Always returns 0.
ipSystemStatsOutBcastPkts	1.3.6.1.2.1.4.31.1.1.44	None	Always returns 0.
ipSystemStatsHCOutBcastPkts	1.3.6.1.2.1.4.31.1.1.45	None	Always returns 0.
ipSystemStatsDiscontinuityTime	1.3.6.1.2.1.4.31.1.1.46	None	Always returns 0.
ipIfStatsTableLastChange	1.3.6.1.2.1.4.31.2	IPv4 and IPv6	All objects are read-only.
ipIfStatsTable			
ipIfStatsInOctets	1.3.6.1.2.1.4.31.3.1.5	None	Always returns 0.
ipIfStatsHCInOctets	1.3.6.1.2.1.4.31.3.1.6	None	Always returns 0.
ipIfStatsInHdrErrors	1.3.6.1.2.1.4.31.3.1.7	IPv6	IPv4 returns 0.
ipIfStatsInNoRoutes	1.3.6.1.2.1.4.31.3.1.8	IPv6	IPv4 returns 0.
ipIfStatsInAddrErrors	1.3.6.1.2.1.4.31.3.1.9	IPv6	IPv4 returns 0.
ipIfStatsInUnknownProtos	1.3.6.1.2.1.4.31.3.1.10	IPv6	IPv4 returns 0.
ipIfStatsInTruncatedPkts	1.3.6.1.2.1.4.31.3.1.11	IPv6	IPv4 returns 0.
ipIfStatsInForwDatagrams	1.3.6.1.2.1.4.31.3.1.12	IPv4	IPv6 returns 0.

Object group name	Object identifier	Supported IP version	Access
ipIfStatsReasmReqds	1.3.6.1.2.1.4.31.3.1.14	IPv6	IPv4 returns 0.
ipIfStatsReasmOKs	1.3.6.1.2.1.4.31.3.1.15	IPv6	IPv4 returns 0.
ipIfStatsReasmFails	1.3.6.1.2.1.4.31.3.1.16	IPv6	IPv4 returns 0.
ipIfStatsInDiscards	1.3.6.1.2.1.4.31.3.1.17	IPv6	IPv4 returns 0.
ipIfStatsInDelivers	1.3.6.1.2.1.4.31.3.1.18	IPv6	IPv4 returns 0.
ipIfStatsHCInDelivers	1.3.6.1.2.1.4.31.3.1.19	IPv6	IPv4 returns 0.
ipIfStatsOutRequests	1.3.6.1.2.1.4.31.3.1.20	IPv6	IPv4 returns 0.
ipIfStatsHCOutRequests	1.3.6.1.2.1.4.31.3.1.21	IPv6	IPv4 returns 0.
ipIfStatsOutForwDatagrams	1.3.6.1.2.1.4.31.3.1.23	IPv6	IPv4 returns 0.
ipIfStatsHCOutForwDatagrams	1.3.6.1.2.1.4.31.3.1.24	IPv6	IPv4 returns 0.
ipIfStatsOutDiscards	1.3.6.1.2.1.4.31.3.1.25	IPv6	IPv4 returns 0.
ipIfStatsOutFragReqds	1.3.6.1.2.1.4.31.3.1.26	None	Always returns 0.
ipIfStatsOutFragOKs	1.3.6.1.2.1.4.31.3.1.27	IPv6	IPv4 returns 0.
ipIfStatsOutFragFails	1.3.6.1.2.1.4.31.3.1.28	IPv6	IPv4 returns 0.
ipIfStatsOutFragCreates	1.3.6.1.2.1.4.31.3.1.29	IPv6	IPv4 returns 0.
ipIfStatsOutTransmits	1.3.6.1.2.1.4.31.3.1.30	IPv4	IPv6 returns 0.
ipIfStatsHCOutTransmits	1.3.6.1.2.1.4.31.3.1.31	IPv4	IPv6 returns 0.
ipIfStatsOutOctets	1.3.6.1.2.1.4.31.3.1.32	None	Always returns 0.
ipIfStatsHCOutOctets	1.3.6.1.2.1.4.31.3.1.33	None	Always returns 0.
ipIfStatsInMcastPkts	1.3.6.1.2.1.4.31.3.1.34	IPv6	IPv4 returns 0.
ipIfStatsHCInMcastPkts	1.3.6.1.2.1.4.31.3.1.35	IPv6	IPv4 returns 0.
ipIfStatsInMcastOctets	1.3.6.1.2.1.4.31.3.1.36	None	Always returns 0.
ipIfStatsHCInMcastOctets	1.3.6.1.2.1.4.31.3.1.37	None	Always returns 0.
ipIfStatsOutMcastPkts	1.3.6.1.2.1.4.31.3.1.38	IPv6	IPv4 returns 0.
ipIfStatsHCOutMcastPkts	1.3.6.1.2.1.4.31.3.1.39	IPv6	IPv4 returns 0.
ipIfStatsOutMcastOctets	1.3.6.1.2.1.4.31.3.1.40	None	Always returns 0.
ipIfStatsHCOutMcastOctets	1.3.6.1.2.1.4.31.3.1.41	None	Always returns 0.
ipIfStatsInBcastPkts	1.3.6.1.2.1.4.31.3.1.42	None	Always returns 0.
ipIfStatsHCInBcastPkts	1.3.6.1.2.1.4.31.3.1.43	None	Always returns 0.
ipIfStatsOutBcastPkts	1.3.6.1.2.1.4.31.3.1.44	None	Always returns 0.
ipIfStatsHCOutBcastPkts	1.3.6.1.2.1.4.31.3.1.45	None	Always returns 0.
ipIfStatsDiscontinuityTime	1.3.6.1.2.1.4.31.3.1.46	None	Always returns 0.
ipAddressPrefixTable	1.3.6.1.2.1.4.32	IPv4 and IPv6	All objects are read-only. **NOTE** Beginning from NetIron 05.9.00 release, the MIB objects in ipAddressPrefixTable supports VRF.
ipAddressTable	1.3.6.1.2.1.4.34	IPv4 and IPv6	All objects are read-only.
ipNetToPhysicalTable	1.3.6.1.2.1.4.35	IPv4 and IPv6	Only the following objects have read-create access: • ipNetToPhysicalPhysAddress

Object group name	Object identifier	Supported IP version	Access
NOTE Only ARP entries that are currently being used are included in the ARP table.			• ipNetToPhysicalType • ipNetToPhysicalRowStatus All other objects are read-only. NOTE Beginning from NetIron 05.9.00 release, the MIB objects in ipNetToPhysicalTable supports VRF.
ipv6ScopeZoneIndexTable	1.3.6.1.2.1.4.36	IPv6	All objects are read-only. NOTE Beginning from NetIron 05.9.00 release, the MIB objects in ipv6ScopeZoneIndexTable supports VRF.
ipDefaultRouterTable	1.3.6.1.2.1.4.37	IPv4 and IPv6	All objects are read-only. Beginning from NetIron 05.9.00 release, the MIB objects in ipDefaultRouterTable supports VRF.
Ipv6RouterAdvertTable	1.3.6.1.2.1.4.39	IPv6	Only the following objects have read-write access; all others are read-only: • ipv6RouterAdvertSendAdverts • ipv6RouterAdvertManagedFlag • ipv6RouterAdvertOtherConfigFlag • ipv6RouterAdvertReachableTime • ipv6RouterAdvertRetransmitTime • ipv6RouterAdvertCurHopLimit • ipv6RouterAdvertDefaultLifetime NOTE Beginning from NetIron 05.9.00 release, the MIB objects in Ipv6RouterAdvertTable supports VRF.
icmpStatsTable	1.3.6.1.2.1.5.29	IPv4 and IPv6	All objects are read-only.
icmpMsgStatsTable	1.3.6.1.2.1.5.30	IPv4 and IPv6	All objects are read-only.

RFC 4363: Definitions of Managed Objects for Bridges with Traffic Classes, Multicast Filtering, and Virtual LAN Extensions

NOTE
RFC 4363 obsoletes RFC 2674.

Object group name	Object identifier	Supported?
dot1dExtBase		
dot1dPortCapabilitiesTable	1.3.6.1.2.1.17.6.1.1.4	Yes. Read-only.
dot1dPriority		
dot1dPortPriorityTable	1.3.6.1.2.1.17.6.1.2.1	Yes. Read-only.
dot1dUserPriorityRegenTable	1.3.6.1.2.1.17.6.1.2.2	No
dot1dTrafficClassTable	1.3.6.1.2.1.17.6.1.2.3	Yes. Read-only.
dot1dPortOutboundAccessPriorityTable	1.3.6.1.2.1.17.6.1.2.3	No
dot1dGarp		
dot1dPortGarpTable	1.3.6.1.2.1.17.6.1.3.1	Yes. Read-only. SET operation is not supported.
dot1dGmrp		
dot1dPortGmrpTable	1.3.6.1.2.1.17.6.1.4.1	No
dot1qTp		
dot1qFdbTable	1.3.6.1.2.1.17.7.1.2.1	Yes. Read-only.
dot1qTpFdbTable	1.3.6.1.2.1.17.7.1.2.2	Yes. Read-only.
dot1qTpGroupTable	1.3.6.1.2.1.17.7.1.2.3	No
dot1qForwardAllTable	1.3.6.1.2.1.17.7.1.2.4	No
dot1qForwardUnregisteredTable	1.3.6.1.2.1.17.7.1.2.5	No
dot1qStatic		
dot1qStaticUnicastTable	1.3.6.1.2.1.17.7.1.3.1	No
dot1qStaticMulticastTable	1.3.6.1.2.1.17.7.1.3.2	No
dot1qVlan	1.3.6.1.2.1.17.7.1.4	Yes. The dot1qVlanNumDeletes object in the table is not supported.
dot1qVlanCurrentTable	1.3.6.1.2.1.17.7.1.4.2	Yes. The dot1qVlanCreationTime object in the table is not supported.
dot1qVlanStaticTable	1.3.6.1.2.1.17.7.1.4.3	Yes. Read-only.
dot1qPortVlanTable	1.3.6.1.2.1.17.7.1.4.5	Yes. The dot1qPortRestrictedVlanRegistration object in the table is read-only and always returns false(2).
dot1qPortVlanStatisticsTable	1.3.6.1.2.1.17.7.1.4.6	No
dot1qPortVlanHCStatisticsTable	1.3.6.1.2.1.17.7.1.4.7	No
dot1qLearningConstraintsTable	1.3.6.1.2.1.17.7.1.4.8	No
dot1vProtocol		
dot1vProtocolGroupTable	1.3.6.1.2.1.17.7.1.5.1	Yes. Read-only.
dot1vProtocolPortTable	1.3.6.1.2.1.17.7.1.5.2	Yes. Read-only.

dot1vProtocolGroupTable mapping

The following table lists the dot1vProtocolGroupTable mapping for the frame type and protocol value to the groupID.

Group ID	Frame type	Protocol value
1	Ethernet	0x0800(IPv4)
2	Ethernet	0x86DD(IPv6)
3	Ethernet	0x8137(IPX)
4	Ethernet	0x809B(AppleTalk)
5	rfc_1042	0x0800(IPv4)
6	rfc_1042	0x86DD(IPv6)
7	rfc_1042	0x8137(IPX)
8	rfc_1042	0x809B(AppleTalk)
9	snap8021H	0x0800(IPv4)
10	snap8021H	0x86DD(IPv6)
11	snap8021H	0x8137(IPX)
12	snap8021H	0x809B(AppleTalk)

RFC 4444: Management Information Base for Intermediate System to Intermediate System (IS-IS)

This RFC 4444, Management Information Base for Intermediate System to Intermediate System (IS-IS) is supported on the XMR Series, MLX Series, MLX Series, CES 2000 Series, and CER 2000 Series devices.

Scalar isisSys objects

The following scalar objects are supported in the Unified IP MIB; however, only read-only access is provided.

Object group name	Object identifier	Supported?	Notes
isisSysVersion	1.3.6.1.2.1.138.1.1.1.1	Yes	Always returns 1.
isisSysLevelType	1.3.6.1.2.1.138.1.1.1.2	Yes	• level1(1) • level2(2) • level 1 and 2(3)
isisSysID	1.3.6.1.2.1.138.1.1.1.3	Yes	-
isisSysMaxPathSplits	1.3.6.1.2.1.138.1.1.1.4	Yes	Default value is 4 on the Extreme NetIron devices.
isisSysMaxLSPGenInt	1.3.6.1.2.1.138.1.1.1.5	Yes	-
isisSysPollESHelloRate	1.3.6.1.2.1.138.1.1.1.6	No	-
isisSysWaitTime	1.3.6.1.2.1.138.1.1.1.7	No	-
isisSysAdminState	1.3.6.1.2.1.138.1.1.1.8	Yes	• on(1) • off(2)
isisSysL2toL1Leaking	1.3.6.1.2.1.138.1.1.1.9	Yes	-
isisSysMaxAge	1.3.6.1.2.1.138.1.1.1.10	Yes	-
isisSysReceiveLSPBufferSize	1.3.6.1.2.1.138.1.1.1.11	Yes	-

Object group name	Object identifier	Supported?	Notes
isisSysProtSupported	1.3.6.1.2.1.138.1.1.1.12	Yes	BITS: • ipv4(1) • ipv6(2)
isisSysNotificationEnable	1.3.6.1.2.1.138.1.1.1.13	Yes	-

Supported tables in RFC 4444

The following tables in RFC 4444 are supported; however, only read-only access is allowed.

NOTE

Tables in RFC 4444 that are not listed in the table below are not supported. For example, the isisRATable is not supported.

Object group name	Object identifier	Comments
isisManAreaAddrTable	1.3.6.1.2.1.138.1.1.2	-
isisAreaAddrTable	1.3.6.1.2.1.138.1.1.3	-
isisSummAddrTable	1.3.6.1.2.1.138.1.1.4	-
isisRedistributeAddrTable	1.3.6.1.2.1.138.1.1.5	-
isisRouterTable	1.3.6.1.2.1.138.1.1.6	-
isisSysLevelTable	1.3.6.1.2.1.138.1.2.1	-
isisCircTable	1.3.6.1.2.1.138.1.3.2	The following objects from this table are not supported: • isisCircMeshGroupEnabled will return INACTIVE. • isisCircMeshGroup will return zero (0). Also, the object isisCirc3WayEnabled is always ON for Pt 2 Pt.
isisCircLevelTable	1.3.6.1.2.1.138.1.4.1	-
isisSystemCounterTable	1.3.6.1.2.1.138.1.5.1	-
isisCircuitCounterTable	1.3.6.1.2.1.138.1.5.2	-
isisPacketCounterTable	1.3.6.1.2.1.138.1.5.3	-
isisIsAdjTable	1.3.6.1.2.1.138.1.6.1	-
isisIsAdjAreaAddrTable	1.3.6.1.2.1.138.1.6.2	-
isisIsAdjIPAddrTable	1.3.6.1.2.1.138.1.6.3	-
isisIsAdjProtSuppTable	1.3.6.1.2.1.138.1.6.4	-
isisIPRATable	1.3.6.1.2.1.138.1.8.1	-
isisLSPSummaryTable	1.3.6.1.2.1.138.1.9.1	-
isisLSPTLVTable	1.3.6.1.2.1.138.1.9.2	-
isisNOTIFICATION	1.3.6.1.2.1.138.1.10	-

Notifications

IS-IS notification is enabled by default. To disable notification, issue the **no snmp-server enable trapsisis** command at the device CLI. Use **snmp-server enable trapsisis command** to re-enable notification.

Table 4 lists the notifications in RFC 4444 that are supported on the XMR Series, MLX Series, MLX Series, CES 2000 Series, and CER 2000 Series devices.

NOTE
Only one IS-IS trap is generated for each notification type within a 60-second (1 minute) period. For example, if several authentication failure notification types occur within a 60-second period, only one trap is generated for the authentication failure notification type. This duration is different from what is specified in RFC 4444.

TABLE 4 Supported RFC 4444 notifications

Object group name	Object identifier
isisDatabaseOverload	1.3.6.1.2.1.138.1.10.1
isisAttemptToExceedMaxSequence	1.3.6.1.2.1.138.1.10.4
isisIDLenMismatch	1.3.6.1.2.1.138.1.10.5
isisMaxAreaAddressesMismatch	1.3.6.1.2.1.138.1.10.6
isisOwnLSPPurge	1.3.6.1.2.1.138.1.10.7
isisSequenceNumberSkip	1.3.6.1.2.1.138.1.10.8
isisAuthenticationFailure	1.3.6.1.2.1.138.1.10.10
isisAreaMismatch	1.3.6.1.2.1.138.1.10.12
isisAdjacencyChange	1.3.6.1.2.1.138.1.10.17
isisLSPErrorDetected	1.3.6.1.2.1.138.1.10.18

Table 5 lists the notifications in RFC 4444 that are not supported.

TABLE 5 Unsupported RFC 4444 notifications

Object group name	Object identifier
isisManualAddressDrops	1.3.6.1.2.1.138.1.10.2
isisCorruptedLSPDetected	1.3.6.1.2.1.138.1.10.3
isisAuthenticationTypeFailure	1.3.6.1.2.1.138.1.10.9
isisVersionSkew	1.3.6.1.2.1.138.1.10.11
isisRejectedAdjacency	1.3.6.1.2.1.138.1.10.13
isisLSPTooLargeToPropagate	1.3.6.1.2.1.138.1.10.14
isisOrigLSPBuffSizeMismatch	1.3.6.1.2.1.138.1.10.15
isisProtocolsSupportedMismatch	1.3.6.1.2.1.138.1.10.16

RFC 4807: IPsec Security Policy Database Configuration MIB

RFC 4807 is supported on the XMR Series, MLX Series, MLX Series, CES 2000 Series, and CER 2000 Series devices.

NOTE
Only read-only access is available for the objects.

spdLocalConfigObjects

The following table lists the IPsec Security Policy Database (SPD) local configuration objects.

Object	Object identifier
spdIngressPolicyGroupName	1.3.6.1.2.1.153.1.1.1
spdEgressPolicyGroupName	1.3.6.1.2.1.153.1.1.2

spdEndpointToGroupTable

The following table lists the SPD endpoint to group table objects.

Object group name	Object identifier	Access
spdEndGroupDirection	1.3.6.1.2.1.153.1.2.1.1	• Ingress/Inbound(1) • Egress/Outbound(2)
spdEndGroupInterface	1.3.6.1.2.1.153.1.2.1.2	Interface index
spdEndGroupName	1.3.6.1.2.1.153.1.2.1.3	• The group name is derived from joining multiple strings of the *vrf-id:ifIndex:ifDirection:Encap:SPI:AuthAlg:EncryptAlg* IPsec data. • The maximum of 32 characters is allowed in a group name.
spdEndGroupLastChanged	1.3.6.1.2.1.153.1.2.1.4	Always returns 0.
spdEndGroupStorageType	1.3.6.1.2.1.153.1.2.1.5	Always returns volatile(2).
spdEndGroupRowStatus	1.3.6.1.2.1.153.1.2.1.6	Always returns active(1).

spdGroupContentsTable

The following table lists the SPD group contents table objects.

Object group name	Object identifier	Accesss
spdGroupContName	1.3.6.1.2.1.153.1.3.1.1	• The group name is derived from joining multiple strings of the *vrf-id:ifIndex:ifDirection:Encap:SPI:AuthAlg:EncryptAlg* IPsec data. • The maximum of 32 characters is allowed in a group name. • The index is the string name returned from querying the spdEndpointToGroupTable and spdEndGroupName field.
spdGroupContPriority	1.3.6.1.2.1.153.1.3.1.2	The priority number is used for representing Accept(1) and Drop(65535) rules.
spdGroupContFilter	1.3.6.1.2.1.153.1.3.1.3	Always returns spdTrueFilter instance.
spdGroupContComponentType	1.3.6.1.2.1.153.1.3.1.4	Always returns rule(2).
spdGroupContComponentName	1.3.6.1.2.1.153.1.3.1.5	• Returns a rule name that is used as an index to spdRuleDefinitionTable to find the FilterAction associated with this policy group. • The rule name is derived from joining multiple strings of the *vrf-id:ifIndex:ifDirection:priority* IPsec data. • The maximum of 32 characters is allowed in a rule name.

Object group name	Object identifier	Accesss
spdGroupContLastChanged	1.3.6.1.2.1.153.1.3.1.6	Always returns 0.
spdGroupContStorageType	1.3.6.1.2.1.153.1.3.1.7	Always returns volatile(2).
spdGroupContRowStatus	1.3.6.1.2.1.153.1.3.1.8	Always returns active(1).

spdRuleDefinitionTable

The following table lists the SPD rule definition table objects.

Object group name	Object identifier	Access
spdRuleDefName	1.3.6.1.2.1.153.1.4.1.1	• The index is the string name derived from querying the spdGroupContentsTable and spdGroupContComponentName field. • The rule name is derived from joining multiple strings of the *vrf-id:ifIndex:ifDirection:priority* IPsec data.
spdRuleDefDescription	1.3.6.1.2.1.153.1.4.1.2	A user-defined string description of the rule.
spdRuleDefFilter	1.3.6.1.2.1.153.1.4.1.3	The field points to an entry of diffServMultiFieldClfrTable on page 51 of the Differentiated Services MIB.
spdRuleDefFilterNegated	1.3.6.1.2.1.153.1.4.1.4	Always returns false(2).
spdRuleDefAction	1.3.6.1.2.1.153.1.4.1.5	The field points to a static action, either spdDropAction or spdAcceptAction.
spdRuleDefAdminStatus	1.3.6.1.2.1.153.1.4.1.6	Always returns enabled(1).
spdRuleDefLastChanged	1.3.6.1.2.1.153.1.4.1.7	Always returns 0.
spdRuleDefStorageType	1.3.6.1.2.1.153.1.4.1.8	Always returns volatile(2).
spdRuleDefRowStatus	1.3.6.1.2.1.153.1.4.1.9	Always returns active(1).

The tables spdCompoundFilterTable, spdSubfiltersTable, spdIpOffsetFilterTable, spdTimeFilterTable, spdIpsoHeaderFilterTable, spdCompoundActionTable, and spdSubactionsTable are not supported.

The following tables of scalar objects are supported, except the scalar object diffServMultiFieldClfrNextFree.

spdStaticFilters

The following table lists the SPD static filter scalar object.

Object	Object identifier	Access
spdTrueFilterInstance	1.3.6.1.2.1.153.1.7.1.0	Always true(1).

spdStaticActions

The following table lists the SPD static actions scalar objects.

Object	Object identifier	Access
spdDropAction	1.3.6.1.2.1.153.1.13.1	Indicates that a packet must be dropped and no action or packet logging is done.

Object	Object identifier	Access
spdDropActionLog	1.3.6.1.2.1.153.1.13.2	Indicates that a packet must be dropped and an action or packet logging is required.
spdAcceptAction	1.3.6.1.2.1.153.1.13.3	Indicates that a packet must be accepted (or passed-through) and no action or packet logging is done.
spdAcceptActionLog	1.3.6.1.2.1.153.1.13.4	Indicates that a packet must be accepted (or passed-through) and an action or packet logging is required.

RFC 5643: Management Information Base for OSPFv3

The XMR Series, MLX Series, MLX Series, CES 2000 Series, and CER 2000 Series devices are provided with the following OSPFv3 Management Information Base.

NOTE
The following tables support only SNMP GET request. Beginning from NetIron 05.9.00 release, the MIB objects from RFC 5643 are provided with VRF support.

NOTE
The Extreme NetIron devices do not support ospfv3HostTable and ospfv3CfgNbrTable.

ospfv3GeneralGroup

The following table lists the OSPFv3 general group objects.

Object	Object identifier	Supported?
ospfv3RouterId	1.3.6.1.2.1.191.1.1.1	Yes
ospfv3AdminStatus	1.3.6.1.2.1.191.1.1.2	Yes
ospfv3VersionNumber	1.3.6.1.2.1.191.1.1.3	Yes
ospfv3AreaBdrRtrStatus	1.3.6.1.2.1.191.1.1.4	Yes
ospfv3AreaBdrRtrStatus	1.3.6.1.2.1.191.1.1.5	Yes
ospfv3AsScopeLsaCount	1.3.6.1.2.1.191.1.1.6	Yes
ospfv3AsScopeLsaCksumSum	1.3.6.1.2.1.191.1.1.7	Yes
ospfv3OriginateNewLsas	1.3.6.1.2.1.191.1.1.8	No
ospfv3RxNewLsas	1.3.6.1.2.1.191.1.1.9	No
ospfv3ExtLsaCount	1.3.6.1.2.1.191.1.1.10	Yes
ospfv3ExtAreaLsdbLimit	1.3.6.1.2.1.191.1.1.11	Yes
ospfv3ExitOverflowInterval	1.3.6.1.2.1.191.1.1.12	Yes
ospfv3DemandExtensions	1.3.6.1.2.1.191.1.1.13	No
ospfv3ReferenceBandwidth	1.3.6.1.2.1.191.1.1.14	Yes
ospfv3RestartSupport	1.3.6.1.2.1.191.1.1.15	No
ospfv3RestartInterval	1.3.6.1.2.1.191.1.1.16	No
ospfv3RestartStrictLsaChecking	1.3.6.1.2.1.191.1.1.17	No

Object	Object identifier	Supported?
ospfv3RestartStatus	1.3.6.1.2.1.191.1.1.18	No
ospfv3RestartAge	1.3.6.1.2.1.191.1.1.19	No
ospfv3RestartExitReason	1.3.6.1.2.1.191.1.1.20	No
ospfv3NotificationEnable	1.3.6.1.2.1.191.1.1.21	Yes
ospfv3StubRouterSupport	1.3.6.1.2.1.191.1.1.22	No
ospfv3StubRouterAdvertisement	1.3.6.1.2.1.191.1.1.23	No
ospfv3DiscontinuityTime	1.3.6.1.2.1.191.1.1.24	No
ospfv3RestartTime	1.3.6.1.2.1.191.1.1.25	No

ospfv3AreaTable

The following table lists the OSPFv3 area table objects.

Object	Object identifier	Supported?
ospfv3AreaId	1.3.6.1.2.1.191.1.2.1.1	Yes
ospfv3AreaImportAsExtern	1.3.6.1.2.1.191.1.2.1.2	Yes
ospfv3AreaSpfRuns	1.3.6.1.2.1.191.1.2.1.3	Yes
ospfv3AreaBdrRtrCount	1.3.6.1.2.1.191.1.2.1.4	No
ospfv3AreaAsBdrRtrCount	1.3.6.1.2.1.191.1.2.1.5	No
ospfv3AreaScopeLsaCount	1.3.6.1.2.1.191.1.2.1.6	Yes
ospfv3AreaScopeLsaCksumSum	1.3.6.1.2.1.191.1.2.1.7	Yes
ospfv3AreaSummary	1.3.6.1.2.1.191.1.2.1.8	Yes
ospfv3AreaRowStatus	1.3.6.1.2.1.191.1.2.1.9	Yes
ospfv3AreaStubMetric	1.3.6.1.2.1.191.1.2.1.10	Yes
ospfv3AreaNssaTranslatorRole	1.3.6.1.2.1.191.1.2.1.11	Yes
ospfv3AreaNssaTranslatorState	1.3.6.1.2.1.191.1.2.1.12	Yes
ospfv3AreaNssaTranslatorStabInterval	1.3.6.1.2.1.191.1.2.1.13	Yes
ospfv3AreaNssaTranslatorEvents	1.3.6.1.2.1.191.1.2.1.14	No
ospfv3AreaStubMetricType	1.3.6.1.2.1.191.1.2.1.15	Yes
ospfv3AreaTEEnabled	1.3.6.1.2.1.191.1.2.1.16	No

ospfv3AsLsdbTable

The following table lists the OSPFv3 process's AS-scope Link State Database (LSDB) table objects.

Object	Object identifier	Supported?
ospfv3AsLsdbType	1.3.6.1.2.1.191.1.3.1.1	Yes
ospfv3AsLsdbRouterId	1.3.6.1.2.1.191.1.3.1.2	Yes
ospfv3AsLsdbLsid	1.3.6.1.2.1.191.1.3.1.3	Yes
ospfv3AsLsdbSequence	1.3.6.1.2.1.191.1.3.1.4	Yes
ospfv3AsLsdbAge	1.3.6.1.2.1.191.1.3.1.5	Yes
ospfv3AsLsdbChecksum	1.3.6.1.2.1.191.1.3.1.6	Yes
ospfv3AsLsdbAdvertisement	1.3.6.1.2.1.191.1.3.1.7	Yes

Object	Object identifier	Supported?
ospfv3AsLsdbTypeKnown	1.3.6.1.2.1.191.1.3.1.8	Yes

ospfv3AreaLsdbTable

The following table lists the OSPFv3 Area-scope Link State Database (LSDB) table objects.

Object	Object identifier	Supported?
ospfv3AreaLsdbAreaId	1.3.6.1.2.1.191.1.4.1.1	Yes
ospfv3AreaLsdbType	1.3.6.1.2.1.191.1.4.1.2	Yes
ospfv3AreaLsdbRouterId	1.3.6.1.2.1.191.1.4.1.3	Yes
ospfv3AreaLsdbLsid	1.3.6.1.2.1.191.1.4.1.4	Yes
ospfv3AreaLsdbSequence	1.3.6.1.2.1.191.1.4.1.5	Yes
ospfv3AreaLsdbAge	1.3.6.1.2.1.191.1.4.1.6	Yes
ospfv3AreaLsdbzCheckSum	1.3.6.1.2.1.191.1.4.1.7	Yes
ospfv3AreaLsdbAdvertisement	1.3.6.1.2.1.191.1.4.1.8	Yes
ospfv3AreaLsdbTypeKnown	1.3.6.1.2.1.191.1.4.1.9	Yes

ospfv3LinkLsdbTable

The following table lists the OSPFv3 Link-Scope Link State Database (LSDB) MIBs for non-virtual interfaces.

Object	Object identifier	Supported?
ospfv3LinkLsdbIfIndex	1.3.6.1.2.1.191.1.5.1.1	Yes
ospfv3LinkLsdbIfInstId	1.3.6.1.2.1.191.1.5.1.2	Yes
ospfv3LinkLsdbType	1.3.6.1.2.1.191.1.5.1.3	Yes
ospfv3LinkLsdbRouterId	1.3.6.1.2.1.191.1.5.1.4	Yes
ospfv3LinkLsdbLsid	1.3.6.1.2.1.191.1.5.1.5	Yes
ospfv3LinkLsdbSequence	1.3.6.1.2.1.191.1.5.1.6	Yes
ospfv3LinkLsdbAge	1.3.6.1.2.1.191.1.5.1.7	Yes
ospfv3LinkLsdbChecksum	1.3.6.1.2.1.191.1.5.1.8	Yes
ospfv3LinkLsdbAdvertisement	1.3.6.1.2.1.191.1.5.1.9	Yes
ospfv3LinkLsdbTypeKnown	1.3.6.1.2.1.191.1.5.1.10	Yes

ospfv3IfTable

The following table lists the OSPFv3 interface table MIBs.

Object	Object identifier	Supported?
ospfv3IfIndex	1.3.6.1.2.1.191.1.7.1.1	Yes
ospfv3IfInstId	1.3.6.1.2.1.191.1.7.1.2	Yes
ospfv3IfAreaId	1.3.6.1.2.1.191.1.7.1.3	Yes
ospfv3IfType	1.3.6.1.2.1.191.1.7.1.4	Yes

ospfv3VirtIfTable

The following table lists the OSPFv3 virtual IfTable MIBs.

Object	Object identifier	Supported?
ospfv3VirtIfAreaId	1.3.6.1.2.1.191.1.8.1.1	Yes
ospfv3VirtIfNeighbor	1.3.6.1.2.1.191.1.8.1.2	Yes
ospfv3VirtIfIndex	1.3.6.1.2.1.191.1.8.1.3	Yes
ospfv3VirtIfInstId	1.3.6.1.2.1.191.1.8.1.4	Yes
ospfv3VirtIfTransitDelay	1.3.6.1.2.1.191.1.8.1.5	Yes
ospfv3VirtIfRetransInterval	1.3.6.1.2.1.191.1.8.1.6	Yes
ospfv3VirtIfHelloInterval	1.3.6.1.2.1.191.1.8.1.7	Yes
ospfv3VirtIfRtrDeadInterval	1.3.6.1.2.1.191.1.8.1.8	Yes
ospfv3VirtIfState	1.3.6.1.2.1.191.1.8.1.9	Yes
ospfv3VirtIfEvents	1.3.6.1.2.1.191.1.8.1.10	No
ospfv3VirtIfRowStatus	1.3.6.1.2.1.191.1.8.1.11	Yes
ospfv3VirtIfLinkScopeLsaCount	1.3.6.1.2.1.191.1.8.1.12	Yes
ospfv3VirtIfLinkLsaCksumSum	1.3.6.1.2.1.191.1.8.1.13	No

ospfv3NbrTable

The following table lists the OSPFv3 neighbor MIBs.

Object	Object identifier	Supported?
ospfv3NbrIfIndex	1.3.6.1.2.1.191.1.9.1.1	Yes
ospfv3NbrIfInstId	1.3.6.1.2.1.191.1.9.1.2	Yes
ospfv3NbrRtrId	1.3.6.1.2.1.191.1.9.1.3	Yes
ospfv3NbrAddressType	1.3.6.1.2.1.191.1.9.1.4	Yes
ospfv3NbrAddress	1.3.6.1.2.1.191.1.9.1.5	Yes
ospfv3NbrOptions	1.3.6.1.2.1.191.1.9.1.6	Yes
ospfv3NbrPriority	1.3.6.1.2.1.191.1.9.1.7	Yes
ospfv3NbrState	1.3.6.1.2.1.191.1.9.1.8	Yes
ospfv3NbrEvents	1.3.6.1.2.1.191.1.9.1.9	Yes
ospfv3NbrLsRetransQLen	1.3.6.1.2.1.191.1.9.1.10	yes
ospfv3NbrHelloSuppressed	1.3.6.1.2.1.191.1.9.1.11	No
ospfv3NbrIfId	1.3.6.1.2.1.191.1.9.1.12	Yes
ospfv3NbrRestartHelperStatus	1.3.6.1.2.1.191.1.9.1.13	Yes
ospfv3NbrRestartHelperAge	1.3.6.1.2.1.191.1.9.1.14	No
ospfv3NbrRestartHelperExitReason	1.3.6.1.2.1.191.1.9.1.15	No

ospfv3VirtNbrTable

The following table lists the OSPFv3 Virtual Neighbor MIB objects.

Object	Object identifier	Supported?
ospfv3VirtNbrArea	1.3.6.1.2.1.191.1.11.1.1	Yes
ospfv3VirtNbrRtrId	1.3.6.1.2.1.191.1.11.1.2	Yes
ospfv3VirtNbrIfIndex	1.3.6.1.2.1.191.1.11.1.3	Yes
ospfv3VirtNbrIfInstId	1.3.6.1.2.1.191.1.11.1.4	Yes
ospfv3VirtNbrAddressType	1.3.6.1.2.1.191.1.11.1.5	Yes
ospfv3VirtNbrAddress	1.3.6.1.2.1.191.1.11.1.6	Yes
ospfv3VirtNbrOptions	1.3.6.1.2.1.191.1.11.1.7	Yes
ospfv3VirtNbrState	1.3.6.1.2.1.191.1.11.1.8	Yes
ospfv3VirtNbrEvents	1.3.6.1.2.1.191.1.11.1.9	No
ospfv3VirtNbrLsRetransQLen	1.3.6.1.2.1.191.1.11.1.10	yes
ospfv3VirtNbrHelloSuppressed	1.3.6.1.2.1.191.1.11.1.11	No
ospfv3VirtNbrIfId	1.3.6.1.2.1.191.1.11.1.12	Yes
ospfv3VirtNbrRestartHelperStatus	1.3.6.1.2.1.191.1.11.1.13	Yes
ospfv3VirtNbrRestartHelperAge	1.3.6.1.2.1.191.1.11.1.14	No
ospfv3VirtNbrRestartHelperExitReason	1.3.6.1.2.1.191.1.11.1.15	No

ospfv3AreaAggregateTable

The following table lists the OSPFv3 area aggregate table MIB objects.

Object	Object identifier	Supported?
ospfv3AreaAggregateAreaID	1.3.6.1.2.1.191.1.12.1.1	Yes
ospfv3AreaAggregateAreaLsdbType	1.3.6.1.2.1.191.1.12.1.2	Yes
ospfv3AreaAggregatePrefixType	1.3.6.1.2.1.191.1.12.1.3	Yes
ospfv3AreaAggregatePrefix	1.3.6.1.2.1.191.1.12.1.4	Yes
ospfv3AreaAggregatePrefixLength	1.3.6.1.2.1.191.1.12.1.5	Yes
ospfv3AreaAggregateRowStatus	1.3.6.1.2.1.191.1.12.1.6	Yes
ospfv3AreaAggregateEffect	1.3.6.1.2.1.191.1.12.1.7	Yes
ospfv3AreaAggregateRouteTag	1.3.6.1.2.1.191.1.12.1.8	No

ospfv3VirtLinkLsdbTable

The following table lists the OSPFv3 virtual link LSDB table MIB objects.

Object	Object identifier	Supported?
ospfv3VirtLinkLsdbIfAreaId	1.3.6.1.2.1.191.1.13.1.1	Yes
ospfv3VirtLinkLsdbIfNeighbor	1.3.6.1.2.1.191.1.13.1.2	Yes
ospfv3VirtLinkLsdbType	1.3.6.1.2.1.191.1.13.1.3	Yes
ospfv3VirtLinkLsdbRouterId	1.3.6.1.2.1.191.1.13.1.4	Yes
ospfv3VirtLinkLsdbLsid	1.3.6.1.2.1.191.1.13.1.5	Yes
ospfv3VirtLinkLsdbSequence	1.3.6.1.2.1.191.1.13.1.6	Yes
ospfv3VirtLinkLsdbAge	1.3.6.1.2.1.191.1.13.1.7	Yes
ospfv3VirtLinkLsdbChecksum	1.3.6.1.2.1.191.1.13.1.8	Yes

Object	Object identifier	Supported?
ospfv3VirtLinkLsdbAdvertisement	1.3.6.1.2.1.191.1.13.1.9	Yes
ospfv3VirtLinkLsdbTypeKnown	1.3.6.1.2.1.191.1.13.1.10	Yes

ospfv3NotificationEntry

The following table lists the OSPFv3 notifications.

Object	Object identifier	Supported?
ospfv3ConfigErrorType	1.3.6.1.2.1.191.1.14.1	Yes
ospfv3PacketType	1.3.6.1.2.1.191.1.14.2	Yes
ospfv3PacketSrc	1.3.6.1.2.1.191.1.14.3	Yes

ospfv3Notifications

The following table lists the OSPFv3 notifications.

Object	Object identifier	Supported?
ospfv3VirtIfStateChange	1.3.6.1.2.1.191.0.1	Yes
ospfv3NbrStateChange	1.3.6.1.2.1.191.0.2	Yes
ospfv3VirtNbrStateChange	1.3.6.1.2.1.191.0.3	Yes
ospfv3IfConfigError	1.3.6.1.2.1.191.0.4	Yes
ospfv3VirtIfConfigError	1.3.6.1.2.1.191.0.5	Yes
ospfv3IfRxBadPacket	1.3.6.1.2.1.191.0.6	Yes
ospfv3VirtIfRxBadPacket	1.3.6.1.2.1.191.0.7	Yes
ospfv3LsdbOverflow	1.3.6.1.2.1.191.0.8	Yes
ospfv3LsdbApproachingOverflow	1.3.6.1.2.1.191.0.9	Yes
ospfv3IfStateChange	1.3.6.1.2.1.191.0.10	Yes
ospfv3NssaTranslatorStatusChange	1.3.6.1.2.1.191.0.11	Yes
ospfv3RestartStatusChange	1.3.6.1.2.1.191.0.12	Yes
ospfv3NbrRestartHelperStatusChange	1.3.6.1.2.1.191.0.13	No
ospfv3VirtNbrRestartHelperStatusChange	1.3.6.1.2.1.191.0.14	No

RFC 7420 - Path Computation Element Communication Protocol (PCEP) Management Information Base (MIB)

RFC 7420 PCEP MIB describes managed objects for modeling of the Path Computation Element Communication Protocol (PCEP) for communication between a Path Computation Client (PCC) and a Path Computation Element (PCE).

Usage Guidelines

The following MIB tables are supported on the MLX Series, MLX Series, XMR Series, CES 2000 Series, and CER 2000 Series devices.

The following OIDs always return zero value and the devices does not support PCE servers and Svec:

- pcePcepPeerNumPCReqRcvd
- pcePcepPeerNumPCRepSent
- pcePcepPeerNumPCRepSent
- pcePcepSessNumPCReqRcvd
- pcePcepSessNumPCRepSent
- pcePcepSessLocalOverload - This OID is not supported.
- pcePcepSessLocalOverloadClear - This OID is not supported.
- pcePcepSessNumSvecRcvd - Applicable only for Svec in PCEP
- pcePcepSessNumSvecReqRcvd - Applicable only for Svec in PCEP
- pcePcepPeerNumSvecSent - Applicable only for Svec in PCEP
- pcePcepPeerNumSvecReqSent - Applicable only for Svec in PCEP

History

Release version	History
6.0.00a	This MIB was introduced.

pcePcepEntityTable

The following table objects contain information about local PCEP entities. All the objects support Read-only operation.

pcePcepEntityTable objects

Objects	Object Identifier	Supported? (Yes/No)
pcePcepEntityTable	1.3.6.1.2.1.227.1.1	Yes.
pcePcepEntityIndex	1.3.6.1.2.1.227.1.1.1.1	Yes.
pcePcepEntityAdminStatus	1.3.6.1.2.1.227.1.1.1.2	Yes.
pcePcepEntityOperStatus	1.3.6.1.2.1.227.1.1.1.3	Yes.
pcePcepEntityAddrType	1.3.6.1.2.1.227.1.1.1.4	Yes.
pcePcepEntityAddr	1.3.6.1.2.1.227.1.1.1.5	Yes.
pcePcepEntityConnectTimer	1.3.6.1.2.1.227.1.1.1.6	Yes.
pcePcepEntityConnectMaxRetry	1.3.6.1.2.1.227.1.1.1.7	Yes.
pcePcepEntityInitBackoffTimer	1.3.6.1.2.1.227.1.1.1.8	Yes.
pcePcepEntityMaxBackoffTimer	1.3.6.1.2.1.227.1.1.1.9	Yes.
pcePcepEntityOpenWaitTimer	1.3.6.1.2.1.227.1.1.1.10	Yes.
pcePcepEntityKeepWaitTimer	1.3.6.1.2.1.227.1.1.1.11	Yes.
pcePcepEntityKeepAliveTimer	1.3.6.1.2.1.227.1.1.1.12	Yes.
pcePcepEntityDeadTimer	1.3.6.1.2.1.227.1.1.1.13	Yes.
pcePcepEntityAllowNegotiation	1.3.6.1.2.1.227.1.1.1.14	Yes.
pcePcepEntityMaxKeepAliveTimer	1.3.6.1.2.1.227.1.1.1.15	Yes.
pcePcepEntityMinDeadTimer	1.3.6.1.2.1.227.1.1.1.16	Yes.
pcePcepEntityMinKeepAliveTimer	1.3.6.1.2.1.227.1.1.1.17	Yes.
pcePcepEntityMinDeadTimer	1.3.6.1.2.1.227.1.1.1.18	Yes.
pcePcepEntitySyncTimer	1.3.6.1.2.1.227.1.1.1.19	Yes.
pcePcepEntityRequestTimer	1.3.6.1.2.1.227.1.1.1.20	Yes.
pcePcepEntityMaxSessions	1.3.6.1.2.1.227.1.1.1.21	Yes.
pcePcepEntityMaxUnknownReqs	1.3.6.1.2.1.227.1.1.1.22	Yes.
pcePcepEntityMaxUnknownMsgs	1.3.6.1.2.1.227.1.1.1.23	Yes.

History

Release version	History
6.0.00a	This MIB was introduced.

pcePcepPeerTable

The following table MIB objects contain information about peers known by the local PCEP entity. The table objects give peer information that spans PCEP sessions and use pcePcepSessTable for information about current PCEP sessions. All the objects support Read-only operation.

pcePcepPeerTable objects

Objects	Object Identifier	Supported? (Yes/No)
pcePcepPeerTable	1.3.6.1.2.1.227.1.2	Yes.
pcePcepPeerAddrType	1.3.6.1.2.1.227.1.2.1.1	Yes.
pcePcepPeerAddr	1.3.6.1.2.1.227.1.2.1.2	Yes.
pcePcepPeerRole	1.3.6.1.2.1.227.1.2.1.3	Yes.
pcePcepPeerDiscontinuityTime	1.3.6.1.2.1.227.1.2.1.4	Yes.
pcePcepPeerInitiateSession	1.3.6.1.2.1.227.1.2.1.5	Yes.
pcePcepPeerSessionExists	1.3.6.1.2.1.227.1.2.1.6	Yes.
pcePcepPeerNumSessSetupOK	1.3.6.1.2.1.227.1.2.1.7	Yes.
pcePcepPeerNumSessSetupFail	1.3.6.1.2.1.227.1.2.1.8	Yes.
pcePcepPeerSessionUpTime	1.3.6.1.2.1.227.1.2.1.9	Yes.
pcePcepPeerSessionFailTime	1.3.6.1.2.1.227.1.2.1.10	Yes.
pcePcepPeerSessionFailUpTime	1.3.6.1.2.1.227.1.2.1.11	Yes.
pcePcepPeerAvgRspTime	1.3.6.1.2.1.227.1.2.1.12	Yes.
pcePcepPeerLWMRspTime	1.3.6.1.2.1.227.1.2.1.13	Yes.
pcePcepPeerHWMRspTime	1.3.6.1.2.1.227.1.2.1.14	Yes.
pcePcepPeerNumPCReqSent	1.3.6.1.2.1.227.1.2.1.15	Yes.
pcePcepPeerNumPCReqRcvd	1.3.6.1.2.1.227.1.2.1.16	Yes.
pcePcepPeerNumPCRepSent	1.3.6.1.2.1.227.1.2.1.17	Yes.
pcePcepPeerNumPCRepRcvd	1.3.6.1.2.1.227.1.2.1.18	Yes.
pcePcepPeerNumPCErrSent	1.3.6.1.2.1.227.1.2.1.19	Yes.
pcePcepPeerNumPCErrRcvd	1.3.6.1.2.1.227.1.2.1.20	Yes.
pcePcepPeerNumPCNtfSent	1.3.6.1.2.1.227.1.2.1.21	Yes.
pcePcepPeerNumPCNtfRcvd	1.3.6.1.2.1.227.1.2.1.22	Yes.
pcePcepPeerNumKeepaliveSent	1.3.6.1.2.1.227.1.2.1.23	Yes.
pcePcepPeerNumKeepaliveRcvd	1.3.6.1.2.1.227.1.2.1.24	Yes.
pcePcepPeerNumUnknownRcvd	1.3.6.1.2.1.227.1.2.1.25	Yes.
pcePcepPeerNumCorruptRcvd	1.3.6.1.2.1.227.1.2.1.26	Yes.
pcePcepPeerNumReqSent	1.3.6.1.2.1.227.1.2.1.27	Yes.
pcePcepPeerNumSvecSent	1.3.6.1.2.1.227.1.2.1.28	Yes.
pcePcepPeerNumSvecReqSent	1.3.6.1.2.1.227.1.2.1.29	Yes.
pcePcepPeerNumReqSentPendRep	1.3.6.1.2.1.227.1.2.1.30	Yes.
pcePcepPeerNumReqSentEroRcvd	1.3.6.1.2.1.227.1.2.1.31	Yes.
pcePcepPeerNumReqSentNoPathRcvd	1.3.6.1.2.1.227.1.2.1.32	Yes.
pcePcepPeerNumReqSentCancelRcvd	1.3.6.1.2.1.227.1.2.1.33	Yes.
pcePcepPeerNumReqSentErrorRcvd	1.3.6.1.2.1.227.1.2.1.34	Yes.

Objects	Object Identifier	Supported? (Yes/No)
pcePcepPeerNumReqSentTimeout	1.3.6.1.2.1.227.1.2.1.35	Yes.
pcePcepPeerNumReqSentCancelSent	1.3.6.1.2.1.227.1.2.1.36	Yes.
pcePcepPeerNumReqSentClosed	1.3.6.1.2.1.227.1.2.1.37	Yes.
pcePcepPeerNumReqRcvd	1.3.6.1.2.1.227.1.2.1.38	Yes.
pcePcepPeerNumSvecRcvd	1.3.6.1.2.1.227.1.2.1.39	Yes.
pcePcepPeerNumSvecReqRcvd	1.3.6.1.2.1.227.1.2.1.40	Yes.
pcePcepPeerNumReqRcvdPendRep	1.3.6.1.2.1.227.1.2.1.41	Yes.
pcePcepPeerNumReqRcvdEroSent	1.3.6.1.2.1.227.1.2.1.42	Yes.
pcePcepPeerNumReqRcvdNoPathSent	1.3.6.1.2.1.227.1.2.1.43	Yes.
pcePcepPeerNumReqRcvdCancelSent	1.3.6.1.2.1.227.1.2.1.44	Yes.
pcePcepPeerNumReqRcvdErrorSent	1.3.6.1.2.1.227.1.2.1.45	Yes.
pcePcepPeerNumReqRcvdCancelRcvd	1.3.6.1.2.1.227.1.2.1.46	Yes.
pcePcepPeerNumReqRcvdClosed	1.3.6.1.2.1.227.1.2.1.47	Yes.
pcePcepPeerNumRepRcvdUnknown	1.3.6.1.2.1.227.1.2.1.48	Yes.
pcePcepPeerNumReqRcvdUnknown	1.3.6.1.2.1.227.1.2.1.49	Yes.

History

Release version	History
6.0.00a	This MIB was introduced.

pcePcepSessTable

A table of PCEP sessions that involve the local PCEP entity. Each entry in this table represents a single session. A table entry appears when the corresponding PCEP session transitions out of idle state. If the PCEP session transitions is back into an idle state, then the corresponding entry in the table is removed. All the objects support Read-only operation.

pcePcepSessTable objects

Objects	Object Identifier	Supported? (Yes/No)
pcePcepSessTable	1.3.6.1.2.1.227.1.3	Yes.
pcePcepSessInitiator	1.3.6.1.2.1.227.1.3.1.1	Yes.
pcePcepSessStateLastChange	1.3.6.1.2.1.227.1.3.1.2	Yes.
pcePcepSessState	1.3.6.1.2.1.227.1.3.1.3	Yes.
pcePcepSessConnectRetry	1.3.6.1.2.1.227.1.3.1.4	Yes.
pcePcepSessLocalID	1.3.6.1.2.1.227.1.3.1.5	Yes.
pcePcepSessRemoteID	1.3.6.1.2.1.227.1.3.1.6	Yes.
pcePcepSessKeepaliveTimer	1.3.6.1.2.1.227.1.3.1.7	Yes.
pcePcepSessPeerKeepaliveTimer	1.3.6.1.2.1.227.1.3.1.8	Yes.
pcePcepSessDeadTimer	1.3.6.1.2.1.227.1.3.1.9	Yes.
pcePcepSessPeerDeadTimer	1.3.6.1.2.1.227.1.3.1.10	Yes.
pcePcepSessKAHoldTimeRem	1.3.6.1.2.1.227.1.3.1.11	Yes.
pcePcepSessOverloaded	1.3.6.1.2.1.227.1.3.1.12	Yes.
pcePcepSessOverloadTime	1.3.6.1.2.1.227.1.3.1.13	Yes.
pcePcepSessPeerOverloaded	1.3.6.1.2.1.227.1.3.1.14	Yes.
pcePcepSessPeerOverloadTime	1.3.6.1.2.1.227.1.3.1.15	Yes.
pcePcepSessDiscontinuityTime	1.3.6.1.2.1.227.1.3.1.16	Yes.
pcePcepSessAvgRspTime	1.3.6.1.2.1.227.1.3.1.17	Yes.
pcePcepSessLWMRspTime	1.3.6.1.2.1.227.1.3.1.18	Yes.
pcePcepSessHWMRspTime	1.3.6.1.2.1.227.1.3.1.19	Yes.
pcePcepSessNumPCReqSent	1.3.6.1.2.1.227.1.3.1.20	Yes.
pcePcepSessNumPCReqRcvd	1.3.6.1.2.1.227.1.3.1.21	Yes.
pcePcepSessNumPCRepSent	1.3.6.1.2.1.227.1.3.1.22	Yes.
pcePcepSessNumPCRepRcvd	1.3.6.1.2.1.227.1.3.1.23	Yes.
pcePcepSessNumPCErrSent	1.3.6.1.2.1.227.1.3.1.24	Yes.
pcePcepSessNumPCErrRcvd	1.3.6.1.2.1.227.1.3.1.25	Yes.
pcePcepSessNumPCNtfSent	1.3.6.1.2.1.227.1.3.1.26	Yes.
pcePcepSessNumPCNtfRcvd	1.3.6.1.2.1.227.1.3.1.27	Yes.
pcePcepSessNumKeepaliveSent	1.3.6.1.2.1.227.1.3.1.28	Yes.
pcePcepSessNumKeepaliveRcvd	1.3.6.1.2.1.227.1.3.1.29	Yes.
pcePcepSessNumUnknownRcvd	1.3.6.1.2.1.227.1.3.1.30	Yes.
pcePcepSessNumCorruptRcvd	1.3.6.1.2.1.227.1.3.1.31	Yes.
pcePcepSessNumReqSent	1.3.6.1.2.1.227.1.3.1.32	Yes.
pcePcepSessNumSvecSent	1.3.6.1.2.1.227.1.3.1.33	Yes.
pcePcepSessNumSvecReqSent	1.3.6.1.2.1.227.1.3.1.34	Yes.

Objects	Object Identifier	Supported? (Yes/No)
pcePcepSessNumReqSentPendRep	1.3.6.1.2.1.227.1.3.1.35	Yes.
pcePcepSessNumReqSentEroRcvd	1.3.6.1.2.1.227.1.3.1.36	Yes.
pcePcepSessNumReqSentNoPathRcvd	1.3.6.1.2.1.227.1.3.1.37	Yes.
pcePcepSessNumReqSentCancelRcvd	1.3.6.1.2.1.227.1.3.1.38	Yes.
pcePcepSessNumReqSentErrorRcvd	1.3.6.1.2.1.227.1.3.1.39	Yes.
pcePcepSessNumReqSentTimeout	1.3.6.1.2.1.227.1.3.1.40	Yes.
pcePcepSessNumReqSentCancelSent	1.3.6.1.2.1.227.1.3.1.41	Yes.
pcePcepSessNumReqRcvd	1.3.6.1.2.1.227.1.3.1.42	Yes.
pcePcepSessNumSvecRcvd	1.3.6.1.2.1.227.1.3.1.43	Yes.
pcePcepSessNumSvecReqRcvd	1.3.6.1.2.1.227.1.3.1.44	Yes.
pcePcepSessNumReqRcvdPendRep	1.3.6.1.2.1.227.1.3.1.45	Yes.
pcePcepSessNumReqRcvdEroSent	1.3.6.1.2.1.227.1.3.1.46	Yes.
pcePcepSessNumReqRcvdNoPathSent	1.3.6.1.2.1.227.1.3.1.47	Yes.
pcePcepSessNumReqRcvdCancelSent	1.3.6.1.2.1.227.1.3.1.48	Yes.
pcePcepSessNumReqRcvdErrorSent	1.3.6.1.2.1.227.1.3.1.49	Yes.
pcePcepSessNumReqRcvdCancelRcvd	1.3.6.1.2.1.227.1.3.1.50	Yes.
pcePcepSessNumRepRcvdUnknown	1.3.6.1.2.1.227.1.3.1.51	Yes.
pcePcepSessNumReqRcvdUnknown	1.3.6.1.2.1.227.1.3.1.52	Yes.

History

Release version	History
6.0.00a	This MIB was introduced.

pcePcepNotifications

The following notifications are sent.

pcePcepNotifications

Objects	Object Identifier	Supported? (Yes/No)
pcePcepSessUp	1.3.6.1.2.1.227.0.1	Yes
pcePcepSessDown	1.3.6.1.2.1.227.0.2	Yes
pcePcepSessPeerOverload	1.3.6.1.2.1.227.0.5	Yes
pcePcepSessPeerOverloadClear	1.3.6.1.2.1.227.0.6	Yes

History

Release version	History
6.0.00a	This MIB was introduced.

MEF Service OAM PM

The XMR Series, MLX Series, MLX Series, CES 2000 Series, and CER 2000 Series devices are provided with the following Metro Ethernet Forum (MEF) Service OAM (SOAM) Performance Monitoring (PM) MIB.

Ethernet global performance monitoring configuration table

The mefSoamPmGlobalTable represents the Ethernet global performance monitoring configuration MIB objects. The SNMP GET and GET-NEXT requests are supported.

Object group name	Object identifier	Supported?
mefSoamPmGlobalOperNextIndex	1.3.6.1.4.1.15007.1.3.1.1.1.1.1	Yes. Read-only.
mefSoamPmGlobalLmSingleEndedResponder	1.3.6.1.4.1.15007.1.3.1.1.1.1.2	Yes. Read-only. **NOTE** Always returns the value True and this object is supported only on the CES 2000 Series and CER 2000 Series platforms.
mefSoamPmGlobalSmSingleEndedResponder	1.3.6.1.4.1.15007.1.3.1.1.1.1.3	Yes. Read-only. **NOTE** Always returns the value True and this object is supported only on the CES 2000 Series and CER 2000 Series platforms.
mefSoamPmGlobalDmSingleEndedResponder	1.3.6.1.4.1.15007.1.3.1.1.1.1.4	Yes. Read-only. **NOTE** Always returns the value True.

Ethernet delay measurement configuration table

The mefSoamDmCfgTable represents the Ethernet delay measurement configuration table MIB objects. The SNMP GET, GET-NEXT, and SET requests are supported.

NOTE
The delay measurement tables are enhanced to support a 1-DM functionality with no impact on the existing functionality of 2-DM.

Object group name	Object identifier	Supported?
mefSoamDmCfgIndex	1.3.6.1.4.1.15007.1.3.1.3.1.1.1	Yes. Not Accessible.
mefSoamDmCfgType	1.3.6.1.4.1.15007.1.3.1.3.1.1.2	Yes. Read-create.
mefSoamDmCfgVersion	1.3.6.1.4.1.15007.1.3.1.3.1.1.3	Yes. Read-create. NOTE Supports only the version 0.
mefSoamDmCfgEnabled	1.3.6.1.4.1.15007.1.3.1.3.1.1.4	Yes. Read-create.
mefSoamDmCfgCounterEnable	1.3.6.1.4.1.15007.1.3.1.3.1.1.5	Yes. Read-only.
mefSoamDmCfgInterval	1.3.6.1.4.1.15007.1.3.1.3.1.1.6	Yes. Read-create
mefSoamDmCfgPriority	1.3.6.1.4.1.15007.1.3.1.3.1.1.7	Yes. Read-create.
mefSoamDmCfgDropEligible	1.3.6.1.4.1.15007.1.3.1.3.1.1.8	Yes. Read-create. NOTE Supports only the value TRUE.
mefSoamDmCfgFrameSize	1.3.6.1.4.1.15007.1.3.1.3.1.1.9	Yes. Read-only.
mefSoamDmCfgDataPattern	1.3.6.1.4.1.15007.1.3.1.3.1.1.10	No
mefSoamDmCfgTestTlvIncluded	1.3.6.1.4.1.15007.1.3.1.3.1.1.11	No
mefSoamDmCfgTestTlvPattern	1.3.6.1.4.1.15007.1.3.1.3.1.1.12	No
mefSoamDmCfgMeasurementInterval	1.3.6.1.4.1.15007.1.3.1.3.1.1.13	Yes. Read-create. NOTE This object is supported only for 1-way DM that is supported only on CES 2000 Series and CER 2000 Series platforms.
mefSoamDmCfgDestMacAddress	1.3.6.1.4.1.15007.1.3.1.3.1.1.14	Yes. Read-create.
mefSoamDmCfgDestMepId	1.3.6.1.4.1.15007.1.3.1.3.1.1.15	Yes. Read-create.
mefSoamDmCfgDestIsMepId	1.3.6.1.4.1.15007.1.3.1.3.1.1.16	Yes. Read-create.
mefSoamDmCfgSourceMacAddress	1.3.6.1.4.1.15007.1.3.1.3.1.1.17	No
mefSoamDmCfgStartTimeType	1.3.6.1.4.1.15007.1.3.1.3.1.1.18	Yes. Read-create. NOTE In earlier releases, only the value “immediate” was supported for 2-way DMM.
mefSoamDmCfgFixedStartDateAndTime	1.3.6.1.4.1.15007.1.3.1.3.1.1.19	Yes. Read-create. NOTE This object is supported only for 1-way DM that is supported only on the CES 2000 Series and CER 2000 Series platforms.
mefSoamDmCfgRelativeStartTime	1.3.6.1.4.1.15007.1.3.1.3.1.1.20	Yes. Read-create.

Object group name	Object identifier	Supported?
		NOTE This object is supported only for 1-way DM that is supported only on the CES 2000 Series and CER 2000 Series platforms.
mefSoamDmCfgStopTimeType	1.3.6.1.4.1.15007.1.3.1.3.1.1.21	Yes. Read-create. NOTE In earlier releases, only the value “relative” was supported for 2-way DMM.
mefSoamDmCfgFixedStopDateAndTime	1.3.6.1.4.1.15007.1.3.1.3.1.1.22	Yes. Read-create. NOTE This object is supported only for 1-way DM that is supported only on the CES 2000 Series and CER 2000 Series platforms.
mefSoamDmCfgRelativeStopTime	1.3.6.1.4.1.15007.1.3.1.3.1.1.23	Yes. Read-create.
mefSoamDmCfgPeriodicity	1.3.6.1.4.1.15007.1.3.1.3.1.1.24	Yes. Read-create.
mefSoamDmCfgAlignMeasurementIntervals	1.3.6.1.4.1.15007.1.3.1.3.1.1.25	Yes. Read-create. NOTE This object is supported only for 1-way DM that is supported only on the CES 2000 Series and CER 2000 Series platforms.
mefSoamDmCfgClockSyncFlag	1.3.6.1.4.1.15007.1.3.1.3.1.1.26	No
mefSoamDmCfgNumMeasBinsPerFrameDelayInterval	1.3.6.1.4.1.15007.1.3.1.3.1.1.27	No
mefSoamDmCfgNumMeasBinsPerInterFrameDelayVariationInterval	1.3.6.1.4.1.15007.1.3.1.3.1.1.28	No
mefSoamDmCfgInterFrameDelayVariationSelectionOffset	1.3.6.1.4.1.15007.1.3.1.3.1.1.29	No
mefSoamDmCfgSessionStatus	1.3.6.1.4.1.15007.1.3.1.3.1.1.30	Yes. Read-only.
mefSoamDmCfgHistoryClear	1.3.6.1.4.1.15007.1.3.1.3.1.1.31	Yes. Read-create.
mefSoamDmCfgRowStatus	1.3.6.1.4.1.15007.1.3.1.3.1.1.32	Yes. Read-create.

Ethernet delay measurement current statistic table

The mefSoamDmCurrentStatsTable represents the Ethernet delay measurement current statistic MIB objects. The SNMP GET and GET-NEXT requests are supported.

NOTE
The objects in the table are read-only.

Object group name	Object identifier	Supported?
mefSoamDmCurrentStatsIndex	1.3.6.1.4.1.15007.1.3.1.3.3.1.1	Yes
mefSoamDmCurrentStatsStartTime	1.3.6.1.4.1.15007.1.3.1.3.3.1.2	Yes
mefSoamDmCurrentStatsElapsedTime	1.3.6.1.4.1.15007.1.3.1.3.3.1.3	Yes
mefSoamDmCurrentStatsSuspect	1.3.6.1.4.1.15007.1.3.1.3.3.1.4	Yes

Object group name	Object identifier	Supported?
mefSoamDmCurrentStatsFrameDelayRoundTripMin	1.3.6.1.4.1.15007.1.3.1.3.3.1.5	Yes
mefSoamDmCurrentStatsFrameDelayRoundTripMax	1.3.6.1.4.1.15007.1.3.1.3.3.1.6	Yes
mefSoamDmCurrentStatsFrameDelayRoundTripAvg	1.3.6.1.4.1.15007.1.3.1.3.3.1.7	Yes
mefSoamDmCurrentStatsFrameDelayForwardMin	1.3.6.1.4.1.15007.1.3.1.3.3.1.8	Yes **NOTE** This object is supported only for 1-way DM that is supported only on the CES 2000 Series and CER 2000 Series platforms.
mefSoamDmCurrentStatsFrameDelayForwardMax	1.3.6.1.4.1.15007.1.3.1.3.3.1.9	Yes **NOTE** This object is supported only for 1-way DM that is supported only on the CES 2000 Series and CER 2000 Series platforms.
mefSoamDmCurrentStatsFrameDelayForwardAvg	1.3.6.1.4.1.15007.1.3.1.3.3.1.10	Yes **NOTE** This object is supported only for 1-way DM that is supported only on the CES 2000 Series and CER 2000 Series platforms.
mefSoamDmCurrentStatsFrameDelayBackwardMin	1.3.6.1.4.1.15007.1.3.1.3.3.1.11	No
mefSoamDmCurrentStatsFrameDelayBackwardMax	1.3.6.1.4.1.15007.1.3.1.3.3.1.12	No
mefSoamDmCurrentStatsFrameDelayBackwardAvg	1.3.6.1.4.1.15007.1.3.1.3.3.1.13	No
mefSoamDmCurrentStatsIFDVForwardMin	1.3.6.1.4.1.15007.1.3.1.3.3.1.14	Yes **NOTE** This object is supported only for 1-way DM that is supported only on the CES 2000 Series and CER 2000 Series platforms.
mefSoamDmCurrentStatsIFDVForwardMax	1.3.6.1.4.1.15007.1.3.1.3.3.1.15	Yes **NOTE** This object is supported only for 1-way DM that is supported only on the CES 2000 Series and CER 2000 Series platforms.
mefSoamDmCurrentStatsIFDVForwardAvg	1.3.6.1.4.1.15007.1.3.1.3.3.1.16	Yes **NOTE** This object is supported only for 1-way DM that is supported only on the CES 2000 Series and CER 2000 Series platforms.

Object group name	Object identifier	Supported?
mefSoamDmCurrentStatsIFDVBackwardMin	1.3.6.1.4.1.15007.1.3.1.3.3.1.17	No
mefSoamDmCurrentStatsIFDVBackwardMax	1.3.6.1.4.1.15007.1.3.1.3.3.1.18	No
mefSoamDmCurrentStatsIFDVBackwardAvg	1.3.6.1.4.1.15007.1.3.1.3.3.1.19	No
mefSoamDmCurrentStatsIFDVRoundTripMin	1.3.6.1.4.1.15007.1.3.1.3.3.1.20	No
mefSoamDmCurrentStatsIFDVRoundTripMax	1.3.6.1.4.1.15007.1.3.1.3.3.1.21	No
mefSoamDmCurrentStatsIFDVRoundTripAvg	1.3.6.1.4.1.15007.1.3.1.3.3.1.22	No
mefSoamDmCurrentStatsInitiatedMeasurements	1.3.6.1.4.1.15007.1.3.1.3.3.1.23	Yes
mefSoamDmCurrentStatsCompletedMeasurements	1.3.6.1.4.1.15007.1.3.1.3.3.1.24	Yes

Ethernet delay measurement historic statistic table

The mefSoamDmHistoricStatsTable represents the Ethernet delay measurement historic statistic MIB objects. The table supports maximum of 32 rows. Whenever, a new delay measurement happens, the last row of the table is replaced with the new entry.

NOTE

The objects in the table are read-only. The mefSoamDmHistoricStatsTable is not persistent upon reboot of a device.

Object group name	Object identifier	Supported?
mefSoamDmHistoricStatsIndex	1.3.6.1.4.1.15007.1.3.1.3.5.1.1	Yes. Not Accessible.
mefSoamDmHistoricStatsEndTime	1.3.6.1.4.1.15007.1.3.1.3.5.1.2	Yes
mefSoamDmHistoricStatsElapsedTime	1.3.6.1.4.1.15007.1.3.1.3.5.1.3	Yes
mefSoamDmHistoricStatsSuspect	1.3.6.1.4.1.15007.1.3.1.3.5.1.4	Yes
mefSoamDmHistoricStatsFrameDelayRoundTripMin	1.3.6.1.4.1.15007.1.3.1.3.5.1.5	Yes
mefSoamDmHistoricStatsFrameDelayRoundTripMax	1.3.6.1.4.1.15007.1.3.1.3.5.1.16	Yes
mefSoamDmHistoricStatsFrameDelayRoundTripAvg	1.3.6.1.4.1.15007.1.3.1.3.5.1.7	Yes
mefSoamDmHistoricStatsFrameDelayForwardMin	1.3.6.1.4.1.15007.1.3.1.3.5.1.8	Yes. NOTE This object is supported only for 1-way DM that is supported only on the CES 2000 Series and CER 2000 Series platforms.
mefSoamDmHistoricStatsFrameDelayForwardMax	1.3.6.1.4.1.15007.1.3.1.3.5.1.9	Yes. NOTE This object is supported only for 1-way DM that is supported only on the CES 2000 Series and CER 2000 Series platforms.
mefSoamDmHistoricStatsFrameDelayForwardAvg	1.3.6.1.4.1.15007.1.3.1.3.5.1.10	Yes.

Object group name	Object identifier	Supported?
		NOTE This object is supported only for 1-way DM that is supported only on the CES 2000 Series and CER 2000 Series platforms.
mefSoamDmHistoricStatsFrameDelayBackwardMin	1.3.6.1.4.1.15007.1.3.1.3.5.1.11	No
mefSoamDmHistoricStatsFrameDelayBackwardMax	1.3.6.1.4.1.15007.1.3.1.3.5.1.12	No
mefSoamDmHistoricStatsFrameDelayBackwardAvg	1.3.6.1.4.1.15007.1.3.1.3.5.1.13	No
mefSoamDmHistoricStatsIFDVForwardMin	1.3.6.1.4.1.15007.1.3.1.3.5.1.14	Yes NOTE This object is supported only for 1-way DM that is supported only on the CES 2000 Series and CER 2000 Series platforms.
mefSoamDmHistoricStatsIFDVForwardMax	1.3.6.1.4.1.15007.1.3.1.3.5.1.15	Yes NOTE This object is supported only for 1-way DM that is supported only on the CES 2000 Series and CER 2000 Series platforms.
mefSoamDmHistoricStatsIFDVForwardAvg	1.3.6.1.4.1.15007.1.3.1.3.5.1.16	Yes NOTE This object is supported only for 1-way DM that is supported only on the CES 2000 Series and CER 2000 Series platforms.
mefSoamDmHistoricStatsIFDVBackwardMin	1.3.6.1.4.1.15007.1.3.1.3.5.1.17	No
mefSoamDmHistoricStatsIFDVBackwardMax	1.3.6.1.4.1.15007.1.3.1.3.5.1.18	No
mefSoamDmHistoricStatsIFDVBackwardAvg	1.3.6.1.4.1.15007.1.3.1.3.5.1.19	No
mefSoamDmHistoricStatsIFDVRoundTripMin	1.3.6.1.4.1.15007.1.3.1.3.5.1.20	No
mefSoamDmHistoricStatsIFDVRoundTripMax	1.3.6.1.4.1.15007.1.3.1.3.5.1.21	No
mefSoamDmHistoricStatsIFDVRoundTripAvg	1.3.6.1.4.1.15007.1.3.1.3.5.1.22	No
mefSoamDmHistoricStatsInitiatedMeasurements	1.3.6.1.4.1.15007.1.3.1.3.5.1.23	Yes
mefSoamDmHistoricStatsCompletedMeasurements	1.3.6.1.4.1.15007.1.3.1.3.5.1.24	Yes

Performance measurement delay threshold configuration table

The mefSoamDmThresholdTable represents the Ethernet delay monitoring configuration MIB objects.

Object group name	Object identifier	Supported?
mefSoamDmThresholdIndex	1.3.6.1.4.1.15007.1.3.1.3.7.1.1	Yes. Not Accessible.

Object group name	Object identifier	Supported?
mefSoamDmThresholdEnable	1.3.6.1.4.1.15007.1.3.1.3.7.1.2	Yes. Read-create.
mefSoamDmThresholdMaxFrameDelayRoundTripThreshold	1.3.6.1.4.1.15007.1.3.1.3.7.1.3	Yes. Read-create.
mefSoamDmThresholdAveFrameDelayRoundTripThreshold	1.3.6.1.4.1.15007.1.3.1.3.7.1.4	Yes. Read-create.
mefSoamDmThresholdMaxIFDVRoundTripThreshold	1.3.6.1.4.1.15007.1.3.1.3.7.1.5	No
mefSoamDmThresholdAveIFDVRoundTripThreshold	1.3.6.1.4.1.15007.1.3.1.3.7.1.6	No
mefSoamDmThresholdMaxFrameDelayForwardThreshold	1.3.6.1.4.1.15007.1.3.1.3.7.1.7	Yes. Read-create. NOTE This object is supported only for 1-way DM that is supported only on CES 2000 Series and CER 2000 Series platforms.
mefSoamDmThresholdAveFrameDelayForwardThreshold	1.3.6.1.4.1.15007.1.3.1.3.7.1.8	Yes. Read-create. NOTE This object is supported only for 1-way DM that is supported only on CES 2000 Series and CER 2000 Series platforms.
mefSoamDmThresholdMaxIFDVForwardThreshold	1.3.6.1.4.1.15007.1.3.1.3.7.1.9	No
mefSoamDmThresholdAveIFDVForwardThreshold	1.3.6.1.4.1.15007.1.3.1.3.7.1.10	No
mefSoamDmThresholdMaxFrameDelayBackwardThreshold	1.3.6.1.4.1.15007.1.3.1.3.7.1.11	No
mefSoamDmThresholdAveFrameDelayBackwardThreshold	1.3.6.1.4.1.15007.1.3.1.3.7.1.12	No
mefSoamDmThresholdMaxIFDVBackwardThreshold	1.3.6.1.4.1.15007.1.3.1.3.7.1.13	No
mefSoamDmThresholdAveIFDVBackwardThreshold	1.3.6.1.4.1.15007.1.3.1.3.7.1.14	No

Frame loss measurement configuration table

The mefSoamLmCfgTable includes the configuration attributes and operations for the frame loss measurement function defined in Y. 1731.

NOTE

The following table is supported only on the CES 2000 Series and CER 2000 Series devices.

Object group name	Object identifier	Supported?
mefSoamLmCfgIndex	1.3.6.1.4.1.15007.1.3.1.2.1.1.1	Yes. Not Accessible.
mefSoamLmCfgType	1.3.6.1.4.1.15007.1.3.1.2.1.1.2	Yes. Read-create.
mefSoamLmCfgEnabled	1.3.6.1.4.1.15007.1.3.1.2.1.1.3	Yes. Read-create.

Object group name	Object identifier	Supported?
		NOTE Supports only the value TRUE.
mefSoamLmCfgCounterEnable	1.3.6.1.4.1.15007.1.3.1.2.1.1.4	Yes. Read-create (partial support) **NOTE** The bit pattern of the sender can be set only to 10011110 and the bit pattern of the receiver can be set as 01100000.
mefSoamLmCfgInterval	1.3.6.1.4.1.15007.1.3.1.2.1.1.5	Yes. Read-create. **NOTE** Supports only the values 1000, 10000, 60000, and 600000.
mefSoamLmCfgPriority	1.3.6.1.4.1.15007.1.3.1.2.1.1.6	Yes. Read-create.
mefSoamLmCfgDropEligible	1.3.6.1.4.1.15007.1.3.1.2.1.1.7	Yes. Read-create. **NOTE** Supports only the value TRUE for SLM and FALSE for LLM.
mefSoamLmCfgFrameSize	1.3.6.1.4.1.15007.1.3.1.2.1.1.8	Yes. Read-only.
mefSoamLmCfgDataPattern	1.3.6.1.4.1.15007.1.3.1.2.1.1.9	No
mefSoamLmCfgTestTlvIncluded	1.3.6.1.4.1.15007.1.3.1.2.1.1.10	No
mefSoamLmCfgTestTlvPattern	1.3.6.1.4.1.15007.1.3.1.2.1.1.11	No
mefSoamLmCfgMeasurementInterval	1.3.6.1.4.1.15007.1.3.1.2.1.1.12	Yes. Read-create.
mefSoamLmCfgDestMacAddress	1.3.6.1.4.1.15007.1.3.1.2.1.1.13	Yes. Read-create.
mefSoamLmCfgDestMepId	1.3.6.1.4.1.15007.1.3.1.2.1.1.14	Yes. Read-create.
mefSoamLmCfgDestIsMepId	1.3.6.1.4.1.15007.1.3.1.2.1.1.15	Yes. Read-create.
mefSoamLmCfgSourceMacAddress	1.3.6.1.4.1.15007.1.3.1.2.1.1.16	No
mefSoamLmCfgStartTimeType	1.3.6.1.4.1.15007.1.3.1.2.1.1.17	Yes. Read-create. **NOTE** None value is not supported.
mefSoamLmCfgFixedStartDateAndTime	1.3.6.1.4.1.15007.1.3.1.2.1.1.18	Yes. Read-create. **NOTE** In SET operation, the Year value must always be 0. Supports only 8 octet values.
mefSoamLmCfgRelativeStartTime	1.3.6.1.4.1.15007.1.3.1.2.1.1.19	Yes. Read-create.
mefSoamLmCfgStopTimeType	1.3.6.1.4.1.15007.1.3.1.2.1.1.20	Yes. Read-create. **NOTE** None value is not supported.
mefSoamLmCfgFixedStopDateAndTime	1.3.6.1.4.1.15007.1.3.1.2.1.1.21	Yes. Read-create.

Object group name	Object identifier	Supported?
		NOTE In SET operation, the Year value must always be 0. Supports only 8 octet values.
mefSoamLmCfgRelativeStopTime	1.3.6.1.4.1.15007.1.3.1.2.1.1.22	Yes. Read-create.
mefSoamLmCfgPeriodicity	1.3.6.1.4.1.15007.1.3.1.2.1.1.23	Yes. Read-create. NOTE Only the values 0 for non-periodic and 8640000 for daily are supported.
mefSoamLmCfgAlignMeasurementIntervals	1.3.6.1.4.1.15007.1.3.1.2.1.1.24	Yes. Read-only.
mefSoamLmCfgAvailabilityNumConsecutiveFlr Meas	1.3.6.1.4.1.15007.1.3.1.2.1.1.25	No
mefSoamLmCfgAvailabilityThreshold	1.3.6.1.4.1.15007.1.3.1.2.1.1.26	No
mefSoamLmCfgUnavailabilityThreshold	1.3.6.1.4.1.15007.1.3.1.2.1.1.27	No
mefSoamLmCfgFlrNumConsecutiveMeas	1.3.6.1.4.1.15007.1.3.1.2.1.1.28	No
mefSoamLmCfgSessionStatus	1.3.6.1.4.1.15007.1.3.1.2.1.1.29	Yes. Read-only.
mefSoamLmCfgHistoryClear	1.3.6.1.4.1.15007.1.3.1.2.1.1.30	Yes. Read-create.
mefSoamLmCfgRowStatus	1.3.6.1.4.1.15007.1.3.1.2.1.1.31	Yes. Read-create.

SOAM loss measurement current statistic table

The mefSoamLmCurrentStatsTable contains the results for the current Measurement Interval in a SOAM Loss Measurement session.

NOTE
The objects in the table are read-only.

Object group name	Object identifier	Supported?
mefSoamLmCurrentStatsIndex	1.3.6.1.4.1.15007.1.3.1.2.3.1.1	Yes. Not Accessible.
mefSoamLmCurrentStatsStartTime	1.3.6.1.4.1.15007.1.3.1.2.3.1.2	Yes
mefSoamLmCurrentStatsElapsedTime	1.3.6.1.4.1.15007.1.3.1.2.3.1.3	Yes
mefSoamLmCurrentStatsSuspect	1.3.6.1.4.1.15007.1.3.1.2.3.1.4	Yes
mefSoamLmCurrentStatsForwardTransmittedFr ames	1.3.6.1.4.1.15007.1.3.1.2.3.1.5	Yes
mefSoamLmCurrentStatsForwardReceivedFram es	1.3.6.1.4.1.15007.1.3.1.2.3.1.6	Yes
mefSoamLmCurrentStatsForwardMinFlr	1.3.6.1.4.1.15007.1.3.1.2.3.1.7	Yes
mefSoamLmCurrentStatsForwardMaxFlr	1.3.6.1.4.1.15007.1.3.1.2.3.1.8	Yes
mefSoamLmCurrentStatsForwardAvgFlr	1.3.6.1.4.1.15007.1.3.1.2.3.1.9	Yes
mefSoamLmCurrentStatsForwardAvailable	1.3.6.1.4.1.15007.1.3.1.2.3.1.10	No
mefSoamLmCurrentStatsForwardUnavailable	1.3.6.1.4.1.15007.1.3.1.2.3.1.11	No
mefSoamLmCurrentStatsBackwardTransmitted Frames	1.3.6.1.4.1.15007.1.3.1.2.3.1.12	Yes
mefSoamLmCurrentStatsBackwardReceivedFra mes	1.3.6.1.4.1.15007.1.3.1.2.3.1.13	Yes

Object group name	Object identifier	Supported?
mefSoamLmCurrentStatsBackwardMinFlr	1.3.6.1.4.1.15007.1.3.1.2.3.1.14	Yes
mefSoamLmCurrentStatsBackwardMaxFlr	1.3.6.1.4.1.15007.1.3.1.2.3.1.15	Yes
mefSoamLmCurrentStatsBackwardAvgFlr	1.3.6.1.4.1.15007.1.3.1.2.3.1.16	Yes
mefSoamLmCurrentStatsBackwardAvailable	1.3.6.1.4.1.15007.1.3.1.2.3.1.17	No
mefSoamLmCurrentStatsBackwardUnavailable	1.3.6.1.4.1.15007.1.3.1.2.3.1.18	No
mefSoamLmCurrentStatsInitiatedMeasurements	1.3.6.1.4.1.15007.1.3.1.2.3.1.19	Yes
mefSoamLmCurrentStatsCompletedMeasurements	1.3.6.1.4.1.15007.1.3.1.2.3.1.20	Yes

SOAM loss measurement historic statistic table

The mefSoamLmCurrentStatsTable contains the results for the historic measurement interval in a SOAM Loss Measurement session.

NOTE

The objects in the table are read-only.

Object group name	Object identifier	Supported?
mefSoamLmHistoricStatsIndex	1.3.6.1.4.1.15007.1.3.1.2.4.1.1	Yes
mefSoamLmHistoricStatsEndTime	1.3.6.1.4.1.15007.1.3.1.2.4.1.2	Yes
mefSoamLmHistoricStatsElapsedTime	1.3.6.1.4.1.15007.1.3.1.2.4.1.3	Yes
mefSoamLmHistoricStatsSuspect	1.3.6.1.4.1.15007.1.3.1.2.4.1.4	Yes
mefSoamLmHistoricStatsForwardTransmittedFrames	1.3.6.1.4.1.15007.1.3.1.2.4.1.5	Yes
mefSoamLmHistoricStatsForwardReceivedFrames	1.3.6.1.4.1.15007.1.3.1.2.4.1.6	Yes
mefSoamLmHistoricStatsForwardMinFlr	1.3.6.1.4.1.15007.1.3.1.2.4.1.7	Yes
mefSoamLmHistoricStatsForwardMaxFlr	1.3.6.1.4.1.15007.1.3.1.2.4.1.8	Yes
mefSoamLmHistoricStatsForwardAvgFlr	1.3.6.1.4.1.15007.1.3.1.2.4.1.9	Yes
mefSoamLmHistoricStatsForwardAvailable	1.3.6.1.4.1.15007.1.3.1.2.4.1.10	No
mefSoamLmHistoricStatsForwardUnavailable	1.3.6.1.4.1.15007.1.3.1.2.4.1.11	No
mefSoamLmHistoricStatsBackwardTransmittedFrames	1.3.6.1.4.1.15007.1.3.1.2.4.1.12	Yes
mefSoamLmHistoricStatsBackwardReceivedFrames	1.3.6.1.4.1.15007.1.3.1.2.4.1.13	Yes
mefSoamLmHistoricStatsBackwardMinFlr	1.3.6.1.4.1.15007.1.3.1.2.4.1.14	Yes
mefSoamLmHistoricStatsBackwardMaxFlr	1.3.6.1.4.1.15007.1.3.1.2.4.1.15	Yes
mefSoamLmHistoricStatsBackwardAvgFlr	1.3.6.1.4.1.15007.1.3.1.2.4.1.16	Yes
mefSoamLmHistoricStatsBackwardAvailable	1.3.6.1.4.1.15007.1.3.1.2.4.1.17	No
mefSoamLmHistoricStatsBackwardUnavailable	1.3.6.1.4.1.15007.1.3.1.2.4.1.18	No
mefSoamLmHistoricStatsInitiatedMeasurements	1.3.6.1.4.1.15007.1.3.1.2.4.1.19	Yes
mefSoamLmHistoricStatsCompletedMeasurements	1.3.6.1.4.1.15007.1.3.1.2.4.1.20	Yes

SOAM loss measurement threshold configuration table

The mefSoamLmThresholdTable contains the list of Loss Measurement threshold values for LM Performance Monitoring.

Object group name	Object identifier	Supported?
mefSoamLmThresholdIndex	1.3.6.1.4.1.15007.1.3.1.2.5.1.1	Yes. Not accessible
mefSoamLmThresholdEnable	1.3.6.1.4.1.15007.1.3.1.2.5.1.2	Yes. Read-only.
mefSoamLmThresholdMaxFlrForwardThreshold	1.3.6.1.4.1.15007.1.3.1.2.5.1.3	Yes. Read-create.
mefSoamLmThresholdAveFlrForwardThreshold	1.3.6.1.4.1.15007.1.3.1.2.5.1.4	Yes. Read-create.
mefSoamLmThresholdMaxFlrBackwardThreshold	1.3.6.1.4.1.15007.1.3.1.2.5.1.5	Yes. Read-create.
mefSoamLmThresholdAveFlrBackwardThreshold	1.3.6.1.4.1.15007.1.3.1.2.5.1.6	Yes. Read-create.
mefSoamLmThresholdUnavailForwardThreshold	1.3.6.1.4.1.15007.1.3.1.2.5.1.7	No
mefSoamLmThresholdUnavailBackwardThreshold	1.3.6.1.4.1.15007.1.3.1.2.5.1.8	No

IEEE8021-CFM-MIB

The following tables in the IEEE8021-CFM-MIB are supported on the XMR Series, MLX Series, MLX Series, CES 2000 Series, and CER 2000 Series devices.

The following scalars are supported, but read-only access is available:

- dot1agCfmDefaultMdDefLevel (OID: 1.3.111.2.802.1.1.8.1.2.1) - This object always returns 0.
- dot1agCfmDefaultMdDefMhfCreation (OID: 1.3.111.2.802.1.1.8.1.2.2) - This object always returns defMHFdefault(2).
- dot1agCfmDefaultMdDefIdPermission (OID: 1.3.111.2.802.1.1.8.1.2.3) - This object always returns sendIdNone(1).

The following tables are supported, but read-only access for these tables is available at this time:

- dot1agCfmMdTable
- dot1agCfmMaNetTable
- dot1agCfmMaCompTable
- dot1agCfmMaMepListTable
- dot1agCfmMepTable
- dot1agCfmLtrTable
- dot1agCfmMepDbTable

Other tables or the dot1agCfmFaultAlarm notification are not supported.

dot1agCfmMdTable

The dot1agCfmMdTable is the Maintenance Domain table. Each row in the domain represents a different Maintenance Domain. It is indexed by the dot1agCfmMdIndex object. Only read-only access is available for the objects listed in the below table.

Object group name	Type	Object identifier	Comments
dot1agCfmMdIndex	Unsigned32	1.3.111.2.802.1.1.8.1.5.2.1.1	Index variable. Supported.

Object group name	Type	Object identifier	Comments
dot1agCfmMdFormat	dot1agCfmMaintDomainNameType	1.3.111.2.802.1.1.8.1.5.2.1.2	Supported.
dot1agCfmMdName	dot1agCfmMaintDomainName	1.3.111.2.802.1.1.8.1.5.2.1.3	Supported.
dot1agCfmMdMdLevel	dot1agCfmMDLevel	1.3.111.2.802.1.1.8.1.5.2.1.4	Supported.
dot1agCfmMdMhfCreation	dot1agCfmMhfCreation	1.3.111.2.802.1.1.8.1.5.2.1.5	Supported.
dot1agCfmMdMhfIdPermission	dot1agCfmIdPermission	1.3.111.2.802.1.1.8.1.5.2.1.6	Always returns sendIdNone(1).
dot1agCfmMdMaNextIndex	dot1afCfmIndexIntegerNextFree	1.3.111.2.802.1.1.8.1.5.2.1.7	Supported.
dot1agCfmMdRowStatus	RowStatus	1.3.111.2.802.1.1.8.1.5.2.1.8	Always returns active(1).

dot1agCfmMaNetTable

Each row in the dot1agCfmMaNetTable represents an Maintenance Association (MA), which is a set of maintenance association end points (MEPs). Each MEP is configured with a single service instance. It is indexed by the dot1agCfmMdIndex and dot1agCfmMaIndex objects.

Only read-only access is available for these objects.

Object group name	Type	Object identifier	Comments
dot1agCfmMaIndex	Unsigned32	1.3.111.2.802.1.1.8.1.6.1.1.1	Index variable. Supported.
dot1agCfmMaNetFormat	dot1agCfmMaintAssocNameType	1.3.111.2.802.1.1.8.1.6.1.1.2	Supported.
dot1agCfmMaNetName	dot1agCfmMaintAssocName	1.3.111.2.802.1.1.8.1.6.1.1.3	Supported.
dot1agCfmMaNetCcmInterval	dot1agCfmCcmInterval	1.3.111.2.802.1.1.8.1.6.1.1.4	Supported.
dot1agCfmMaNetRowStatus	RowStatus	1.3.111.2.802.1.1.8.1.6.1.1.5	Always returns active(1).

dot1agCfmMaCompTable

The dot1agCfmMaCompTable is the MA component table. Each row in the table represents an MA, which is a set of MEPs. Each MEP is configured with a single service instance. It is indexed by dot1agCfmMaComponentId, dot1agCfmMdIndex, and dot1agCfmMaIndex. Only read-only access is available for this table.

Object group name	Type	Object identifier	Comments
ieee8021CfmMaComponentId	ieee8021PbbComponentIdentifierTC	1.3.111.2.802.1.1.8.1.6.4.1.1	Index variable. Supported.
ieee8021CfmMaCompPrimarySelectorType	Integer: • vlandid(1) • isid(2)	1.3.111.2.802.1.1.8.1.6.4.1.2	Supported.
ieee8021CfmMaCompPrimarySelectorOrNone	ieee8021ServiceSelectorValueOrNone	1.3.111.2.802.1.1.8.1.6.4.1.3	Supported.
ieee8021CfmMaCompMhfCreation	dot1agCfmMhfCreation	1.3.111.2.802.1.1.8.1.6.4.1.4	Supported.
ieee8021CfmMaCompIdPermission	dot1agCfmIdPermission	1.3.111.2.802.1.1.8.1.6.4.1.5	Always returns sendIdNone(1).
ieee8021CfmMaCompNumberOfVids	Unsigned32	1.3.111.2.802.1.1.8.1.6.4.1.6	Supported.
ieee8021CfmMaCompRowStatus	RowStatus	1.3.111.2.802.1.1.8.1.6.4.1.7	Always return active(1).

dot1agCfmMaMepListTable

The dot1agCfmMaMepListTable contains the list of known MEPs for a given MA. It is indexed by dot1agCfmMdIndex, dot1agCfmMaIndex, and dot1agCfmMaMepListIdentifier.

Object group name	Type	Object identifier	Comments
dot1agCfmMaMepListIdentifier	dot1agCfmMepId	1.3.111.2.802.1.1.8.1.6.3.1.1	Index variable. Supported.
dot1agCfmMaMepListRowStatus	RowStatus	1.3.111.2.802.1.1.8.1.6.3.1.2	Always returns active(1).

dot1agCfmMepTable

The dot1agCfmMepTable is the Maintenance Association End Point (MEP) table. Each row in the table represents a different MEP. It is indexed by dot1agCfmMdIndex, dot1agCfmMaIndex, and dot1agCfmMepIdentifier.

Unless otherwise noted, all objects have read-only access.

Object group name	Type	Object identifier	Comments
dot1agCfmMepIdentifier	dot1agCfmMepId	1.3.111.2.802.1.1.8.1.7.1.1.1	Index variable. Supported. Read-only.
dot1agCfmMepIfIndex	interfaceIndexOrZero	1.3.111.2.802.1.1.8.1.7.1.1.2	Supported. Read-only.
dot1agCfmMepDirection	dot1agCfmMpDirection	1.3.111.2.802.1.1.8.1.7.1.1.3	Supported. Read-only.
dot1agCfmMepPrimaryVid	Unsigned32	1.3.111.2.802.1.1.8.1.7.1.1.4	Always returns 0. Read-only.
dot1agCfmMepActive	TruthValue	1.3.111.2.802.1.1.8.1.7.1.1.5	Supported. Read-only.
dot1agCfmMepFngState	dot1agCfmFngState	1.3.111.2.802.1.1.8.1.7.1.1.6	Supported. Read-only.
dot1agCfmMepCciEnabled	TruthValue	1.3.111.2.802.1.1.8.1.7.1.1.7	Supported. Read-only.
dot1agCfmMepCcmLtmPriority	Unsigned32	1.3.111.2.802.1.1.8.1.7.1.1.8	Supported. Read-only.
dot1agCfmMepMacAddress	MacAddress	1.3.111.2.802.1.1.8.1.7.1.1.9	Supported. Read-only.
dot1agCfmMepLowPrDef	dot1agCfmLowestAlarmPri	1.3.111.2.802.1.1.8.1.7.1.1.10	Supported. Read-only.
dot1agCfmMepFngAlarmTime	TimeInterval	1.3.111.2.802.1.1.8.1.7.1.1.11	Supported. Read-only.
dot1agCfmMepFngResetTime	TimeInterval	1.3.111.2.802.1.1.8.1.7.11.12	Supported. Read-only.
dot1agCfmMepHighestPrDefect	dot1agCfmHighestDefectPri	1.3.111.2.802.1.1.8.1.7.1.1.13	Supported. Read-only.
dot1agCfmMepDefects	dot1agCfmMepDefects	1.3.111.2.802.1.1.8.1.7.1.1.14	Supported. Read-only.
dot1agCfmMepErrorCcmLastFailure	Octet String	1.3.111.2.802.1.1.8.1.7.1.1.15	Supported. Read-only.
dot1agCfmMepXconCcmLastFailure	Octet String	1.3.111.2.802.1.1.8.1.7.1.1.16	Supported. Read-only.
dot1agCfmMepCcmSequenceErrors	Counter32	1.3.111.2.802.1.1.8.1.7.1.1.17	Supported. Read-only.
dot1agCfmMepCciSentCcms	Counter32	1.3.111.2.802.1.1.8.1.7.1.1.18	Supported. Read-only.
dot1agCfmMepNextLbmTransId	Unsigned32	1.3.111.2.802.1.1.8.1.7.1.1.19	Supported. Read-only.
dot1agCfmMepLbrIn	Counter32	1.3.111.2.802.1.1.8.1.7.1.1.20	Supported. Read-only.
dot1agCfmMepLbrInOutOfOrder	Counter32	1.3.111.2.802.1.1.8.1.7.1.1.21	Supported. Read-only.
dot1agCfmMepLbrBadMsdu	Counter32	1.3.111.2.802.1.1.8.1.7.1.1.22	Always returns 0. Read-only.
dot1agCfmMepLtmNextSeqNumber	Unsigned32	1.3.111.2.802.1.1.8.1.7.1.1.23	Supported. Read-only.
dot1agCfmMepUnexpLtrIn	Counter32	1.3.111.2.802.1.1.8.1.7.1.1.24	Supported. Read-only.

Object group name	Type	Object identifier	Comments
dot1agCfmMepLbrOut	Counter32	1.3.111.2.802.1.1.8.1.7.1.1.25	Supported. Read-only.
dot1agCfmMepTransmitLbmStatus	TruthValue	1.3.111.2.802.1.1.8.1.7.1.1.26	Supported. Read-only.
dot1agCfmMepTransmitLbmDestMacAddress	MacAddress	1.3.111.2.802.1.1.8.1.7.1.1.27	Supported. Read/write.
dot1agCfmMepTransmitLbmDestMepId	dot1agCfmMepIdOrZero	1.3.111.2.802.1.1.8.1.7.1.1.28	Supported. Read-only.
dot1agCfmMepTransmitLbmDestIsMepId	TruthValue	1.3.111.2.802.1.1.8.1.7.1.1.29	Supported. Read-write
dot1agCfmMepTransmitLbmMessages	Integer32	1.3.111.2.802.1.1.8.1.7.1.1.30	Supported. Read/write.
dot1agCfmMepTransmitLbmDataTlv	Octet String	1.3.111.2.802.1.1.8.1.7.1.1.31	Always returns Null string. Read-only.
dot1agCfmMepTransmitLbmVlanPriority	Integer32	1.3.111.2.802.1.1.8.1.7.1.1.32	Supported. Read-only.
dot1agCfmMepTransmitLbmVlanDropEnable	TruthValue	1.3.111.2.802.1.1.8.1.7.1.1.33	Always returns false(2). Read-only.
dot1agCfmMepTransmitLbmResultOK	TruthValue	1.3.111.2.802.1.1.8.1.7.1.1.34	Supported. Read-only.
dot1agCfmMepTransmitLbmSeqNumber	Unsigned32	1.3.111.2.802.1.1.8.1.7.1.1.35	Supported. Read-only.
dot1agCfmMepTransmitLtmStatus	TruthValue	1.3.111.2.802.1.1.8.1.7.1.1.36	Supported. Read/write.
dot1agCfmMepTransmitLtmFlags	BITS	1.3.111.2.802.1.1.8.1.7.1.1.37	Always returns 0. Read-write.
dot1agCfmMepTransmitLtmTargetMacAddress	MacAddress	1.3.111.2.802.1.1.8.1.7.1.1.38	Supported. Read/write.
dot1agCfmMepTransmitLtmTargetMepId	dot1agCfmMepIdOrZero	1.3.111.2.802.1.1.8.1.7.1.1.39	Supported. Read/write.
dot1agCfmMepTransmitLtmTargetIsMepId	TruthValue	1.3.111.2.802.1.1.8.1.7.1.1.40	Supported. Read/write.
dot1agCfmMepTransmitLtmTtl	Unsigned32	1.3.111.2.802.1.1.8.1.7.1.1.41	Supported. Read/write.
dot1agCfmMepTransmitLtmResult	TruthValue	1.3.111.2.802.1.1.8.1.7.1.1.42	Supported.
dot1agCfmMepTransmitLtmSeqNumber	Unsigned32	1.3.111.2.802.1.1.8.1.7.1.1.43	Supported. Read-only.
dot1agCfmMepTransmitLtmEgressIdentifier	Octet String	1.3.111.2.802.1.1.8.1.7.1.1.44	Supported. Read-only.
dot1agCfmMepRowStatus	RowStatus	1.3.111.2.802.1.1.8.1.7.1.1.45	Always returns active(1). Read-only.

dot1agCfmLtrTable

The dot1agCfmLtrTable extends the MEP table and contains a list of Linktrace replies received by a specific MEP in response to a Linktrace message. It is indexed by dot1agCfmMdIndex, dot1agCfmMaIndex, dot1agCfmMepIdentifier, dot1agCfmLtrSeqNumber, and dot1agCfmLtrReceiveOrder.

Only one Linktrace number sequence, which is the last one sent, is supported in this table. Only read-only access is available for this table.

Object group name	Type	Object identifier	Comments
dot1agCfmLtrSeqNumber	Unsigned32	1.3.111.2.802.1.1.8.1.7.2.1.1	Supported.
dot1agCfmLtrReceiveOrder	Unsigned32	1.3.111.2.802.1.1.8.1.7.2.1.2	Supported.

Object group name	Type	Object identifier	Comments
dot1agCfmLtrTtl	Unsigned32	1.3.111.2.802.1.1.8.1.7.2.1.3	Supported.
dot1agCfmLtrForwarded	TruthValue	1.3.111.2.802.1.1.8.1.7.2.1.4	Supported.
dot1agCfmLtrTerminalMep	TruthValue	1.3.111.2.802.1.1.8.1.7.2.1.5	Supported.
dot1agCfmLtrLastEgressIdentifier	Octet String	1.3.111.2.802.1.1.8.1.7.2.1.6	Supported.
dot1agCfmLtrNextEgressIdentifier	Octet String	1.3.111.2.802.1.1.8.1.7.2.1.7	Supported.
dot1agCfmLtrRelay	dot1agCfmRelayActionFieldValue	1.3.111.2.802.1.1.8.1.7.2.1.8	Supported.
dot1agCfmLtrChassisIdSubtype	lldpChassisIdSubtype	1.3.111.2.802.1.1.8.1.7.2.1.9	Supported.
dot1agCfmLtrChassisId	lldpChassisId	1.3.111.2.802.1.1.8.1.7.2.1.10	Always returns a NULL string.
dot1agCfmLtrManAddressDomain	TDomain	1.3.111.2.802.1.1.8.1.7.2.1.11	Always returns {0.0}.
dot1agCfmLtrManAddress	TAddress	1.3.111.2.802.1.1.8.1.7.2.1.12	Always returns a NULL string.
dot1agCfmLtrIngress	dot1agCfmIngressActionFieldValue	1.3.111.2.802.1.1.8.1.7.2.1.13	Supported.
dot1agCfmLtrIngressMac	MacAddress	1.3.111.2.802.1.1.8.1.7.2.1.14	Supported.
dot1agCfmLtrIngressPortIdSubtype	lldpPortIdSubtype	1.3.111.2.802.1.1.8.1.7.2.1.15	Supported.
dot1agCfmLtrIngressPortId	dot1agCfmEgressActionFieldValue	1.3.111.2.802.1.1.8.1.7.2.1.16	Supported.
dot1agCfmLtrEgress	dot1agCfmEgressActionFieldValue	1.3.111.2.802.1.1.8.1.7.2.1.17	Supported.
dot1agCfmLtrEgressMac	MacAddress	1.3.111.2.802.1.1.8.1.7.2.1.18	Supported.
dot1agCfmLtrEgressPortIdSubtype	lldpPortIdSubtype	1.3.111.2.802.1.1.8.1.7.2.1.19	Supported.
dot1agCfmLtrEgressPortId	lldpPortId	1.3.111.2.802.1.1.8.1.7.2.1.20	Supported.
dot1agCfmLtrOrganizationSpecificTlv	Octet String	1.3.111.2.802.1.1.8.1.7.2.1.21	Always returns a NULL string.

dot1agCfmMepDbTable

The dot1agCfmMepDbTable is the MEP Database. This database is maintained by every MEP. It maintains the information received about other MEPs in the Maintenance Domain. It is indexed by dot1agCfmMdIndex, dot1agCfmMaIndex, dot1agCfmMepIdentifier, and dot1agCfmMepDbRMepIdentifier. Only read-only access is available.

Object group name	Type	Object identifier	Comments
dot1agCfmMepDbRMepIdentifier	dot1agCfmMepId	1.3.111.2.802.1.1.8.1.7.3.1.1	Supported.
dot1agCfmMepDbRMepState	dot1agCfmRemoteMepState	1.3.111.2.802.1.1.8.1.7.3.1.2	Supported.
dot1agCfmMepDbRMepFailedOkTime	TimeStamp	1.3.111.2.802.1.1.8.1.7.3.1.3	Supported.
dot1agCfmMepDbMacAddress	MacAddress	1.3.111.2.802.1.1.8.1.7.3.1.4	Supported.
dot1agCfmMepDbRdi	TruthValue	1.3.111.2.802.1.1.8.1.7.3.1.5	Supported.
dot1agCfmMepDbPortStatusTlv	dot1agCfmPortStatus	1.3.111.2.802.1.1.8.1.7.3.1.6	Supported.
dot1agCfmMepDbInterfaceStatusTlv	dot1agCfmInterfaceStatus	1.3.111.2.802.1.1.8.1.7.3.1.7	Supported.
dot1agCfmMepDbChassisIdSubtype	lldpChassisIdSubtype	1.3.111.2.802.1.1.8.1.7.3.1.8	Supported.
dot1agCfmMepDbChassisId	lldpChassisId	1.3.111.2.802.1.1.8.1.7.3.1.9	Always returns a Null string.
dot1agCfmMepDbManAddressDomain	TDomain	1.3.111.2.802.1.1.8.1.7.3.1.10	Always returns {0,0}.
dot1agCfmMepDbManAddress	TAddress	1.3.111.2.802.1.1.8.1.7.3.1.11	Always returns a Null string.

IEEE8021-SECY-MIB

The following tables in the SECY-MIB are supported only on the MLX Series devices.

NOTE
Unless otherwise noted, all objects have read-only access.

- secyIfTable
- secyTxSCTable
- secyTxSATable
- secyRxSCTable
- secyRxSATable
- secyCipherSuiteTable
- secyTxSAStatsTable
- secyTxSCStatsTable
- secyRxSAStatsTable
- secyRxSCStatsTable
- secyStatsTable

secyIfTable

The following table represents the system level information for each interface supported by the MAC security entity.

Object	Object identifier	Supported?
secyIfInterfaceIndex	1.0.8802.1.1.3.1.1.1.1.1	Yes
secyIfMaxPeerSCs	1.0.8802.1.1.3.1.1.1.1.2	Yes
secyIfRxMaxKeys	1.0.8802.1.1.3.1.1.1.1.3	Yes
secyIfTxMaxKeys	1.0.8802.1.1.3.1.1.1.1.4	Yes
secyIfProtectFramesEnable	1.0.8802.1.1.3.1.1.1.1.5	Yes
secyIfValidateFrames	1.0.8802.1.1.3.1.1.1.1.6	Yes
secyIfReplayProtectEnable	1.0.8802.1.1.3.1.1.1.1.7	Yes
secyIfReplayProtectWindow	1.0.8802.1.1.3.1.1.1.1.8	Yes
secyIfCurrentCipherSuite	1.0.8802.1.1.3.1.1.1.1.9	Yes
secyIfAdminPt2PtMAC	1.0.8802.1.1.3.1.1.1.1.10	Yes
secyIfOperPt2PtMAC	1.0.8802.1.1.3.1.1.1.1.11	Yes
secyIfIncludeSCIEnable	1.0.8802.1.1.3.1.1.1.1.12	Yes
secyIfUseESEnable	1.0.8802.1.1.3.1.1.1.1.13	Yes
secyIfUseSCBEnable	1.0.8802.1.1.3.1.1.1.1.14	Yes

secyTxSCTable

The following table provides information about the status of each transmitting SC supported by the MAC security entity.

Object	Object identifier	Supported?
secyTxSCI	1.0.8802.1.1.3.1.1.2.1.1	Yes
secyTxSCState	1.0.8802.1.1.3.1.1.2.1.2	Yes
secyTxSCEncodingSA	1.0.8802.1.1.3.1.1.2.1.3	No
secyTxSCEncipheringSA	1.0.8802.1.1.3.1.1.2.1.4	No
secyTxSCCreatedTime	1.0.8802.1.1.3.1.1.2.1.5	No
secyTxSCStartedTime	1.0.8802.1.1.3.1.1.2.1.6	No
secyTxSCStoppedTime	1.0.8802.1.1.3.1.1.2.1.7	No

secyTxSATable

The following table provides information about the status of each transmitting SA supported by the MAC security entity.

Object	Object identifier	Supported?
secyTxSA	1.0.8802.1.1.3.1.1.3.1.1	Yes
secyTxSAState	1.0.8802.1.1.3.1.1.3.1.2	Yes
secyTxSANextPN	1.0.8802.1.1.3.1.1.3.1.3	Yes
secyTxSAConfidentiality	1.0.8802.1.1.3.1.1.3.1.4	No
secyTxSASAKUnchanged	1.0.8802.1.1.3.1.1.3.1.5	No
secyTxSACreatedTime	1.0.8802.1.1.3.1.1.3.1.6	No
secyTxSAStartedTime	1.0.8802.1.1.3.1.1.3.1.7	No
secyTxSAStoppedTime	1.0.8802.1.1.3.1.1.3.1.8	No

secyRxSCTable

The following table provides information about the status of each receiving SC supported by the MAC security entity.

Object	Object identifier	Supported?
secyRxSCI	1.0.8802.1.1.3.1.1.4.1.1	Yes
secyRxSCState	1.0.8802.1.1.3.1.1.4.1.2	Yes
secyRxSCCurrentSA	1.0.8802.1.1.3.1.1.4.1.3	No
secyRxSCCreatedTime	1.0.8802.1.1.3.1.1.4.1.4	No
secyRxSCStartedTime	1.0.8802.1.1.3.1.1.4.1.5	No
secyRxSCStoppedTime	1.0.8802.1.1.3.1.1.4.1.6	No

secyRxSATable

The following table provides information about the status of each receiving SA supported by the MAC security entity.

Object	Object identifier	Supported?
secyRxSA	1.0.8802.1.1.3.1.1.5.1.1	Yes
secyRxSAState	1.0.8802.1.1.3.1.1.5.1.2	Yes
secyRxSANextPN	1.0.8802.1.1.3.1.1.5.1.3	Yes
secyRxSASAKUnchanged	1.0.8802.1.1.3.1.1.5.1.4	No

Object	Object identifier	Supported?
secyRxSACreatedTime	1.0.8802.1.1.3.1.1.5.1.5	No
secyRxSAStartedTime	1.0.8802.1.1.3.1.1.5.1.6	No
secyRxSAStoppedTime	1.0.8802.1.1.3.1.1.5.1.7	No

secyCipherSuiteTable

The following table is a list of selectable cipher suites for the MAC security entity.

Object	Object identifier	Supported?
secyCipherSuiteIndex	1.0.8802.1.1.3.1.1.6.1.1	Yes
secyCipherSuiteId	1.0.8802.1.1.3.1.1.6.1.2	Yes
secyCipherSuiteName	1.0.8802.1.1.3.1.1.6.1.3	Yes
secyCipherSuiteCapability	1.0.8802.1.1.3.1.1.6.1.4	Yes
secyCipherSuiteProtection	1.0.8802.1.1.3.1.1.6.1.5	Yes
secyCipherSuiteProtectionOffset	1.0.8802.1.1.3.1.1.6.1.6	Yes
secyCipherSuiteDataLengthChange	1.0.8802.1.1.3.1.1.6.1.7	Yes
secyCipherSuiteICVLength	1.0.8802.1.1.3.1.1.6.1.8	Yes
secyCipherSuiteRowStatus	1.0.8802.1.1.3.1.1.6.1.9	Yes

secyTxSAStatsTable

The following table that contains the statistics objects for each transmitting SA in the MAC security entity.

Object	Object identifier	Supported?
secyTxSAStatsProtectedPkts	1.0.8802.1.1.3.1.2.1.1.1	Yes
secyTxSAStatsEncryptedPkts	1.0.8802.1.1.3.1.2.1.1.2	Yes

secyTxSCStatsTable

The following table that contains the statistics objects for each transmitting SC in the MAC security entity.

Object	Object identifier	Supported?
secyTxSCStatsProtectedPkts	1.0.8802.1.1.3.1.2.2.1.1	Yes
secyTxSCStatsEncryptedPkts	1.0.8802.1.1.3.1.2.2.1.4	Yes
secyTxSCStatsOctetsProtected	1.0.8802.1.1.3.1.2.2.1.10	Yes
secyTxSCStatsOctetsEncrypted	1.0.8802.1.1.3.1.2.2.1.11	Yes

secyRxSAStatsTable

The following table that contains the statistics objects for each receiving SA in the MAC security entity.

Object	Object identifier	Supported?
secyRxSAStatsUnusedSAPkts	1.0.8802.1.1.3.1.2.3.1.1	Yes
secyRxSAStatsNoUsingSAPkts	1.0.8802.1.1.3.1.2.3.1.4	Yes

Object	Object identifier	Supported?
secyRxSAStatsNotValidPkts	1.0.8802.1.1.3.1.2.3.1.13	Yes
secyRxSAStatsInvalidPkts	1.0.8802.1.1.3.1.2.3.1.16	Yes
secyRxSAStatsOKPkts	1.0.8802.1.1.3.1.2.3.1.25	Yes

secyRxSCStatsTable

The following table that contains the statistics objects for each receiving SC in the MAC security entity.

Object	Object identifier	Supported?
secyRxSCStatsUnusedSAPkts	1.0.8802.1.1.3.1.2.4.1.1	Yes
secyRxSCStatsNoUsingSAPkts	1.0.8802.1.1.3.1.2.4.1.2	Yes
secyRxSCStatsLatePkts	1.0.8802.1.1.3.1.2.4.1.3	Yes
secyRxSCStatsNotValidPkts	1.0.8802.1.1.3.1.2.4.1.4	Yes
secyRxSCStatsInvalidPkts	1.0.8802.1.1.3.1.2.4.1.5	Yes
secyRxSCStatsDelayedPkts	1.0.8802.1.1.3.1.2.4.1.6	Yes
secyRxSCStatsUncheckedPkts	1.0.8802.1.1.3.1.2.4.1.7	Yes
secyRxSCStatsOKPkts	1.0.8802.1.1.3.1.2.4.1.8	Yes
secyRxSCStatsOctetsValidated	1.0.8802.1.1.3.1.2.4.1.9	Yes
secyRxSCStatsOctetsDecrypted	1.0.8802.1.1.3.1.2.4.1.10	Yes

secyStatsTable

The following table lists the objects for the statistics information of each Secy supported by the MAC security entity.

Object	Object identifier	Supported?
secyStatsTxUntaggedPkts	1.0.8802.1.1.3.1.2.5.1.1	Yes
secyStatsTxTooLongPkts	1.0.8802.1.1.3.1.2.5.1.2	Yes
secyStatsRxUntaggedPkts	1.0.8802.1.1.3.1.2.5.1.3	Yes
secyStatsRxNoTagPkts	1.0.8802.1.1.3.1.2.5.1.4	Yes
secyStatsRxBadTagPkts	1.0.8802.1.1.3.1.2.5.1.5	Yes
secyStatsRxUnknownSCIPkts	1.0.8802.1.1.3.1.2.5.1.6	Yes
secyStatsRxNoSCIPkts	1.0.8802.1.1.3.1.2.5.1.7	Yes
secyStatsRxOverrunPkts	1.0.8802.1.1.3.1.2.5.1.8	Yes

IEEE8023-LAG-MIB

The following dot3adAggTable MIB objects are supported on the MLX Series, MLX Series, XMR Series, CES 2000 Series, and CER 2000 Series devices.

Object	Object identifier	Supported?
dot3adAggIndex	1.2.840.10006.300.43.1.1.1.1.1	Yes. Read only.
dot3adAggMACAddress	1.2.840.10006.300.43.1.1.1.1.2	Yes. Read only.

Object	Object identifier	Supported?
dot3adAggActorSystemPriority	1.2.840.10006.300.43.1.1.1.1.2	Yes. Read only.
dot3adAggActorSystemID	1.2.840.10006.300.43.1.1.1.1.3	Yes. Read only.
dot3adAggAggregateOrIndividual	1.2.840.10006.300.43.1.1.1.1.5	Yes. Read only.
dot3adAggActorAdminKey	1.2.840.10006.300.43.1.1.1.1.6	Yes. Read only.
dot3adAggActorOperKey	1.2.840.10006.300.43.1.1.1.1.7	Yes. Read only
dot3adAggPartnerSystemID	1.2.840.10006.300.43.1.1.1.1.8	Yes. Read only
dot3adAggPartnerSystemPriority	1.2.840.10006.300.43.1.1.1.1.9	Yes. Read only
dot3adAggPartnerOperKey	1.2.840.10006.300.43.1.1.1.1.10	Yes. Read only

LLDP-MIB

The following tables in the LLDP-MIB are supported on the XMR Series, MLX Series, MLX Series, CES 2000 Series, and CER 2000 Series devices.

- lldpPortConfigTable
- lldpConfigManAddrTable
- lldpstatistics
- lldpStatsTxPortTable
- lldpStatsRxPortTable
- lldpLocalSystemData
- lldpLocPortTable
- lldpLocManAddrTable
- lldpRemTable
- lldpRemManAddrTable
- lldpRemUnknownTLVTable
- lldpRemOrgDefInfoTable

lldpPortConfigTable

The following table controls the LLDP frame transmission on the individual ports.

Object	Object identifier	Supported?
lldpPortConfigPortNum	1.0.8802.1.1.2.1.1.6.1.1	Yes
lldpPortConfigAdminStatus	1.0.8802.1.1.2.1.1.6.1.2	Yes
lldpPortConfigNotificationEnable	1.0.8802.1.1.2.1.1.6.1.3	Yes
lldpPortConfigTLVsTxEnable	1.0.8802.1.1.2.1.1.6.1.4	Yes

lldpConfigManAddrTable

The following table controls the selection of LLDP management address TLV instances to be transmitted on the individual ports.

Object	Object identifier	Supported?
lldpConfigManAddrPortsTxEnable	1.0.8802.1.1.2.1.1.7.1.1	Yes

lldpstatistics

The following table lists the LLDP statistics group objects.

Object	Object identifier	Supported?
lldpStatsRemTablesLastChangeTime	1.0.8802.1.1.2.1.2.1	Yes
lldpStatsRemTablesInserts	1.0.8802.1.1.2.1.2.2	Yes
lldpStatsRemTablesDeletes	1.0.8802.1.1.2.1.2.3	Yes
lldpStatsRemTablesDrops	1.0.8802.1.1.2.1.2.4	Yes
lldpStatsRemTablesAgeouts	1.0.8802.1.1.2.1.2.5	Yes

lldpStatsTxPortTable

The following table contains LLDP transmission statistics for the individual ports.

Object	Object identifier	Supported?
lldpStatsTxPortNum	1.0.8802.1.1.2.1.2.6.1.1	Yes
lldpStatsTxPortFramesTotal	1.0.8802.1.1.2.1.2.6.1.2	Yes

lldpStatsRxPortTable

The following table contains LLDP reception statistics for the individual ports.

Object	Object identifier	Supported?
lldpStatsRxPortNum	1.0.8802.1.1.2.1.2.7.1.1	Yes
lldpStatsRxPortFramesDiscardedTotal	1.0.8802.1.1.2.1.2.7.1.2	Yes
lldpStatsRxPortFramesErrors	1.0.8802.1.1.2.1.2.7.1.3	Yes
lldpStatsRxPortFramesTotal	1.0.8802.1.1.2.1.2.7.1.4	Yes
lldpStatsRxPortTLVsDiscardedTotal	1.0.8802.1.1.2.1.2.7.1.5	Yes
lldpStatsRxPortTLVsUnrecognizedTotal	1.0.8802.1.1.2.1.2.7.1.6	Yes
lldpStatsRxPortAgeoutsTotal	1.0.8802.1.1.2.1.2.7.1.7	Yes

lldpLocalSystemData

The following table lists the LLDP local system data objects.

Object	Object identifier	Supported?
lldpLocChassisIdSubtype	1.0.8802.1.1.2.1.3.1	Yes

Object	Object identifier	Supported?
lldpLocChassisId	1.0.8802.1.1.2.1.3.2	Yes
lldpLocSysName	1.0.8802.1.1.2.1.3.3	Yes
lldpLocSysDesc	1.0.8802.1.1.2.1.3.4	Yes
lldpLocSysCapSupported	1.0.8802.1.1.2.1.3.5	Yes
lldpLocSysCapEnabled	1.0.8802.1.1.2.1.3.6	Yes

lldpLocPortTable

The following table contains one or more rows per-port information associated with the local system known to the agent.

Object	Object identifier	Supported?
lldpLocPortNum	1.0.8802.1.1.2.1.3.7.1.1	Yes
lldpLocPortIdSubtype	1.0.8802.1.1.2.1.3.7.1.2	Yes
lldpLocPortId	1.0.8802.1.1.2.1.3.7.1.3	Yes
lldpLocPortDesc	1.0.8802.1.1.2.1.3.7.1.4	Yes

lldpLocManAddrTable

The following table contains management address information on the local system known to the agent.

Object	Object identifier	Supported?
lldpLocManAddrSubtype	1.0.8802.1.1.2.1.3.8.1.1	Yes
lldpLocManAddr	1.0.8802.1.1.2.1.3.8.1.2	Yes
lldpLocManAddrLen	1.0.8802.1.1.2.1.3.8.1.3	Yes
lldpLocManAddrIfSubtype	1.0.8802.1.1.2.1.3.8.1.4	Yes
lldpLocManAddrIfId	1.0.8802.1.1.2.1.3.8.1.5	Yes
lldpLocManAddrOID	1.0.8802.1.1.2.1.3.8.1.6	Yes

lldpRemTable

The following table contains one or more rows per-physical network connection known to the agent.

Object	Object identifier	Supported?
lldpRemTimeMark	1.0.8802.1.1.2.1.4.1.1.1	Yes
lldpRemLocalPortNum	1.0.8802.1.1.2.1.4.1.1.2	Yes
lldpRemIndex	1.0.8802.1.1.2.1.4.1.1.3	Yes
lldpRemChassisIdSubtype	1.0.8802.1.1.2.1.4.1.1.4	Yes
lldpRemChassisId	1.0.8802.1.1.2.1.4.1.1.5	Yes
lldpRemPortIdSubtype	1.0.8802.1.1.2.1.4.1.1.6	Yes
lldpRemPortId	1.0.8802.1.1.2.1.4.1.1.7	Yes
lldpRemPortDesc	1.0.8802.1.1.2.1.4.1.1.8	Yes
lldpRemSysName	1.0.8802.1.1.2.1.4.1.1.9	Yes
lldpRemSysDesc	1.0.8802.1.1.2.1.4.1.1.10	Yes

Object	Object identifier	Supported?
lldpRemSysCapSupported	1.0.8802.1.1.2.1.4.1.1.11	Yes
lldpRemSysCapEnabled	1.0.8802.1.1.2.1.4.1.1.12	Yes

lldpRemManAddrTable

The following table contains one or more rows per-management address information on the remote system learned on a particular port contained in the local chassis known to the agent.

Object	Object identifier	Supported?
lldpRemManAddrSubtype	1.0.8802.1.1.2.1.4.2.1.1	Yes
lldpRemManAddr	1.0.8802.1.1.2.1.4.2.1.2	Yes
lldpRemManAddrIfSubtype	1.0.8802.1.1.2.1.4.2.1.3	Yes
lldpRemManAddrIfId	1.0.8802.1.1.2.1.4.2.1.4	Yes
lldpRemManAddrOID	1.0.8802.1.1.2.1.4.2.1.5	Yes

lldpRemUnknownTLVTable

The following table contains information about an incoming TLV that is not recognized by the receiving LLDP agent.

Object	Object identifier	Supported?
lldpRemUnknownTLVType	1.0.8802.1.1.2.1.4.3.1.1	Yes
lldpRemUnknownTLVInfo	1.0.8802.1.1.2.1.4.3.1.2	Yes

lldpRemOrgDefInfoTable

The following table contains one or more rows per physical network connection that advertises the organizationally-defined information.

Object	Object identifier	Supported?
lldpRemOrgDefInfoOUI	1.0.8802.1.1.2.1.4.4.1.1	Yes
lldpRemOrgDefInfoSubtype	1.0.8802.1.1.2.1.4.4.1.2	Yes
lldpRemOrgDefInfoIndex	1.0.8802.1.1.2.1.4.4.1.3	Yes
lldpRemOrgDefInfo	1.0.8802.1.1.2.1.4.4.1.4	Yes

LLDP-EXT-DOT1-MIB

The following tables in the LLDP-EXT-DOT1-MIB are supported on the XMR Series, MLX Series, MLX Series, CES 2000 Series, and CER 2000 Series devices.

- lldpXdot1ConfigPortVlanTable
- lldpXdot1ConfigVlanNameTable
- lldpXdot1ConfigProtoVlanTable
- lldpXdot1ConfigProtocolTable
- lldpXdot1LocTable

- lldpXdot1LocProtoVlanTable
- lldpXdot1LocVlanNameTable
- lldpXdot1LocProtocolTable
- lldpXdot1RemTable
- lldpXdot1RemProtoVlanTable
- lldpXdot1RemVlanNameTable
- lldpXdot1RemProtocolTable

lldpXdot1ConfigPortVlanTable

The following table lists the object that controls the selection of LLDP Port VLAN-ID TLVs to be transmitted on the individual ports.

Object	Object identifier	Supported?
lldpXdot1ConfigPortVlanTxEnable	1.0.8802.1.1.2.1.5.32962.1.1.1.1.1	Yes

lldpXdot1ConfigVlanNameTable

The following table lists the object that controls the selection of LLDP VLAN name TLV instances to be transmitted on the individual ports.

Object	Object identifier	Supported?
lldpXdot1ConfigVlanNameTxEnable	1.0.8802.1.1.2.1.5.32962.1.1.2.1.1	Yes

lldpXdot1ConfigProtoVlanTable

The following table lists the object that controls selection of LLDP Port and Protocol VLAN-ID TLV instances to be transmitted on the individual ports.

Object	Object identifier	Supported?
lldpXdot1ConfigProtoVlanTxEnable	1.0.8802.1.1.2.1.5.32962.1.1.3.1.1	Yes

lldpXdot1ConfigProtocolTable

The following table lists the object that controls the selection of LLDP TLV instances to be transmitted on the individual ports.

Object	Object identifier	Supported?
lldpXdot1ConfigProtocolTxEnable	1.0.8802.1.1.2.1.5.32962.1.1.4.1.1	Yes

lldpXdot1LocTable

The following table contains one row per port for IEEE 802.1 organizationally-defined LLDP extension on the local system known to the agent.

Object	Object identifier	Supported?
lldpXdot1LocPortVlanId	1.0.8802.1.1.2.1.5.32962.1.2.1.1.1	Yes

lldpXdot1LocProtoVlanTable

The following table contains one or more rows per-port and per-protocol VLAN information about the local system.

Object	Object identifier	Supported?
lldpXdot1LocProtoVlanId	1.0.8802.1.1.2.1.5.32962.1.2.2.1.1	Yes
lldpXdot1LocProtoVlanSupported	1.0.8802.1.1.2.1.5.32962.1.2.2.1.2	Yes
lldpXdot1LocProtoVlanEnabled	1.0.8802.1.1.2.1.5.32962.1.2.2.1.3	Yes

lldpXdot1LocVlanNameTable

The following table contains one or more rows per IEEE 802.1Q VLAN name information on the local system known to the agent.

Object	Object identifier	Supported?
lldpXdot1LocVlanId	1.0.8802.1.1.2.1.5.32962.1.2.3.1.1	Yes
lldpXdot1LocVlanName	1.0.8802.1.1.2.1.5.32962.1.2.3.1.2	Yes

lldpXdot1LocProtocolTable

The following table contains one or more rows per-protocol identity information on the local system known to the agent.

Object	Object identifier	Supported?
lldpXdot1LocProtocolIndex	1.0.8802.1.1.2.1.5.32962.1.2.4.1.1	Yes
lldpXdot1LocProtocolId	1.0.8802.1.1.2.1.5.32962.1.2.4.1.2	Yes

lldpXdot1RemTable

The following table contains one or more rows per-physical network connection known to the agent.

Object	Object identifier	Supported?
lldpXdot1RemPortVlanId	1.0.8802.1.1.2.1.5.32962.1.3.1.1.1	Yes

lldpXdot1RemProtoVlanTable

The following table contains one or more rows per-port and per-protocol VLAN information about the remote system received on the particular port.

Object	Object identifier	Supported?
lldpXdot1RemProtoVlanId	1.0.8802.1.1.2.1.5.32962.1.3.2.1.1	Yes
lldpXdot1RemProtoVlanSupported	1.0.8802.1.1.2.1.5.32962.1.3.2.1.2	Yes
lldpXdot1RemProtoVlanEnabled	1.0.8802.1.1.2.1.5.32962.1.3.2.1.3	Yes

lldpXdot1RemVlanNameTable

The following table contains one or more rows per IEEE 802.1Q VLAN name information about the remote system received on the particular port.

Object	Object identifier	Supported?
lldpXdot1RemVlanId	1.0.8802.1.1.2.1.5.32962.1.3.3.1.1	Yes
lldpXdot1RemVlanName	1.0.8802.1.1.2.1.5.32962.1.3.3.1.2	Yes

lldpXdot1RemProtocolTable

The following table contains one or more rows per protocol information about the remote system received on the particular port.

Object	Object identifier	Supported?
lldpXdot1RemProtocolIndex	1.0.8802.1.1.2.1.5.32962.1.3.4.1.1	Yes
lldpXdot1RemProtocolId	1.0.8802.1.1.2.1.5.32962.1.3.4.1.2	Yes

LLDP-EXT-DOT3-MIB

The following tables in the LLDP-EXT-DOT3-MIB are supported on the XMR Series, MLX Series, MLX Series, CES 2000 Series, and CER 2000 Series devices.

- lldpXdot3PortConfigTable
- lldpXdot3LocPortTable
- lldpXdot3LocPowerTable
- lldpXdot3LocLinkAggTable
- lldpXdot3LocMaxFrameSizeTable
- lldpXdot3RemPortTable
- lldpXdot3RemPowerTable
- lldpXdot3RemLinkAggTable
- lldpXdot3RemMaxFrameSizeTable

lldpXdot3PortConfigTable

The following table lists the objects that controls the selection of LLDP TLVs to be transmitted on the individual ports.

Object	Object identifier	Supported?
lldpXdot3PortConfigTLVsTxEnable	1.0.8802.1.1.2.1.5.4623.1.1.1.1.1	Yes

lldpXdot3LocPortTable

The following table contains one row per port of Ethernet port information (as part of the LLDP 802.3 organizational extension) on the local system known to the agent.

Object	Object identifier	Supported?
lldpXdot3LocPortAutoNegSupported	1.0.8802.1.1.2.1.5.4623.1.2.1.1.1	Yes
lldpXdot3LocPortAutoNegEnabled	1.0.8802.1.1.2.1.5.4623.1.2.1.1.2	Yes
lldpXdot3LocPortAutoNegAdvertisedCap	1.0.8802.1.1.2.1.5.4623.1.2.1.1.3	Yes
lldpXdot3LocPortOperMauType	1.0.8802.1.1.2.1.5.4623.1.2.1.1.4	Yes

lldpXdot3LocPowerTable

The following table contains one row per port of power Ethernet information (as part of the LLDP 802.3 organizational extension) on the local system known to the agent.

Object	Object identifier	Supported?
lldpXdot3LocPowerPortClass	1.0.8802.1.1.2.1.5.4623.1.2.2.1.1	Yes
lldpXdot3LocPowerMDISupported	1.0.8802.1.1.2.1.5.4623.1.2.2.1.2	Yes
lldpXdot3LocPowerMDIEnabled	1.0.8802.1.1.2.1.5.4623.1.2.2.1.3	Yes
lldpXdot3LocPowerPairControlable	1.0.8802.1.1.2.1.5.4623.1.2.2.1.4	Yes
lldpXdot3LocPowerPairs	1.0.8802.1.1.2.1.5.4623.1.2.2.1.5	Yes
lldpXdot3LocPowerClass	1.0.8802.1.1.2.1.5.4623.1.2.2.1.6	Yes

lldpXdot3LocLinkAggTable

The following table contains one row per port of link aggregation information (as part of the LLDP 802.3 organizational extension) on the local system known to the agent.

Object	Object identifier	Supported?
lldpXdot3LocLinkAggStatus	1.0.8802.1.1.2.1.5.4623.1.2.3.1.1	Yes
lldpXdot3LocLinkAggPortId	1.0.8802.1.1.2.1.5.4623.1.2.3.1.2	Yes

lldpXdot3LocMaxFrameSizeTable

The following table contains one row per port of maximum frame size information (as part of the LLDP 802.3 organizational extension) on the local system known to the agent.

Object	Object identifier	Supported?
lldpXdot3LocMaxFrameSize	1.0.8802.1.1.2.1.5.4623.1.2.4.1.1	Yes

lldpXdot3RemPortTable

The following table contains Ethernet port information (as part of the LLDP 802.3 organizational extension) of the remote system.

Object	Object identifier	Supported?
lldpXdot3RemPortAutoNegSupported	1.0.8802.1.1.2.1.5.4623.1.3.1.1.1	Yes
lldpXdot3RemPortAutoNegEnabled	1.0.8802.1.1.2.1.5.4623.1.3.1.1.2	Yes
lldpXdot3RemPortAutoNegAdvertisedCap	1.0.8802.1.1.2.1.5.4623.1.3.1.1.3	Yes
lldpXdot3RemPortOperMauType	1.0.8802.1.1.2.1.5.4623.1.3.1.1.4	Yes

lldpXdot3RemPowerTable

The following table contains Ethernet power information (as part of the LLDP 802.3 organizational extension) of the remote system.

Object	Object identifier	Supported?
lldpXdot3RemPowerPortClass	1.0.8802.1.1.2.1.5.4623.1.3.2.1.1	Yes

Object	Object identifier	Supported?
lldpXdot3RemPowerMDISupported	1.0.8802.1.1.2.1.5.4623.1.3.2.1.2	Yes
lldpXdot3RemPowerMDIEnabled	1.0.8802.1.1.2.1.5.4623.1.3.2.1.3	Yes
lldpXdot3RemPowerPairControlable	1.0.8802.1.1.2.1.5.4623.1.3.2.1.4	Yes
lldpXdot3RemPowerPairs	1.0.8802.1.1.2.1.5.4623.1.3.2.1.5	Yes
lldpXdot3RemPowerClass	1.0.8802.1.1.2.1.5.4623.1.3.2.1.6	Yes

lldpXdot3RemLinkAggTable

The following table contains port link aggregation information (as part of the LLDP 802.3 organizational extension) of the remote system.

Object	Object identifier	Supported?
lldpXdot3RemLinkAggStatus	1.0.8802.1.1.2.1.5.4623.1.3.3.1.1	Yes
lldpXdot3RemLinkAggPortId	1.0.8802.1.1.2.1.5.4623.1.3.3.1.2	Yes

lldpXdot3RemMaxFrameSizeTable

The table contains one row per port of maximum frame size information (as part of the LLDP 802.3 organizational extension) of the remote system.

Object	Object identifier	Supported?
lldpXdot3RemMaxFrameSize	1.0.8802.1.1.2.1.5.4623.1.3.4.1.1	Yes

Registration MIB Definition

This section describes the Registration objects that identify the Extreme product that is being managed. The following table presents the objects for product registration. The sysOID will return one of these values.

Object name and identifier	Description
snNetIronXMR16000 brcdIp.1.3.41.1	NetIron XMR-16000 Family
snNIXMR16000Router brcdIp.1.3.41.1.2	NetIron XMR-16000 Router
snNetIronXMR8000 brcdIp.1.3.41.2	NetIron XMR-8000 Family
snNIXMR8000Router brcdIp.1.3.41.2.2	NetIron XMR-8000 Router
snNetIronXMR4000 brcdIp.1.3.41.3	NetIron XMR-4000 Family
snNIXMR4000Router brcdIp.1.3.41.3.2	NetIron XMR-4000 Router
snNetIronXMR32000 brcdIp.1.3.41.4	NetIron XMR-32000 Family
snNetIronXMR32000Router brcdIp.1.3.41.4.2	NetIron XMR-32000 Router
snNetIronMLX16Router brcdIp.1.3.44.1.2	Extreme NetIron MLX-16 Router
snNetIronMLX8Router brcdIp.1.3.44.2.2	Extreme NetIron MLX-8 Router
snNetIronMLX4Router brcdIp.1.3.44.3.2	Extreme NetIron MLX-4 Router
snNetIronMLX-32Router brcdIp.1.3.44.4	Extreme NetIron MLX-32 Router
snCes2024F brcdIp.1.3.49.1	Extreme NetIron CES 2024F Switch
snCes2024C brcdIp.1.3.49.2	Extreme NetIron CES 2024C Switch
snCes2048F brcdIp.1.3.49.3	Extreme NetIron CES 2048F Switch
snCes2048C brcdIp.1.3.49.4	Extreme NetIron CES 2048C Switch
snCes2048FX brcdIp.1.3.49.5	Extreme NetIron CES 2048FX Switch
snCes2048CX brcdIp.1.3.49.6	Extreme NetIron CES 2048CX Switch
snCes2024F4X brcdIp.1.3.49.7	Extreme NetIron CES 2024F-4X Switch
snCes2024C4X brcdIp.1.3.49.8	Extreme NetIron CES 2024C-4X Switch
snCer2024F brcdIp.1.3.51.1	Extreme NetIron CER 2024F Switch
snCer2024C	Extreme NetIron CER 2024C Switch

Object name and identifier	Description
brcdIp.1.3.51.2	
snCer2048F brcdIp.1.3.51.3	Extreme NetIron CER 2048F Switch
snCer2048C brcdIp.1.3.51.4	Extreme NetIron CER 2048C Switch
snCer2048FX brcdIp.1.3.51.5	Extreme NetIron CER 2048FX Switch
snCer2048CX brcdIp.1.3.51.6	Extreme NetIron CER 2048CX Switch
snCer2024F4X brcdIp.1.3.51.7	Extreme NetIron CER 2024F-4X Switch
snCer2024C4X brcdIp.1.3.51.8	Extreme NetIron CER 2024C-4X Switch
snExtremeMLXeFamily brcdIp.1.3.55	MLX Series Core Router family
snExtremeMLXeSlot16 brcdIp.1.3.55.1	MLXe-16 slot chassis family
snExtremeMLXeSlot16Router brcdIp.1.3.55.1.2	MLXe-16 slot Router
snExtremeMLXeSlot8 brcdIp.1.3.55.2	MLXe-8 slot chassis family
snExtremeMLXeSlot8Router brcdIp.1.3.55.2.2	MLXe-8 slot Router
snExtremeMLXeSlot4 brcdIp.1.3.55.3	MLXe-4 slot chassis family
snExtremeMLXeSlot4Router brcdIp.1.3.55.3.2	MLXe-4 slot Router
snExtremeMLXeSlot32 brcdIp.1.3.55.4	MLXe-32 slot chassis family
snExtremeMLXeSlot32Router brcdIp.1.3.55.4.2	MLXe-32 slot Router

Agent MIB Definition

General chassis information

The following objects apply to all devices.

Name, OID, and syntax	Access	Description
snChasType brcdIp.1.1.1.1.1 Syntax: DisplayString **NOTE** This object is not supported on the MLX Series, MLX Series, XMR Series, CES 2000 Series, and CER 2000 Series devices.	Read-only	Shows the type of device being managed. This object can have up to 128 characters. Possible value: 1
snChasSerNum brcdIp.1.1.1.1.2 Syntax: DisplayString	Read-only	Shows the serial number of the chassis stored in the EEPROM of the device. This is not the serial number on the label of the device. If the chassis serial number is available, it is the lowest three octets of the lowest MAC address in the device. For example, if the lowest MAC address is 00e0 52a9 2b20, then the serial number of the chassis is a92b20. If the serial number is unknown or unavailable, then the value is a null string. This object can have up to 128 characters.

Fan status

Name, OID, and syntax	Access	Description
snChasFanStatus brcdIp.1.1.1.1.4 Syntax: Integer32	Read-only	Description
snChasMainBrdDescription brcdIp.1.1.1.1.5 Syntax: DisplayString	Read-only	Shows the status of fans in stackable products. There are six fans per device. This is a packed bit string. Each bit shows one of the following values: • 0 - Fan failure.

Name, OID, and syntax	Access	Description
NOTE This object is not supported on the MLX Series, MLX Series, XMR Series, CES 2000 Series, and CER 2000 Series devices.		• 1 - Fan is operational The following shows the meaning of each bit: **Bit position Meaning** 6 - 31 Reserved 5 Fan6 status 4 Fan5 status 3 Fan4 status 2 Fan3 status 1 Fan2 status 0 Fan1 status (Bit 0 is the least significant bit.)
snChasMainPortTotal brcdIp.1.1.1.1.6 Syntax: Integer NOTE This object is not supported on the MLX Series, MLX Series, XMR Series, CES 2000 Series, and CER 2000 Series devices.	Read-only	Shows the main board. This object can have up to 128 characters.
snChasExpBrdDescription brcdIp.1.1.1.1.7 Syntax: DisplayString NOTE This object is not supported on the MLX Series, MLX Series, XMR Series, CES 2000 Series, and CER 2000 Series devices.	Read-only	Shows the description of the expansion board. This object can have up to 128 characters.
snChasExpPortTotal brcdIp.1.1.1.1.8 Syntax: Integer NOTE This object is not supported on the MLX Series, MLX Series, XMR Series, CES 2000 Series, and CER 2000 Series devices.	Read-only	Shows the total number of ports on the expansion board. Valid values: 1 - 24
snChasStatusLeds brcdIp.1.1.1.1.9 Syntax: Integer NOTE This object is not supported on the MLX Series, MLX Series, XMR Series, CES 2000 Series, and CER 2000 Series devices.	Read-only	This object is replaced by the object snAgentBrdStatusLedString. This status LED on the front panel of a device shows the status of the link. It is represented by one bit. There can be up to 32 bits per slot. Status can be one of the following: • 0 - Link off • 1 - Link on
snChasTrafficLeds brcdIp.1.1.1.1.10	Read-only	This object is replaced by the object snAgentBrdTrafficLedString.

Name, OID, and syntax	Access	Description
Syntax: Integer **NOTE** This object is not supported on the MLX Series, MLX Series, XMR Series, CES 2000 Series, and CER 2000 Series devices.		This traffic LED on the front panel of a device shows the traffic status. It is represented by one bit. There can be up to 32 bits per slot. Status can be one of the following: • 0 - No traffic • 1 - Traffic is flowing
snChasMediaLeds brcdIp.1.1.1.1.11 Syntax: Integer **NOTE** This object is not supported on the MLX Series, MLX Series, XMR Series, CES 2000 Series, and CER 2000 Series devices.	Read-only	This object is replaced by the object snAgentBrdMediaLedString. It is represented by one bit. There can be up to 32 bits per slot. Status can be one of the following: • 0 - Half-duplex • 1 - Full-duplex
snChasEnablePwrSupplyTrap brcdIp.1.1.1.1.12 Syntax: Integer	Read-write	Indicates if the SNMP agent process has been enabled to generate power supply failure traps: • disabled(0) • enabled(1) Default: enabled(1)
snChasMainBrdId brcdIp.1.1.1.1.13 Syntax: Octet String **NOTE** This object is not supported on the MLX Series, MLX Series, XMR Series, and CES 2000 Series, CER 2000 Series devices.	R-only	Applies to all stackable products. It identifies the main board. This is an encoded octet string. Each octet provides the following information: **Octet 0** - Identifies the format of this octet string. **Octets 1 and 2:** **If Octet 0 has a value of 1, then:** **Octet 1** - Product type: • FIWG - 0x57 • FIBB - 0x42 • FIMLS - 0x4D • NI - 0x4E • TI - 0x54 • TIRT - 0x52 **Octet 2** - Board type: • POWERPC - 1 • ALPHA - 2 The length of the octet string is 27. **If Octet 0 has a value of 2, then:** **Octet 1** - Product type: • BI_WG - 0x57 • BI_BB - 0x42 • BI_NI - 0x4E • NI_M4 - 0x4D • BI_SLB - 0x53 **Octet 2** - Module type: • MASTER_FIBER_8G - 0x0 • MASTER_FIBER_4G - 0x1

Name, OID, and syntax	Access	Description
		• MASTER_COPPER_16 - 0x2 • FI_MASTER_FIBER_2G - 0x4 • FI_MASTER_FIBER_4G - 0x5 • MASTER_COPPER_8G - 0x6 • FI_MASTER_FIBER_8G - 0x7 • MASTER_COPPER_12_2 - 0x9 • MASTER_FIBER_2G - 0x12 • MASTER_FIBER_0G - 0x14 • FI_MASTER_COPPER_8G - 0x1D • FI_MASTER_COPPER_4G - 0x1F • FI_MASTER_COPPER_2G - 0x20 • MASTER_COPPER_4G - 0x21 • MASTER_COPPER_2G - 0x22 • MASTER_M4_8G - 0x23 • MASTER_M4_4G - 0x24 • MASTER_M4_0G - 0x26 The length of the octet string is 28. **Octet 3** - Processor type (both format version 1 and 2): • PVR_M603 - 3 • PVR_M604 - 4 • PVR_M603E - 6 • PVR_M603EV - 7 • PVR_M604E - 9 **Octet 4 to Octet 5** - Processor speed in MHz (both format version 1 and 2) **Octet 6** - MAC type: • MAC_NONE - 0 • MAC_SEEQ_10_100 - 1 • MAC_DEC_10_100 - 2 • PHY_ICS - 3 • MAC_XI0GMAC_1000 - 4 • MAC_SEEQ_1000 - 5 • MAC_GMAC_1000 - 6 • MAC_VLSI_1000 - 7 **Octet 7** - PHY type (both format version 1 and 2): • PHY_NONE - 0 • PHY_QSI - 1 • PHY_BROADCOM - 2 • PHY_ICS - 3 • PHY_NATIONAL - 4 • PHY_LEVEL1 - 6 • PHY_LEVEL16 - 7 • PHY_LEVEL24 - 8 **Octet 8** - Port type: • COPPER - 0 • FIBER - 1

Name, OID, and syntax	Access	Description
		Octet 9 - Fiber port type (both format version 1 and 2): • NONFIBER - 0 • SX_FIBER - 1 • LX_FIBER - 2 • LHX_FIBER - 3 • LX_SX_FIBER - 4 • LHB_FIBER - 5 **Octet 10 to Octet 13** - DRAM size in KBytes (both format version 1 and 2) **Octet 14 to Octet 17** - Boot flash size in KBytes (both format version 1 and 2) **Octet 18 to Octet 21** - Code flash size in KBytes (both format version 1 and 2) **Octet 22 to Octet 27** - Serial number (both format version 1 and 2) **Octet 28** - Chassis backplane type (format version 1 only): This octet applies only if Octet 0 is equal to 1. • chassis4000 - 0x00 • chassis8000 - 0x04 • chassis15000 - 0x05 • Turbo8 - 0x07 (stack2)
snChasEnableFanTrap brcdIp.1.1.1.1.16 Syntax: Integer	Read-write	For chassis devices only. Indicates if the SNMP agent process has been enabled to generate fan failure traps: • disabled(0) • enabled(1) Default: enabled(1)
snChasIdNumber brcdIp.1.1.1.1.17 Syntax: DisplayString	Read-only	Shows the chassis identity number. This is used by inventory control. This is not the number on the label of the device. By default, this object displays a null string. This object can have up to 64 characters.
snChasActualTemperature brcdIp.1.1.1.1.18 Syntax: Integer **NOTE** This object is not supported on the MLX Series, MLX Series, XMR Series, CES 2000 Series, and CER 2000 Series devices. Instead use Fan status.	Read-only	Applies only to management modules with temperature sensors. Shows the temperature of the chassis. Each unit is 0.5° Celsius. **NOTE** If you are comparing this value to the value you get when you enter a **show chassis** command on the CLI, divide this value by 2. The result is the actual temperature you see in the CLI. This was done intentionally to represent tenth decimal values in SNMP, as SNMP can only report INTEGER values. Valid values: 110 - 250
snChasWarningTemperature brcdIp.1.1.1.1.19 Syntax: Integer **NOTE** This object is not supported on the MLX Series, MLX Series, XMR Series, CES 2000 Series, and CER 2000 Series devices. Instead use Fan status.	Read/write	Applies only to management modules with temperature sensors. Shows the threshold for the warning temperature. When the actual temperature exceeds this value, the switch sends a temperature warning trap. Each unit is 0.5° Celsius. Valid values: 0 - 250

Name, OID, and syntax	Access	Description
		NOTE If you compare the value with the value while entering the **show chassis** command and divide the value by 2. The result is the warning (or shutdown) temperature. This is done intentionally to represent the tenth decimal values in the SNMP, as the SNMP can only report the INTEGER values.
snChasShutdownTemperature brcdIp.1.1.1.1.20 Syntax: Integer NOTE This object is not supported on the MLX Series, MLX Series, XMR Series, CES 2000 Series, and CER 2000 Series devices. Instead use Fan status.	Read/write	Applies only to management modules with temperature sensors. Shows the temperature threshold that triggers the device to shut down. When the actual temperature exceeds this value, the switch shuts down a portion of the hardware to cool down the device. Each unit is 0.5° Celsius. Valid values: 0 - 250 NOTE If you compare the value with the value while entering the **show chassis** command and divide the value by 2. The result is the warning (or shutdown) temperature. This is done intentionally to represent the tenth decimal values in the SNMP, as the SNMP can only report the INTEGER values.
snChasEnableTempWarnTrap brcdIp.1.1.1.1.21 Syntax: Integer	Read-write	Indicates if the SNMP agent process has been enabled to generate temperature warning traps: • disabled(0) • enabled(1) Default: enabled(1)

Flash card

The following objects manage the flash cards in all the devices.

Name, OID, and syntax	Access	Description
snChasFlashCard brcdIp.1.1.1.1.22 Syntax: Integer32	Read-only	Applies only to M4 management modules. This object is a bit array that contains the flash card status. This is a packed bit string. The status of each flash card is encoded into one bit. There can be up to two flash cards. The bits are: • 2 to 31 - Reserved • 1 - Flash card 2 status • 0 - Flash card 1 status (Bit 0 is the least significant bit.) Flash card status can be one of the following: • 0 - Flash card is absent • 1 - Flash card is present
snChasFlashCardLeds brcdIp.1.1.1.1.23 Syntax: Integer32	Read-only	Shows the status of LEDs on a flash card. Each bit shows one of the following: • 0 - Flash card is off • 1 - Flash card is on

Name, OID, and syntax	Access	Description
snChasNumSlots brcdIp.1.1.1.1.24 Syntax: Integer32	Read-only	Shows the number of slots in the chassis.
snChasArchitectureType brcdIp.1.1.1.1.25 Syntax: Integer	Read-only	Shows the architecture type: • stackable(1) - old stackable • bigIron(2) • terathon(3) • fifthGen(4)
snChasProductType brcdIp.1.1.1.1.26 Syntax: Integer	Read-only	Shows the product type. The following shows the meaning of each bit: • invalid(0) • BigIron MG8(1) • NetIron 40G(2) • NetIron IMR 640(3) • BigIron RX 800(4) • XMR Series router 16000(5) • BigIron RX 400(6) • XMR Series router 8000(7) • BigIron RX 200(8) • XMR Series router 4000(9) • MLX Series 32(13) • XMR Series router 32000(14) • BigIron RX-32(15) • niCES2000Series(16) • niCER2000Series(17) • brMlxESlot4(18) - This value is supported only on the Extreme NetIron devices. • brMlxESlot8(19) - This value is supported only on the Extreme NetIron devices. • brMlxESlot16(20) - This value is supported only on the Extreme NetIron devices. • brMlxESlot32(21) - This value is supported only on the Extreme NetIron devices.
snChasSystemMode brcdIp.1.1.1.1.27 Syntax: Integer	Read-only	This object displays the mode of the MLX Series, XMR Series, or MLX Series devices. It returns one of the following values: • xmr(1) • mlx(2) Values are returned as follows: • If snChasProductType is niXmr4000, niXmr8000, niXmr160000, or niXmr32000, then this object returns xmr(1). • if snChasProductType is niMlx4, niMlx8, niMlx16, or niMlx32 then this object returns mlx(2).

Name, OID, and syntax	Access	Description
		• If snChasProductType is brMlxE4, brMlxE8, brMlxE16, or brMlxE32 this object returns either xmr(1) or mlx(2) depending on the mode of the system.
snChasFactoryPartNumber brcdIp.1.1.1.1.28 Syntax: DisplayString	Read-only	This object displays the factory part number assigned by the manufacturer.
snChasFactorySerialNumber brcdIp.1.1.1.1.29 Syntax: DisplayString	Read-only	This object displays the factory serial number assigned by the manufacturer.
snChasGlobalIgnoreShutdownTemperature brcdIp.1.1.1.1.30 Syntax: Integer	Read-write	Enables or disables the temperature threshold shutdown (Battleshort mode) at global level. Able to fetch the temperature threshold shutdown (Battleshort mode) status enabled (1) or disabled (0) at global level. NOTE The device allow either to enable global battle short mode or unit specific battle short mode at a time not for both configuration. The valid values are: • enable(1) • disable(0) The default value is disable(0). SNMP WALK and SNMP GET operations of the OID gives the default value as zero for the unsupported platforms.

Power supply table

The following table applies to the power supply in all products.

Name, OID, and syntax	Access	Description
snChasPwrSupplyTable brcdIp.1.1.1.2.1	None	A table containing power supply information. Only installed power supplies appear in the table.
snChasPwrSupplyIndex brcdIp.1.1.1.2.1.1.1 Syntax: Integer32	Read-only	The index to the power supply table.
snChasPwrSupplyDescription brcdIp.1.1.1.2.1.1.2 Syntax: DisplayString	Read-only	The power supply description. For example, you may see the description, “right side power supply”. This object can have up to 128 characters.
snChasPwrSupplyOperStatus brcdIp.1.1.1.2.1.1.3 Syntax: Integer	Read-only	The status of the power supply: • other(1) - Status is neither normal(2) or failure(3). • normal(2) • failure(3)

Stacking power supply table

The following table shows the status of a power supply on devices that support the stacking functionality.

NOTE
The objects in the table below are not supported on the Extreme NetIron devices.

Name, OID, and syntax	Access	Description
snChasPwrSupply2Table brcdIp.1.1.1.2.2	None	A table of power supply information for each unit. Only an installed power supply is displayed in a table row.
snChasPwrSupply2Unit brcdIp.1.1.1.2.2.1.1 Syntax: Integer	Read-only	The index to the power supply table.
snChasPwrSupply2Index brcdIp.1.1.1.2.2.1.2 Syntax: Integer	Read-only	The index to the power supply table that identifies the power supply unit.
snChasPwrSupply2Description brcdIp.1.1.1.2.2.1.3 Syntax: DisplayString	Read-only	The power supply description string. This description can have up to 128 characters.
snChasPwrSupply2OperStatus brcdIp.1.1.1.2.2.1.4 Syntax: Integer	Read-only	The power supply operation status: • other(1) • normal(2) • failure(3)

Fan table

The following table applies to the fans in all devices, except for devices that support the stacking functionality.

Name, OID, and syntax	Access	Description
snChasFanTable brcdIp.1.1.1.3.1	None	A table containing fan information. Only installed fans appear in the table.
snChasFanIndex brcdIp.1.1.1.3.1.1.1 Syntax: Integer32	Read-only	The index to the fan table.
snChasFanDescription brcdIp.1.1.1.3.1.1.2 Syntax: DisplayString	Read-only	The fan description. For example, you may see the description “left side panel, back fan”. This object can have up to 128 characters.
snChasFanOperStatus brcdIp.1.1.1.3.1.1.3 Syntax: Integer	Read-only	The status of the fan operation: • other(1) • normal(2) • failure(3)

Stacking fan table

The following table shows the fan status for devices that support the stacking functionality.

Name, OID, and syntax	Access	Description
snChasFan2Table brcdIp.1.1.1.3.2 **NOTE** This object is not supported on the Extreme NetIron devices.	None	A table of fan information for each unit. Only an installed fan is displayed in a table row.
snChasFan2Unit brcdIp.1.1.1.3.2.1.1 Syntax: Integer	Read-only	The unit to the fan table.
snChasFan2Index brcdIp.1.1.1.3.2.1.2 Syntax: Integer	Read-only	The index to the fan table.
snChasFan2Description brcdIp.1.1.1.3.2.1.3 Syntax: DisplayString	Read-only	The fan description string. This description can have up to 128 characters.
snChasFan2OperStatus brcdIp.1.1.1.3.2.1.4 Syntax: Integer	Read-only	The fan operation status: • other(1) • normal(2) • failure(3)

Stacking chassis unit information

The following table manages the temperature for devices that supports the stacking functionality.

Name, OID, and syntax	Access	Description
snChasUnitTable brcdIp.1.1.1.4.1	None	A table of information for each unit in a stack. Only an active unit is displayed in a table row.
snChasUnitIndex brcdIp.1.1.1.4.1.1.1 Syntax: Integer32	Read-only	The index to the table.
snChasUnitSerNum brcdIp.1.1.1.4.1.1.2 Syntax: DisplayString	Read-only	The serial number of the unit. If the serial number is unknown or unavailable, then the value should be a zero length string. There can be up to 128 characters for the serial number.
snChasUnitNumSlots brcdIp.1.1.1.4.1.1.3 Syntax: Integer32	Read-only	Number of slots of the chassis for each unit.
snChasUnitActualTemperature brcdIp.1.1.1.4.1.1.4 Syntax: Integer **NOTE** This object is not supported on the MLX Series, MLX Series, XMR Series, CES 2000 Series, and CER 2000 Series devices.	Read-only	Temperature of the chassis. Each unit is 0.5° Celsius. This object applies only to management modules with temperature sensors in hardware. For management modules without temperature sensors, it returns "no-such-name". Values are from -110 through 250° Celsius.

Name, OID, and syntax	Access	Description
snChasUnitWarningTemperature brcdIp.1.1.1.4.1.1.5 Syntax: Integer NOTE This object is not supported on the MLX Series, MLX Series, XMR Series, CES 2000 Series, and CER 2000 Series devices.	Read-only	Actual temperature higher than the threshold value triggers the switch to send a temperature warning trap. Each unit is 0.5° Celsius. This object applies only to management modules with temperature sensors in hardware. For management modules without temperature sensors, it returns "no-such-name". Values are from 0 through 250° Celsius.
snChasUnitShutdownTemperature brcdIp.1.1.1.4.1.1.6 Syntax: Integer NOTE This object is not supported on the MLX Series, MLX Series, XMR Series, CES 2000 Series, and CER 2000 Series devices.	Read-only	Actual temperature higher than the threshold value will shut down a portion of the switch hardware to cool down the system. Each unit is 0.5° Celsius. This object applies only to management modules with temperature sensors in hardware. For management modules without temperature sensors, it returns "no-such-name". Values are from 0 through 250° Celsius.
snChasUnitPartNum brcdIp. 1.1.1.4.1.1.7 Syntax: DisplayString	Read-only	Indicates the part number of the chassis only for XMR Series, MLX Series, MLX Series devices. Nothing is displayed if the part number is unknown or unavailable.
snChasUnitIgnoreShutdownTemperature brcdIp.1.1.1.4.1.1.8 Syntax: Integer	Read-write	Enables or disables the temperature threshold shutdown (Battleshort mode) on the unit specific. Fetches the temperature threshold shutdown (Battleshort mode) status enabled (1) or disabled (0) on the unit specific. NOTE The device allow either to enable global battle short mode or unit specific battle short mode at a time not for both configuration. The default value is disabled(0). SNMP WALK and SNMP GET operations of the OID gives the default value as zero for the unsupported platforms.

Agent Groups

Agent global group

The following objects allow you to reload the agent.

Name, OID, and syntax	Access	Description
snAgReload brcdIp.1.1.2.1.1 Syntax: Integer	Read-write	Reboots the agent. The following values can only be read: • other(1) - Agent is in unknown or other state. • running(2) - Agent is running. • busy(4) - Reload is not allowed at this time as flash is busy. The following value can be written: • reset(3) - Do a hard reset. NOTE The agent returns a response before the action occurs. This object requires a password to be set for the snAgGblPassword object. User can disable the password using **no snmp-server pw-check** command.
snAgEraseNVRAM brcdIp.1.1.2.1.2 Syntax: Integer	Read-write	Erases the NVRAM of the agent. This object can have one of the following values: • normal(1) - NVRAM is not being erased. • error(2) - Either the erase operation failed or the flash memory is bad. • erasing(4) - NVRAM is being erased. If the process starts, you cannot set this object to erase(3) until the process is finished and the value of this object is either normal(1) or error(2). • busy(5) - Operation is not allowed at this time as flash is busy. The following value can be written: • erase(3) - Erase operation. The agent returns a response even before the erase operation is complete. The read values will be erased until the erase operation is finished. New erase requests will be rejected until an error(2) or normal(1) value is obtained.

Name, OID, and syntax	Access	Description
snAgWriteNVRAM brcdIp.1.1.2.1.3 Syntax: Integer	Read-write	Saves all configuration information to NVRAM of the agent. The following values can only be read: • normal(1) • error(2) - Operation failed or the flash is bad. • writing(4) - Agent is writing to NVRAM flash. • busy(5) - Operation is not allowed at this time as flash is busy. The following value can be written: • write(3) - Write operation. The agent returns a response even before the write operation is complete. The read values will be written until the write operation is finished. New write requests will be rejected until an error(2) or normal(1) value is obtained. This object requires a password to be set for the snAgGblPassword object.
snAgConfigFromNVRAM brcdIp.1.1.2.1.4 Syntax: Integer	Read-write	Configures the switch from NVRAM of the agent. The following values can only be read: • normal(1) • error(2) - Operation failed or the flash is bad. • configing(4) - Configuring from NVRAM flash is in process. • busy(5) - Operation is not allowed at this time as flash is busy. The following value can be written: • config(3) - Do configuration. The agent returns a response after configuration is done. This object requires a password to be set for the snAgGblPassword object. NOTE The object snAgConfigFromNVRAM is obsolete and it is not supported on any of the NetIron devices.

Image and configuration file download and upload

The following objects manage file downloads and uploads. They are available in all devices.

When uploading or downloading configuration files to and from the TFTP server using SNMP, check for the following:

- If the SNMP password check is enabled on the device, the object must be sent with the following information in the same PDU as the TFTP objects:
  - If AAA is used for SNMP authentication and the authentication method is enable or line, then the value of snAgGlbPassword must be in cleartext format.
  - If AAA is used for SNMP authentication and the authentication method is local, RADIUS, Telnet, TACACS, or TACACS+, then the value of snAgGlbPassword must be in the *user password* format. The space between *user* and *password* is the delimiter.
  - If AAA is not used for authentication, then the value of snAgGlbPassword for the enable password must be in cleartext format.
- Make sure that the user has administrative access (privilege=0) on the device; otherwise, the user will not be able to upload files to the TFTP server.

NOTE
An atomic set of snAgImgLoad, snAgImgFname, snAgTftpServerAddrType and snAgTftpServerAddr is required for a successful download or upload.

Name, OID, and syntax	Access	Description
snAgImgFname brcdIp.1.1.2.1.6 Syntax: DisplayString	Read-write	Shows the name of the image file, including path, that is currently associated with the system. When the object is not used, the value is blank. It can have up to 32 characters.
snAgImgLoad brcdIp.1.1.2.1.7 Syntax: Integer	Read-write	Downloads or uploads a new software image to the agent. Use one of the following values in an SNMP set: • uploadMPPrimary(19) - Uploads the primary image from the management processor flash memory to the TFTP server. • downloadMPPrimary(20) - Downloads the primary image from the TFTP server to management processor flash memory. • uploadMPSecondary(21) - Uploads the secondary image from the management processor flash memory to the TFTP server. • downloadMPSecondary(22) - Downloads the secondary image from the TFTP server to management processor flash memory. • downloadSPPrimary(24) - Downloads the primary image from the TFTP server to secondary processor flash memory. • downloadSPSecondary(25) - Downloads the secondary image from the TFTP server to secondary processor flash memory. • uploadMPBootROM(26) - Uploads the Boot from the management processor flash memory to the TFTP server. • downloadMPBootROM(27) - Downloads the Boot from flash image from the TFTP server to management processor flash memory. • uploadMPBootTFTP(28) - Uploads the Boot from TFTP image from management processor flash memory to the TFTP server. • downloadMPBootTFTP(29) - Downloads the Boot from TFTP image from the TFTP server to management processor flash memory. • uploadMPMonitor(30) - Uploads the Monitor image from management processor flash memory to the TFTP server.

Name, OID, and syntax	Access	Description
		• downloadMPMonitor(31) - Downloads the Monitor image from the TFTP server to management processor flash memory. • downloadSPBootROM(32) - Download the Boot image from the TFTP server to secondary processor flash memory . • downloadSPMonitor(33) - Download the monitor image from TFTP server to SP flash. The following messages may be displayed: • normal(1) • flashPrepareReadFailure(2) • flashReadError(3) • flashPrepareWriteFailure(4) • flashWriteError(5) • tftpTimeoutError(6) • tftpOutOfBufferSpace(7) • tftpBusy(8) • tftpRemoteOtherErrors(9) • tftpRemoteNoFile(10) • tftpRemoteBadAccess(11) • tftpRemoteDiskFull(12) • tftpRemoteBadOperation(13) • tftpRemoteBadId(14) • tftpRemoteFileExists(15) • tftpRemoteNoUser(16) • operationError(17) • loading(18) - The operation is in process. • uploadMPPrimary(19) • downloadMPPrimary(20) • uploadMPSecondary(21) • downloadMPSecondary(22) • tftpWrongFileType(23) • downloadSPPrimary(24) • downloadSPSecondary(25) • uploadMPBootROM(26) • downloadMPBootROM(27) • uploadMPBootTFTP(28) • downloadMPBootTFTP(29) • uploadMPMonitor(30) • downloadMPMonitor(31) • downloadSPBootROM(32) • downloadSPMonitor(33) This object requires a password to be set for the snAgGblPassword object.

Name, OID, and syntax	Access	Description
snAgCfgFname brcdIp.1.1.2.1.8 Syntax: DisplayString	Read-write	Shows the name of the configuration file, including its path, currently associated with the system. If there are multiple configuration files, the names are separated by semicolons (;). This object can have up to 32 characters.
snAgCfgLoad brcdIp.1.1.2.1.9 Syntax: Integer	Read-write	Downloads or uploads a configuration file to the agent. Use one of the following values for an SNMP set: • uploadFromFlashToServer(20) - Uploads the configuration file from the flash to the TFTP server. • downloadToFlashFromServer(21) - Downloads the configuration file from the TFTP server to flash. • uploadFromDramToServer(22) - Uploads the configuration file from the DRAM to the TFTP server. • downloadToDramFromServer(23) - Downloads the configuration file from the TFTP server to DRAM. • uploadFromFlashToNMS(24) - Uploads the configuration file from flash to the network management system. • downloadToFlashFromNMS(25) - Downloads the configuration file from the network management system to flash. • uploadFromDramToNMS(26) - Uploads the configuration file from DRAM to the network management system. • downloadToDramFromNMS(27) - Downloads the configuration file from the network management system to DRAM. The following values may be read: • normal(1) • flashPrepareReadFailure(2) • flashReadError(3) • flashPrepareWriteFailure(4) • flashWriteError(5) • tftpTimeoutError(6) • tftpOutOfBufferSpace(7) • tftpBusy(8) • tftpRemoteOtherErrors(9) • tftpRemoteNoFile(10) • tftpRemoteBadAccess(11) • tftpRemoteDiskFull(12) • tftpRemoteBadOperation(13) • tftpRemoteBadId(14) • tftpRemoteFileExists(15)

Name, OID, and syntax	Access	Description
		• tftpRemoteNoUser(16) • operationError(17) • loading(18) • tftpWrongFileType(29) • operationDoneWithNMS(28) • tftpWrongFileType(29) • downloadToDramFromServerOverwrite(30) The objects Image and configuration file download and upload and "snAgTftpServerIp" are required to allow the download or upload process to occur.No write requests is allowed while a download or upload process is in progress. The snAgCfgEosTable objects must be sent along in one PDU for network management systems to recognize values from (24) to (27).A separate write memory using the CLI or an SNMP "set snAgWriteNVRAM" is required to save the configuration to NVRAM.This object requires a password to be set for the snAgGblPassword object. NOTE The snAgTftpServerIp object is deprecated by the snAgTftpServerAddrType object and the snAgTftpServerAddr object supports both IPv4 and IPv6.
snAgTftpServerAddrType brcdIp.1.1.2.1.65 Syntax: IpAddress	Read-write	Shows the TFTP server IP address type. The supported address types are ipv4(1) and ipv6(2). The default address type is ipv4(1).
snAgTftpServerAddr brcdIp.1.1.2.1.66 Syntax: DisplayString	Read-write	Shows the TFTP server IP address.
snAgGblPasswordCheckMode brcdIp.1.1.2.1.68 Syntax: EnabledStatus	Read-only	When enabled all image- or file-related MIB object SET request PDUs must include the password using the snAgGblPassword object. • enabled(1) - The password checking for SNMP SET request is enabled. The default value is enabled(1). • disabled(2) - The password checking for SNMP SET request is disabled.

Default gateway IP address

The following table lists the MIB object for the default gateway IP address.

Name, OID, and syntax	Access	Description
snAgDefGwayIp brcdIp.1.1.2.1.10 Syntax: Integer **NOTE** This object is not supported on the MLX Series, MLX Series, XMR Series, CES 2000 Series, and CER 2000 Series devices.	Read-write	Shows the IP address of the default gateway router.

Configuration notes

When using the snAgGblPassword object in a Set operation, the following must be considered:

The device always insist on a password to be part of snAgGblPassword object. You can override this requirement by entering the **no snmp-server pw-check** command.

By default, the object uses the value of the **enable super-user** password configured on the device as the default password. To allow a device to use other authentication schemes, use the **aaa authen snmp-server default enable** | **local** | **none** command.

The **enable** option instructs the device to use the configured enable super-user password. If the enable super-user password is missing, then the device checks for the if implicit TACACS+ enable password. The device stores a previous (unrelated to SNMP) implicit enable operation result and remembers the enable password that was approved by TACACS+. You can enter the following command to use this method.

```
SnmpSet(snAgGblPassword.0="<enable-password>", snAgEraseNVRAM.0=3)
```

The **local** option instructs the device to use a configured local username and password value. You can enter the following SNMP command to use this method.

```
SnmpSet(snAgGblPassword.0="<username> <password>", snAgEraseNVRAM.0=3)
```

The **none** option instructs the device to ignore the value of snAgGblPassword and the authentication check will always pass. You can enter the following SNMP command to use this method.

```
SnmpSet(snAgGblPassword.0="<anything here>", snAgEraseNVRAM.0=3)
aaa authentication login default TACACS+
aaa authentication enable default TACACS+
aaa authentication enable implicit-user
```

The snAgGblPassword object must be set for the following objects:

- snAgCfgLoad
- snAgImgLoad
- snAgConfigFromNVRAM
- snAgEraseNVRAM
- snAgWriteNVRAM
- snAgGblTelnetPassword
- snAgReload
- snAgSystemLog

Usage notes on CPU utilization and system CPU utility table

There are three groups of CPU utilization MIB objects.

Group A consists of the following object and it is not to be used.

MIB object	OID
snAgGblCpuUtilData	brcdIp.1.1.2.1.35

The object in this group can display management module CPU utilization. The data it displays is from the last time that this object was read. If there is more than one management station reading the object, conflict occurs because every read resets the CPU utilization until the next read. It is recommended that this object not to be used.

Group B consists of the following objects.

MIB object	OID
snAgGblCpuUtil1SecAvg	brcdIp.1.1.2.1.50
snAgGblCpuUtil5SecAvg	brcdIp.1.1.2.1.51
snAgGblCpuUtil1MinAvg	brcdIp.1.1.2.1.52

Group B was created to resolve the multi-management stations issue of snAgGblCpuUtilData. These three objects are time-based. However, they only work for the management CPU utilization.

NOTE
The objects in Group B have been obsoleted on the XMR Series and MLX Series devices.

Use snAgentCpuUtilTable on the XMR Series and MLX Series devices.

Use snAgentCpuUtilTable if supported on a device instead of snAgGblCpuUtil1SecAvg, snAgGblCpuUtil5SecAvg, and snAgGblCpuUtil1MinAvg.

Group C consists of the snAgentCpu table.

MIB object	OID
snAgentCpu	brcdIp.1.1.2.11
snAgentCpuUtilTable	brcdIp.1.1.2.11.1
snAgentCpuUtilEntry	brcdIp.1.1.2.11.1.1
snAgentCpuUtilSlotNum	brcdIp.1.1.2.11.1.1.1
snAgentCpuUtilCpuId	brcdIp.1.1.2.11.1.1.2
snAgentCpuUtilInterval	brcdIp.1.1.2.11.1.1.3
snAgentCpuUtilValue NOTE This object is deprecated. Use the snAgentCpuUtilPercent and snAgentCpuUtil100thPercent objects for these devices.	brcdIp.1.1.2.11.1.1.4
snAgentCpuUtilPercent	brcdIp.1.1.2.11.1.1.5

MIB object	OID
NOTE Execute **cpu-usage on** command in the config mode, if MP CPU utilization is needed on the Extreme NetIron devices.	
snAgentCpuUtil100thPercent	brcdIp.1.1.2.11.1.1.6

The snAgentCpu table was created because switch families evolved from a single-CPU system to a multi-CPU system and CPU utilization information to non-management CPUs is required.

Image version

The following objects show information about software images in a device. These objects are available in all devices.

Name, OID, and syntax	Access	Description
snAgImgVer brcdIp.1.1.2.1.11 Syntax: DisplayString	Read-only	Shows the version of the running software. The software image file name is displayed in the following format. `major.minor.maintenance[letters]` It can have up to 32 characters.
snAgFlashImgVer brcdIp.1.1.2.1.12 Syntax: DisplayString	Read-only	Shows the version of the software image that has been saved in the local storage, such as the flash memory. The software image file name is displayed in the following format: `major.minor.maintenance[letters]` It can have up to 32 characters. If this file is unknown or not available, then this object displays a null string.
snAgGblIfIpAddr brcdIp.1.1.2.1.13 Syntax: Integer NOTE This object is not supported on the MLX Series, MLX Series, XMR Series, CES 2000 Series, and CER 2000 Series devices.	Read-write	Shows the IP address of the interface.
snAgGblIfIpMask brcdIp.1.1.2.1.14 Syntax: Integer NOTE This object is not supported on the MLX Series, MLX Series, XMR Series, CES 2000 Series, and CER 2000 Series devices.	Read-write	Shows the IP address mask of the interface.
snAgGblPassword brcdIp.1.1.2.1.15	Read-write	Shows the system security access password, which is used only for an SNMP-Set. An SNMP-Get will return a zero string.

Name, OID, and syntax	Access	Description
Syntax: DisplayString		If the **password-change any** command (the default) is configured on the device, then this object must be part of the SNMP Set operation on some critical SNMP objects. The value of this object depends on the authentication method for SNMP operation: • If there is no AAA authentication configuration for SNMP, then this object will have the enable super-user password. • If AAA authentication for SNMP is configured and has the leading method as "enable" or "line", this object will have the corresponding "enable" or "line" password. • If the switch has AAA authentication for SNMP operation, and the method specified is one of local, TACACS+, or RADIUS, this object will have the *username password* format with one space character between *username* and *password* . The maximum size allows concatenation of 48 octets of username and 48 octets of password, with one blank character Refer to Configuration notes on page 147 for more details. Valid values: Up to 48 octets
snAgGblDataRetrieveMode brcdIp.1.1.2.1.19 Syntax: Integer	Read-write	Retrieves the VLAN Table and Port-STP Table data as indicated by the selected mode. The mode can be one of the following: • nextbootCfg(0) - Retrieves the next boot configuration data. • operationalData(1) - Retrieves the current running data. Default: nextbootCfg(0)
snAgSystemLog brcdIp.1.1.2.1.20 Syntax: Octet String	Read-write	Indicates whether any network management system has login privileges. The agent allows only one network management system to be logged in. The value of this object consists of an Octet String. The following four bytes contain a secret code. The value of the first byte can be one of the following: • login(1) - Login for a network management system. • heartbeat(2) - A value for the login NMS periodically to check in; otherwise, the Agent automatically sets this object to logout(3) after a timeout period.

Name, OID, and syntax	Access	Description
		• logout(3) - A value for an NMS to log out. • changePassword(4) - A value for the login NMS to change the password, only if snAgGblPasswordChangeMode was configured to "anyMgmtEntity". • changeReadOnlyCommunity(5) - A value for the login NMS to change the read-only community string, only if snAgGblPasswordChangeMode was configured to "anyMgmtEntity". • changeReadWriteCommunity(6) - A value for the login NMS to change the read-write community string, only if snAgGblPasswordChangeMode was configured to "anyMgmtEntity". This object requires a password to be set for the snAgGblPassword object.
snAgGblEnableColdStartTrap brcdIp.1.1.2.1.21 Syntax: Integer	Read-write	Indicates if the SNMP agent process has been enabled to generate cold start traps: • disabled(0) • enabled(1) Default: enabled(1)
snAgGblEnableLinkUpTrap brcdIp.1.1.2.1.22 Syntax: Integer	Read-write	Indicates if the SNMP agent process has been enabled to generate link up traps: • disabled(0) • enabled(1) Default: enabled(1)
snAgGblEnableLinkDownTrap brcdIp.1.1.2.1.23 Syntax: Integer	Read-write	Indicates if the SNMP agent process has been enabled to generate link down traps: • disabled(0) • enabled(1) Default: enabled(1)
snAgGblPasswordChangeMode brcdIp.1.1.2.1.24 Syntax: Integer	Read-only	Specifies which management entity is allowed to change the "enable" password for the device. For security reasons, this object can only be modified using the device CLI. Valid values: • anyMgmtEntity(1) - Any SNMP management station, console command line interface, or Telnet command line interface can be used to change the password. • consoleAndTelnet(2) - The password can be changed using the console command line interface or the Telnet command line interface. • consoleOnly(3) - Only the console command line interface can be used. • telnetOnly(4) - Only the Telnet command line interface can be used.

Name, OID, and syntax	Access	Description
		Default: consoleAndTelnet(2)
snAgGblReadOnlyCommunity brcdIp.1.1.2.1.25 Syntax: DisplayString	Read-write	Allows you to configure SNMP read-only community strings for the device. This object can be used in an SNMP-Set, but not an SNMP-Get. Get returns a blank. Valid values: Up to 32 characters **NOTE** To use this object, make sure that "password-change any" has been configured in the device to allow passwords to be updated from SNMP or any method.
snAgGblReadWriteCommunity brcdIp.1.1.2.1.26 Syntax: DisplayString	Read-write	Allows you to configure SNMP read-write community strings for the device. This object can be used in an SNMP-Set, but not an SNMP-Get. Get will return a blank. Valid values: Up to 32 characters. **NOTE** To use this object, make sure that "password-change any" has been configured in the device to allow passwords to be updated from SNMP or any method.
snAgGblCurrentSecurityLevel brcdIp.1.1.2.1.27 Syntax: Integer	Read-only	Represents the current login security level (0 through 5). Each level of security requires a password to permit users for different system configurations. Levels are defined in the Image version object.
snAgGblSecurityLevelSet brcdIp.1.1.2.1.28 Syntax: Integer	Read-write	Shows the security level required to set an “enable” password. This security level can be from 0 through 5.
snAgGblLevelPasswordsMask brcdIp.1.1.2.1.29 Syntax: Integer32	Read-only	Shows the bitmap of level passwords, which were successfully assigned to the system: • Bit 0 - Level 0 = admin • Bit 4 - Level 4 = port configuration • Bit 5 - Level 5 = read only
snAgGblQueueOverflow brcdIp.1.1.2.1.30 Syntax: Integer	Read-only	The device queues are overflowing: • No(0) • Yes(1)
snAgGblBufferShortage brcdIp.1.1.2.1.31 Syntax: Integer	Read-only	There is a shortage in the device buffers: • No(0) • Yes(1)
snAgGblDmaFailure brcdIp.1.1.2.1.32 Syntax: Integer	Read-only	The device DMAs are in good condition: • No(0) • Yes(1)
snAgGblResourceLowWarning brcdIp.1.1.2.1.33 Syntax: Integer	Read-only	The device has low resources available: • No(0) • Yes(1)

Name, OID, and syntax	Access	Description
snAgGblExcessiveErrorWarning brcdIp.1.1.2.1.34 Syntax: Integer	Read-only	The device has excessive collision, FCS errors, alignment warnings, and other excessive warnings: • No(0) • Yes(1)
snAgGblCpuUtilData brcdIp.1.1.2.1.35 Syntax: Gauge	Read-only	The statistics collection of utilization of the CPU in the devices. Reading this object in the Extreme NetIron devices will reset all the counters. Therefore, it is not required to set the object to snAgGblUtilCollect.
snAgGblCpuUtilCollect brcdIp.1.1.2.1.36 Syntax: Integer	Read-write	Enables or disables the collection of CPU utilization statistics in a device. This can be one of the following: • enable(1) • disable(0)
snAgGblTelnetTimeout brcdIp.1.1.2.1.37 Syntax: Integer32	Read-write	Shows how many minutes a Telnet session can remain idle before it times out. Each value unit is one minute. The value of this object can be up to 240 minutes. A value of 0 means that the Telnet session never times out.
snAgGblEnableWebMgmt brcdIp.1.1.2.1.38 Syntax: Integer	Read-write	Enables or disables access to the device from the Web Management Interface: • disable(0) • enable(1)
snAgGblSecurityLevelBinding brcdIp.1.1.2.1.39 Syntax: Integer32	Read-only	After a network management system logs in to a device with a user ID and password, the privilege level assigned to that system is saved in this object. The privilege level can be one of the following: • Bit 0 - Level 0 = admin • Bit 4 - Level 4 = port configuration • Bit 5 - Level 5 = read only • 255 - Invalid binding
snAgGblEnableSLB brcdIp.1.1.2.1.40 Syntax: Integer **NOTE** This object is not supported on the MLX Series and CER 2000 Series devices.	Read-only	Enables or disables Server Load Balancing: • disable(0) • enable(1)
snAgSoftwareFeature brcdIp.1.1.2.1.41 Syntax: Octet String	Read-only	Contains a bit string representing the software feature of the running software image. Each bit can have one of the following values: • 0 - The feature is not available • 1 - The feature is available Bit 0 is the least significant bit of an octet, and bit 7 is the most significant bit of an octet: • Octet 0, bit 0 - RMON • Octet 0, bit 1 - IPX switching • Octet 0, bit 2 - Server Load Balancing

Name, OID, and syntax	Access	Description
		• Octet 0, bit 3 - Layer 3 filter in switch • Octet 0, bit 4 - IPX routing • Octet 0, bit 5 - AppleTalk routing • Octet 0, bit 6 - IP multicast routing • Octet 0, bit 7 - Local access control • Octet 1, bit 0 - BGP routing • Octet 1, bit 1 - Loopback interface • Octet 1, bit 2 - BigIron multi-management module • Octet 1, bit 3 - BigIron SYSIF II • Octet 1, bit 4 - BigIron POS support • Octet 1, bit 5 - AppleTalk cable VLAN • Octet 1, bit 6 - 64 subnet • Octet 1, bit 7 - multi-slot trunk • Octet 2, bit 0 - TACACS • Octet 2, bit 1 - Gigabit Ethernet port auto-negotiation mode • Octet 2, bit 2 - FSRP • Octet 2, bit 3 - Exodus requested OSPF enhancement • Octet 2, bit 4 - OSPF NSSA • Octet 2, bit 5 - POS • Octet 2, bit 6 - QoS • Octet 2, bit 7 - Single Span • Octet 3, bit 0 - Fast Span • Octet 3, bit 1 - Base Layer 3 • Octet 3, bit 2 - Static log buffer • Octet 3, bit 3 - Layer 2 POS • Octet 3, bit 4 - BI15K • Octet 3, bit 5 - Layer 2 ATM • Octet 3, bit 6 - ATM • Octet 3, bit 7 - NETFLOW • Octet 4, bit 0 - sFlow • Octet 4, bit 1 - GVRP • Octet 4, bit 2 - GARP • Octet 4, bit 3 - Dynamic trunk • Octet 4, bit 4 - IGC 8G • Octet 4, bit 5 - Rate limit • Octet 4, bit 6 - IPC rate limit • Octet 4, bit 7 - MPLS • Octet 5, bit 0 - IS-IS • Octet 5, bit 1 - Link aggregation • Octet 5, bit 2 - Port dual mode • Octet 5, bit 3 - Private VLAN • Octet 5, bit 4 - MBGP • Octet 5, bit 5 - IPV6 protocol VLAN • Octet 5, bit 6 - X10G • Octet 6, bit 0 - FDP

Name, OID, and syntax	Access	Description
		• Octet 6, bit 1 - Port tag • Octet 6, bit 2 - Wireless capable • Octet 6, bit 3 - snSwPortVlanId object has changed from read-only to read-write • Octet 6, bit 4 - LLDP Additional bits are added for new features. Check the MIB file for the software version you are running.
snAgGblEnableModuleInsertedTrap brcdIp.1.1.2.1.42 Syntax: Integer	Read-write	Indicates if the SNMP agent process has been enabled to generate traps for hardware modules that have been inserted in the chassis: • disabled(0) • enabled(1) Default: enabled(1)
snAgGblEnableModuleRemovedTrap brcdIp.1.1.2.1.43 Syntax: Integer	Read-write	Indicates if the SNMP agent process has been enabled to generate traps for hardware modules that have been removed from the chassis: • disabled(0) • enabled(1) Default: enabled(1)
snAgGblEnableTelnetServer brcdIp.1.1.2.1.45 Syntax: Integer	Read-write	Enables or disables the Telnet server in a device: • disable(0) • enable(1) Default: enable(1)
snAgGblTelnetPassword brcdIp.1.1.2.1.46 Syntax: DisplayString	Read-write	Contains the Telnet access password, which is only used with an SNMP-Set. An SNMP-Get produces a zero string. This object can have 48 characters. This object requires a password to be set for the snAgGblPassword object.
snAgBuildDate brcdIp.1.1.2.1.47 Syntax: DisplayString	Read-only	Shows the date when the software was built. It can display up to 32 characters.
snAgBuildtime brcdIp.1.1.2.1.48 Syntax: DisplayString	Read-only	Shows the time when the software was built. It can display up to 32 characters.
snAgBuildVer brcdIp.1.1.2.1.49 Syntax: DisplayString	Read-only	Shows the image label of the software. It can display up to 32 characters.
snAgGblCpuUtil1SecAvg brcdIp.1.1.2.1.50 Syntax: Gauge32	Read-only	Shows CPU utilization every second. Use snAgentCpuUtilTable on the devices.
snAgGblCpuUtil5SecAvg brcdIp.1.1.2.1.51 Syntax: Gauge32	Read-only	Shows CPU utilization every five seconds. Use snAgentCpuUtilTable on the devices.
snAgGblCpuUtil1MinAvg brcdIp.1.1.2.1.52	Read-only	Shows CPU utilization every minute.

Name, OID, and syntax	Access	Description
Syntax: Gauge32		Use snAgentCpuUtilTable on the devices.
snAgGblDynMemUtil brcdIp.1.1.2.1.53 Syntax: Gauge32	Read-only	Shows the system dynamic memory utilization of the device in percentage units. **NOTE** On Extreme NetIron devices, use the snAgentBrdMemoryUtil100thPercent object.
snAgGblDynMemTotal brcdIp.1.1.2.1.54 Syntax: Guage32	Read-only	Shows the total amount of system dynamic memory available in a device in number of bytes. **NOTE** On Extreme NetIron devices, use the snAgentBrdMemoryTotal object.
snAgGblDynMemFree brcdIp.1.1.2.1.55 Syntax: Gauge32	Read-only	Shows the amount of system dynamic memory that is currently available in a device in number of bytes. **NOTE** On Extreme NetIron devices, use the snAgentBrdMemoryAvailable object.
snAgImgLoadSPModuleType brcdIp.1.1.2.1.56 Syntax: Integer	Read-write	Shows the switch processor module type that receives the downloaded image: • other(1) • vm1(2) • pos12(3) • pos48(4) • atm(5) • gignpa(6) • lp(7)
snAgImgLoadSPModuleNumber brcdIp.1.1.2.1.57 Syntax: Integer32	Read-write	Shows the slot number of a switch processor module that receives the downloaded image. Setting this object to zero (0) means that the switch processor modules receives the image.
snAgTrapHoldTime brcdIp.1.1.2.1.58 Syntax: Integer	Read-write	The number of seconds that traps will be held during device initialization. Traps are buffered while the device is initialized; they are sent when the device is back online. Valid value: 1 - 600
snAgSFlowSourceInterface brcdIp.1.1.2.1.59 Syntax: InterfaceIndex	Read-write	Identifies the source interface for sFlow packets sent by the device that is running sFlow Export. Use the ifIndex value for this object to specify the source interface to be used. The interface should have an IP address configured for sFlow. A value of zero (0) indicates that a source interface has not been configured for sFlow. Port 65534 is used to specify a null port.
snAgGblTelnetLoginTimeout brcdIp.1.1.2.1.60 Syntax: Integer	Read-write	Indicates how many minutes you have to log in before Telnet is disconnected. Valid values: 1 - 10 minutes

Name, OID, and syntax	Access	Description
		Default: 1 minute
snAgGblBannerExec brcdIp.1.1.2.1.61 Syntax: DisplayString	Read-write	Enter a message that will be displayed when a user enters the Privileged EXEC CLI level of a device. Enter up to 2048 characters for this banner. Use the character "\n" within the string to start a new line. Leave this object blank if no message is to be displayed.
snAgGblBannerIncoming brcdIp.1.1.2.1.62 Syntax: DisplayString	Read-write	Enter a message that will be displayed on the console when a user establishes a Telnet session. This message includes the location where the user is connecting from and displays a text message that can be configured. Enter up to 2048 characters for this banner. Use the character "\n" within the string to start a new line. Leave this object blank if no message is to be displayed.
snAgGblBannerMotd brcdIp.1.1.2.1.63 Syntax: DisplayString	Read-write	Enter the message of the day that is displayed on a user's terminal when the user establishes a Telnet CLI session. Enter up to 2048 characters for this banner. Use the character "\n" within the string to start a new line. Leave this object blank if no message is to be displayed.
snAgWebMgmtServerTcpPort brcdIp.1.1.2.1.64 Syntax: Integer **NOTE** This object is not supported on the MLX Series, MLX Series, XMR Series, CES 2000 Series, and CER 2000 Series devices.	Read-write	This object allows you to specify which TCP port will be used for the Web Management Interface. Also, Element Manager of Extreme Network Advisor will query the device for this port number before it sends HTTP packets to the device. Enter a number from 1 through 65535.
snAgGblDeleteFirstBeforeDownload brcdIp.1.1.2.1.67 Syntax: TruthVal	Read-write	When set to true, deletes the existing target file on the Management module flash. This object can be set to true only when the snAgImgLoad is set to downloadMPPrimary(20), downloadMPSecondary(22), downloadSPPrimary(24), downloadSPSecondary(25), or downloadMPMonitor(31) in the same SNMP set request PDU. This object is reset to false after successful or unsuccessful download of specified file to flash. Reading this object returns false(2).

Agent board table

The agent board table provides information about the boards. It contains the board ID, board status, LEDs, status, and other information about the main and expansion boards.

NOTE
The MP-MR2 is supported only on the XMR Series, MLX Series, and MLX Series devices.

Name, OID, and syntax	Access	Description
snAgentBrdTable brcdIp.1.1.2.2.1	None	A table of each physical board information.
snAgentBrdIndex brcdIp.1.1.2.2.1.1.1 Syntax: Integer32	Read-only	The index to the agent board table. Valid values: 1 - 42
snAgentBrdMainBrdDescription brcdIp.1.1.2.2.1.1.2 Syntax: DisplayString	Read-only	Contains the main board description. This object can have up to 128 characters.
snAgentBrdMainBrdId brcdIp.1.1.2.2.1.1.3 Syntax: Octet String	Read-only	The main board identifier, which can uniquely identify a board type. It is an encoded octet string. The octets in the string provide the following information: **Octet 0** - Identifies the format of this object's octet string. If the format version has a value of 2, the octets after the version octet have the following meaning: **Octet 1** - Product type: • BI_WG - 0x57 • BI_BB - 0x42 • BI_NI - 0x4E • BI_NI2 - 0x32 • NI_M4 - 0x4D • BI_SLB - 0x53 **Octet 2** - Module type: • MASTER_FIBER_8G - 0x0 • MASTER_FIBER_4G - 0x1 • MASTER_COPPER_16 - 0x2 • SLAVE_FIBER_4G - 0x3 • FI_MASTER_FIBER_2G - 0x4 • FI_MASTER_FIBER_4G - 0x5 • MASTER_COPPER_8G - 0x6 • FI_MASTER_FIBER_8G - 0x7 • SLAVE_FIBER_8G - 0x8 • MASTER_COPPER_12_2 - 0x9 • SLAVE_COPPER_24 - 0xA • FI_SLAVE_COPPER_24 - 0xB • SLAVE_100FX_16 - 0xC • SLAVE_100FX_8 - 0xD • SLAVE_COPPER_8G - 0xE

Name, OID, and syntax	Access	Description
		• SLAVE_COPPER_16_2 - 0xF • STACK_FIBER_8G - 0x10 • STACK_COPPER_8G - 0x11 • MASTER_FIBER_2G - 0x12 • SLAVE_100FX_24 - 0x13 • MASTER_FIBER_0G - 0x14 • POS_622M - 0x15 • POS_155M - 0x16 • SLAVE_FIBER_2G - 0x17 • SLAVE_COPPER_2G - 0x18 • FI_SLAVE_FIBER_2G - 0x19 • FI_SLAVE_FIBER_4G - 0x1A • FI_SLAVE_FIBER_8G - 0x1B • FI_SLAVE_COPPER_8G - 0x1C • FI_MASTER_COPPER_8G - 0x1D • POS_155M2P - 0x1E • FI_MASTER_COPPER_4G - 0x1F • FI_MASTER_COPPER_2G - 0x20 • MASTER_COPPER_4G - 0x21 • MASTER_COPPER_2G - 0x22 • MASTER_M4_8G - 0x23 • MASTER_M4_4G - 0x24 • MASTER_M4_2G - 0x25 • MASTER_M4_0G - 0x26 • MASTER_M5_0G - 0x27 • POS_2488M - 0x28 • SLAVE_M5_0G - 0x29 • POS_N2488M - 0x2A • STACK_IPC_48_2 - 0x2B • SLAVE_NPA_FIBER_4G - 0x2C • ATM_2PORT - 0x2D • ATM_4PORT - 0x2E • SLAVE_FIBER_10G - 0x2F • STACK_FES_48_2 - 0x30 • STACK_FES_24_2 - 0x31 • STACK_FES_96_4 - 0x32 • STACK_FES_12G - 0x33 • STACK_FESX_24G - 0x34 • STACK_FESX_24_2_G - 0x35 • STACK_FESX_24_1_G - 0x36 • STACK_FESX_48G - 0x37 • STACK_FESX_48_2_G - 0x38 • STACK_FESX_48_1_G - 0x39 • SUPERX_FI_MGMT - 0x40 • SUPERX_FI_2P10G - 0x41 • SUPERX_FI_24GC - 0x42 • SUPERX_FI_24GF - 0x43

Name, OID, and syntax	Access	Description
		• SUPERX_FI_2P10G_WAN - 0x44 • SUPERX_FI_MGMT_II - 0x4a • SLAVE_JC_48E - 0xC3 • SLAVE_JC_48T - 0xC4 • MASTER_JC_M4_8G - 0xC5 • SLAVE_JC_8G - 0xC6 • SLAVE_JC_B16GF - 0xC8 • MASTER_JC_B2404 - 0xC9 • SLAVE_JC_B16GC - 0xCA • SLAVE_JC_B24FX - 0xCE **Octet 3** - Processor type: • PVR_M603 - 3 • PVR_M604 - 4 • PVR_M603E - 6 • PVR_M603EV - 7 • PVR_M750 - 8 • PVR_M604E - 9 • PVR_M8245 - 81 **Octet 4 to Octet 5** - Processor speed in MHz **Octet 6** - MAC type: • MAC_None - 0 • MAC_SEEQ_10_100 - 1 • MAC_DEC_10_100 - 2 • MAC_3COM_10_100 - 3 • MAC_X10GMAC_10000 - 4 • MAC_SEEQ_1000 - 5 • MAC_GMAC_1000 - 6 • MAC_VLSI_1000 - 7 **Octet 7** - PHY type: • PHY_NONE - 0 • PHY_QSI - 1 • PHY_BROADCOM - 2 • PHY_ICS - 3 • PHY_NATIONAL - 4 • PHY_LEVEL1 - 6 • PHY_BROADCOM_10_100 - 7 • PHY_LEVEL24 - 8 • PHY_BROADCOM_10000 - 9 • PHY_3COM_10_100 - 9 (for others) **Octet 8** - Port type: • COPPER - 0 • FIBER - 1 **Octet 9** - Fiber port type: • NONFIBER - 0 • SX_FIBER - 1

Name, OID, and syntax	Access	Description
		• LX_FIBER - 2 • LHX_FIBER - 3 • LX_SX_FIBER=4 • LHB_FIBER=5 **Octet 10 to Octet 13** - Size of DRAM in Kilobytes **Octet 14 to Octet 17** - Size of boot flash in Kilobytes **Octet 18 to Octet 21** - Size of code flash in Kilobytes **Octet 22 to Octet 27** - Serial number **Octet 28** - Chassis backplane type: • chassis4000 = 0x00 • chassis8000 = 0x02 • chassis15000 = 0x01 • chassisFISX = 0x04 • Turbo8 = 0x07 (stack2)
snAgentBrdMainPortTotal brcdIp.1.1.2.2.1.1.4 Syntax: Integer32	Read-only	Shows the total number of ports on the main board.
snAgentBrdExpBrdDescription brcdIp.1.1.2.2.1.1.5 Syntax: DisplayString **NOTE** This object is not supported on the MLX Series, MLX Series, XMR Series, CES 2000 Series, and CER 2000 Series devices.	Read-only	Contains the expansion board description string. Expansion boards are those boards attached to the main board. This object can have up to 128 characters.
snAgentBrdExpBrdId brcdIp.1.1.2.2.1.1.6 Syntax: Octet String **NOTE** This object is not supported on the MLX Series, MLX Series, XMR Series, CES 2000 Series, and CER 2000 Series devices.	Read-only	The expansion board identifier. Expansion boards are those boards attached to the main board. It is an encoded octet string with the following meaning: **Octet 0** - Identifies the format of this string. This octet has a value of 1. **Octet 1** - Expansion board type: • HUNDRED_MEG_1PORT - 1 • HUNDRED_MEG_2PORT - 2 • HUNDRED_MEG_1PORT_COPPER - 3 • HUNDRED_MEG_2PORT_COPPER - 4 • HUNDRED_MEG_2PORT_LX - 5 • GIGA_1PORT - 8 • GIGA_2PORT - 9 **Octet 2** - Fiber port type: • NONFIBER - 0

Name, OID, and syntax	Access	Description
		• SX_FIBER - 1 • LX_FIBER - 2 • LHX_FIBER - 3 • LX_SX_FIBER - 4 • LHB_FIBER - 5
snAgentBrdExpPortTotal brcdIp.1.1.2.2.1.1.7 Syntax: Integer **NOTE** This object is not supported on the MLX Series, MLX Series, XMR Series, CES 2000 Series, and CER 2000 Series devices.	Read-only	Shows the total number of ports for the expansion board.
snAgentBrdStatusLeds brcdIp.1.1.2.2.1.1.8 Syntax: Integer32	Read-only	The object is replaced by the object snAgentBrdStatusLedString. The value of this LED can be one of the following: • 0 - off (Link off) • 1 - on (Link on)
snAgentBrdTrafficLeds brcdIp.1.1.2.2.1.1.9 Syntax: Integer32 **NOTE** This object is not supported on the MLX Series, MLX Series, XMR Series, CES 2000 Series, and CER 2000 Series devices.	Read-only	The object is replaced by the object snAgentBrdTrafficLedString. The value of this LED can be one of the following: • 0 - off (No traffic) • 1 - on (Traffic is flowing)
snAgentBrdMediaLeds brcdIp.1.1.2.2.1.1.10 Syntax: Integer32	Read-only	Applies to devices that have an LED for media type, but this object has been replaced by the object snAgentBrdMediaLedString. The value of this LED can be one of the following: • 0 - Half-duplex • 1 - Full-duplex
snAgentBrdSpeedLeds brcdIp.1.1.2.2.1.1.11 Syntax: Integer32 **NOTE** This object is not supported on the MLX Series, MLX Series, XMR Series, CES 2000 Series, and CER 2000 Series devices.	Read-only	Applies to devices that have an LED for board speed. This object has been replaced by the object snAgentBrdSpeedLedString. The value of this LED can be one of the following: • 0 - 10 Mbit • 1 - 100Mbit
snAgentBrdModuleStatus brcdIp.1.1.2.2.1.1.12 Syntax: Integer	Read-only	Shows the status of a module: • moduleEmpty(0) - The slot of the chassis is empty.

Name, OID, and syntax	Access	Description
		• moduleGoingDown(2) - The module is going down. • moduleRejected(3) - The module is being rejected due to a wrong configuration. • moduleBad(4) - The module hardware is bad. • moduleConfigured(8) - The module is configured (stacking). • moduleComingUp(9) - The module is in power-up cycle. • moduleRunning(10) - The module is running. • moduleBlocked(11) - The module is blocked for full height card. By default, this mode is set to notActivated(0).
snAgentBrdRedundantStatus brcdIp.1.1.2.2.1.1.13 Syntax: Integer	Read-only	Shows the status of the redundant module. Non-management modules always return other(1). The management module returns the rest of the states: • other(1) • active(2) • standby(3) • crashed(4) • comingUp(5)
snAgentBrdAlarmLeds brcdIp.1.1.2.2.1.1.14 Syntax: Integer **NOTE** This object is not supported on the MLX Series, MLX Series, XMR Series, CES 2000 Series, and CER 2000 Series devices.	Read-only	Applies to devices with an alarm LED. This object has been replaced by the object snAgentBrdAlarmLedString. The value of this LED can be one of the following: • 0 - No alarm • 1 - Alarm
snAgentBrdTxTrafficLeds brcdIp.1.1.2.2.1.1.15 Syntax: Integer **NOTE** This object is not supported on the MLX Series, MLX Series, XMR Series, CES 2000 Series, and CER 2000 Series devices.	Read-only	Applies only to POS modules that have an LED. This object has been replaced by the object snAgentBrdTxTrafficLedString. The value of this LED can be one of the following: • 0 - No transmit traffic • 1 - Transmit traffic
snAgentBrdRxTrafficLeds brcdIp.1.1.2.2.1.1.16 Syntax: Integer	Read-only	Applies only to POS modules that have an LED for transmit traffic, but this object has been replaced by the object snAgentBrdRxTrafficLedString.

Name, OID, and syntax	Access	Description
NOTE This object is not supported on the MLX Series, MLX Series, XMR Series, CES 2000 Series, and CER 2000 Series devices.		The value of this LED can be one of the following: • 0 - off (Not receive traffic) • 1 - on (Receive traffic)
snAgentBrdStatusLedString brcdIp.1.1.2.2.1.1.17 Syntax: Octet String	Read-only	The object contains an octet string that shows the value of the status of the link LED on the front panel. Each LED is encoded into 1 bit for each switch port.. The value of each bit can be one of the following: • 0 - Link is off • 1 - Link is on
snAgentBrdTrafficLedString brcdIp.1.1.2.2.1.1.18 Syntax: Octet String	Read-only	A bit array that contains the value of the front panel traffic LEDs. This is a packed bit string; each LED is encoded into 1 bit for each switch port. The value of each bit can be one of the following: • 0 - No traffic • 1 - Traffic is flowing
snAgentBrdMediaLedString brcdIp.1.1.2.2.1.1.19 Syntax: Octet String NOTE This object is not supported on the MLX Series, MLX Series, XMR Series, CES 2000 Series, and CER 2000 Series devices.	Read-only	Applies to devices with an LED for media type. It contains an octet string with 64-bits per slot. The value of each bit can be one of the following: • 0 - Half-duplex • 1 - Full-duplex
snAgentBrdSpeedLedString brcdIp.1.1.2.2.1.1.20 Syntax: Octet String	Read-only	Applies to devices that have an LED for traffic speed. Contains an octet string with 64-bits per slot. The value of each bit can be one of the following: • 0 - 10 Mbit • 1 - 100 Mbit
snAgentBrdAlarmLedString brcdIp.1.1.2.2.1.1.21 Syntax: Octet String	Read-only	Applies to devices that have an alarm LED. Contains an octet string with 64-bits per slot. The value of each bit can be one of the following: • 0 - No alarm • 1 - Alarm
snAgentBrdTxTrafficLedString brcdIp.1.1.2.2.1.1.22 Syntax: Octet String	Read-only	Applies only to POS modules. Contains an octet string with 64-bits per slot. The value of each bit can be one of the following: • 0 - No transmit traffic • 1 - Transmit traffic
snAgentBrdRxTrafficLedString brcdIp.1.1.2.2.1.1.23 Syntax: Octet String	Read-only	Applies only to POS modules. Contains an octet string with 64-bits per slot. The value of each bit can be one of the following: • 0 - No receive traffic • 1 - Receive traffic

Name, OID, and syntax	Access	Description
snAgentBrdMemoryTotal brcdIp.1.1.2.2.1.1.24 Syntax: CounterBasedGauge64	Read-only	Shows the total memory in bytes within this module.
snAgentBrdMemoryAvailable brcdIp.1.1.2.2.1.1.25 Syntax: CounterBasedGauge64	Read-only	Shows the available total memory in bytes within this module.
snAgentBrdSerialNumber brcdIp.1.1.2.2.1.1.26 Syntax: DisplayString	Read-only	Indicates the serial number of the board only for XMR Series, MLX Series, and MLX Series devices. No string is displayed if the serial number has not been programmed in the EEPROM or the module does not support a serial number.
snAgentBrdPartNumber brcdIp.1.1.2.2.1.1.27 Syntax: DisplayString	Read-only	Indicates the part number of the board only for XMR Series, MLX Series, and MLX Series devices. Nothing is displayed if the part number has not been programmed in the EEPROM or the module does not support a part number.
snAgentBrdMemoryUtil100thPercent brcdIp.1.1.2.2.1.1.28 Syntax: Unsigned32	Read-only	Indicates the dynamic memory that is currently utilized within this module, in units of one-hundredth of a percent.
snAgentBrdUpTime brcdIp.1.1.2.2.1.1.29 Syntax: TimeTicks	Read-only	Indicates the uptime for the module, in units of one-hundredth of a second. This value is valid only if the value of snAgentBrdModuleStatus is "moduleRunning(10)".

Agent stacking board table

The following table provides information on boards in a stacking device.

Name, OID, and syntax	Access	Description
snAgentBrd2Table brcdIp.1.1.2.2.2 Syntax: SEQUENCE OF SnAgentBrd2Entry	None	A table of physical board information for each unit.
snAgentBrd2Unit brcdIp.1.1.2.2.2.1.1 Syntax: Integer	Read-only	The index to the agent module table.
snAgentBrd2Slot brcdIp.1.1.2.2.2.1.2 Syntax: Integer	Read-only	The index to the agent module table.
snAgentBrd2MainBrdDescription brcdIp.1.1.2.2.2.1.3 Syntax: DisplayString	Read-only	The main board description string. The size of the string can be from 0 through 128.
snAgentBrd2MainBrdId brcdIp.1.1.2.2.2.1.4	Read-only	The main board identifier, which can uniquely identify a board type. It is an encoded octet

Name, OID, and syntax	Access	Description
Syntax: Octet String		string. The octets in the string provide the following information: **Octet 0** - Identifies the format of this object's octet string. If the format version has a value of 2, the octets after the version octet have the following meaning: **Octet 1** - Product type: • BI_WG - 0x57 • BI_BB - 0x42 • BI_NI - 0x4E • BI_NI2 - 0x32 • NI_M4 - 0x4D • BI_SLB - 0x53 **Octet 2** - Module type: • MASTER_FIBER_8G - 0x0 • MASTER_FIBER_4G - 0x1 • MASTER_COPPER_16 - 0x2 • SLAVE_FIBER_4G - 0x3 • FI_MASTER_FIBER_2G - 0x4 • FI_MASTER_FIBER_4G - 0x5 • MASTER_COPPER_8G - 0x6 • FI_MASTER_FIBER_8G - 0x7 • SLAVE_FIBER_8G - 0x8 • MASTER_COPPER_12_2 - 0x9 • SLAVE_COPPER_24 - 0xA • FI_SLAVE_COPPER_24 - 0xB • SLAVE_100FX_16 - 0xC • SLAVE_100FX_8 - 0xD • SLAVE_COPPER_8G - 0xE • SLAVE_COPPER_16_2 - 0xF • STACK_FIBER_8G - 0x10 • STACK_COPPER_8G - 0x11 • MASTER_FIBER_2G - 0x12 • SLAVE_100FX_24 - 0x13 • MASTER_FIBER_0G - 0x14 • POS_622M - 0x15 • POS_155M - 0x16 • SLAVE_FIBER_2G - 0x17 • SLAVE_COPPER_2G - 0x18 • FI_SLAVE_FIBER_2G - 0x19 • FI_SLAVE_FIBER_4G - 0x1A • FI_SLAVE_FIBER_8G - 0x1B • FI_SLAVE_COPPER_8G - 0x1C • FI_MASTER_COPPER_8G - 0x1D • POS_155M2P - 0x1E • FI_MASTER_COPPER_4G - 0x1F • FI_MASTER_COPPER_2G - 0x20

Name, OID, and syntax	Access	Description
		• MASTER_COPPER_4G - 0x21 • MASTER_COPPER_2G - 0x22 • MASTER_M4_8G - 0x23 • MASTER_M4_4G - 0x24 • MASTER_M4_2G - 0x25 • MASTER_M4_0G - 0x26 • MASTER_M5_0G - 0x27 • POS_2488M - 0x28 • SLAVE_M5_0G - 0x29 • POS_N2488M - 0x2A • STACK_IPC_48_2 - 0x2B • SLAVE_NPA_FIBER_4G - 0x2C • ATM_2PORT - 0x2D • ATM_4PORT - 0x2E • SLAVE_FIBER_10G - 0x2F • STACK_FES_48_2 - 0x30 • STACK_FES_24_2 - 0x31 • STACK_FES_96_4 - 0x32 • STACK_FES_12G - 0x33 • STACK_FESX_24G - 0x34 • STACK_FESX_24_2_G - 0x35 • STACK_FESX_24_1_G - 0x36 • STACK_FESX_48G - 0x37 • STACK_FESX_48_2_G - 0x38 • STACK_FESX_48_1_G - 0x39 • SUPERX_FI_MGMT - 0x40 • SUPERX_FI_2P10G - 0x41 • SUPERX_FI_24GC - 0x42 • SUPERX_FI_24GF - 0x43 • SUPERX_FI_2P10G_WAN - 0x44 • SUPERX_FI_MGMT_II - 0x4a • SLAVE_JC_48E - 0xC3 • SLAVE_JC_48T - 0xC4 • MASTER_JC_M4_8G - 0xC5 • SLAVE_JC_8G - 0xC6 • SLAVE_JC_B16GF - 0xC8 • MASTER_JC_B2404 - 0xC9 • SLAVE_JC_B16GC - 0xCA **Octet 3** - Processor type: • PVR_M603 - 3 • PVR_M604 - 4 • PVR_M603E - 6 • PVR_M603EV - 7 • PVR_M750 - 8 • PVR_M604E - 9 • PVR_M8245 - 81

Name, OID, and syntax	Access	Description
		Octet 4 to Octet 5 - Processor speed in MHz. **Octet 6** - MAC type: • MAC_None - 0 • MAC_SEEQ_10_100 - 1 • MAC_DEC_10_100 - 2 • MAC_3COM_10_100 - 3 • MAC_X10GMAC_10000 - 4 • MAC_SEEQ_1000 - 5 • MAC_GMAC_1000 - 6 • MAC_VLSI_1000 - 7 **Octet 7** - PHY type: • PHY_NONE - 0 • PHY_QSI - 1 • PHY_BROADCOM - 2 • PHY_ICS - 3 • PHY_NATIONAL - 4 • PHY_LEVEL1 - 6 • PHY_BROADCOM_10_100 - 7 • PHY_LEVEL24 - 8 • PHY_BROADCOM_10000 - 9 • PHY_3COM_10_100 - 9 **Octet 8** - Port type: • COPPER - 0 • FIBER - 1 **Octet 9** - Fiber port type: • NONFIBER - 0 • SX_FIBER - 1 • LX_FIBER - 2 • LHX_FIBER - 3 • LX_SX_FIBER=4 • LHB_FIBER=5 **Octet 10 to Octet 13** - Size of DRAM in Kilobytes. **Octet 14 to Octet 17** - Size of boot flash in Kilobytes. **Octet 18 to Octet 21** - Size of code flash in Kilobytes. **Octet 22 to Octet 27** - Serial number. **Octet 28** - Chassis backplane type: • chassis4000 - 0x00 • chassis8000 - 0x02 • chassis15000 - 0x01 • Turbo8 - 0x07 (stack2)
snAgentBrd2MainPortTotal brcdIp.1.1.2.2.2.1.5	Read-only	The total number of ports for the main board.

Name, OID, and syntax	Access	Description
Syntax: Integer		
snAgentBrd2ModuleStatus brcdIp.1.1.2.2.2.1.6 Syntax: Integer	Read-only	Shows the status of the module. The following are the status of the module: • moduleEmpty(0) - The slot of the chassis is empty. • moduleGoingDown(2) - The module is going down. • moduleRejected(3) - The module is being rejected due to wrong configuration. • moduleBad(4) - The module hardware is bad. • moduleConfigured(8) - The module is configured (stacking). • moduleComingUp(9) - The module is in power-up cycle. • moduleRunning(10) - The module is running. • moduleBlocked(11) - The module is blocked for full height card. By default, this mode is set to notActivated(0).
snAgentBrd2RedundantStatus brcdIp.1.1.2.2.2.1.7 Syntax: Integer	Read-only	The status of a redundant module. Non-management modules always return other(1). Management modules return the other states: • other(1) • active(2) • standby(3) • crashed(4) • comingUp(5)

Trap receiver table

The trap receiver table allows you to configure trap receivers on IPv4 devices.

NOTE

To delete a trap receiver, the agent needs the following varbinds in the setRequest PDU: snAgTrpRcvrIpAddr, snAgTrpRcvrCommunityOrSecurityName, and snAgTrpRcvrStatus. The snAgTrpRcvrStatus object must be set to delete(3).

Name, OID, and syntax	Access	Description
snAgTrpRcvrTable brcdIp.1.1.2.3.1 Syntax: SEQUENCE OF SnAgTrpRcvrEntry	None	The trap receiver table.
snAgTrpRcvrIndex brcdIp.1.1.2.3.1.1.1 Syntax: Integer	Read-only	Shows the index in the trap receiver table. Valid values: 1 - 10
snAgTrpRcvrIpAddr brcdIp.1.1.2.3.1.1.2 Syntax: IpAddress	Read-write	Indicates the IP address of the SNMP manager that will receive the trap.

Name, OID, and syntax	Access	Description
snAgTrpRcvrCommunityOrSecurityName brcdIp.1.1.2.3.1.1.3 Syntax: Octet String	Read-write	Indicates the community string to use to access the trap receiver. This object can have up to 32 octets.
snAgTrpRcvrStatus brcdIp.1.1.2.3.1.1.4 Syntax: Integer	Read-write	Controls the management of the table rows. The following are the values: • ignore(5) - Do not send traps to this entry at this time. • delete(3) - Deletes the row. • create(4) - Creates a new row. If the row exists, then a SET with a value of create(5) returns error "badValue". Deleted rows are deleted immediately. The following values can be returned on reads: • other(1) - Some other case. • valid(2) - Row exists and is valid. • ignore(5) - Do not send traps to this entry at this time.
snAgTrpRcvrUDPPort brcdIp.1.1.2.3.1.1.5 Syntax: Integer	Read-write	Indicates the UDP port number of the trap receiver. Valid values: 0 - 65535 Default: 162
snAgTrpRcvrSecurityModel brcdIp.1.1.2.3.1.1.6 Syntax: Integer	Read-write	Allows configuration of security model (v1, v2c, or 3).
snAgTrpRcvrSecurityLevel brcdIp.1.1.2.3.1.1.7 Syntax: Integer	Read-write	Allows configuration of the security level (noauth, auth, or auth+priv).

Boot sequence table

The boot sequence table shows a list of software image loads. The images are in the sequence that will be used at boot up. When the devices are booted, the first image in the table will be loaded into the device. If that software image fails, the second image will be tried. The process continues until a successful load is completed.

The boot sequence table is available in all devices. The combination of all the objects in this table must be unique. Duplicate instructions are rejected.

NOTE

Ensure that each entry is unique. It is possible to create entries with the same instructions by creating a new sequence index. Duplicate instructions may cause loops.

Name, OID, and syntax	Access	Description
snAgBootSeqTable brcdIp.1.1.2.4.1	None	Identifies the boot sequence table.
snAgBootSeqIndex brcdIp.1.1.2.4.1.1.1 Syntax: Integer	Read-only	The index to the boot sequence table.

Name, OID, and syntax	Access	Description
snAgBootSeqInstruction brcdIp.1.1.2.4.1.1.2 Syntax: Integer	Read-write	Shows the image from which the device will boot: • fromPrimaryFlash(1) • fromSecondaryFlash(2) • fromTftpServer(3) • fromBootpServer(4)
snAgBootSeqIpAddr brcdIp.1.1.2.4.1.1.3 Syntax: IpAddress	Read-write	If the object Boot sequence table is set to "fromTftpServer", this object shows the IP address of the TFTP server that contains the image that will be used in the boot.
snAgBootSeqFilename brcdIp.1.1.2.4.1.1.4 Syntax: DisplayString	Read-write	Shows the name of the image filename on the TFTP server that will be used in the boot. This object applies only if the object Boot sequence table is set to "fromTftpServer". This object can have up to 32 characters.
snAgBootSeqRowStatus brcdIp.1.1.2.4.1.1.5 Syntax: Integer	Read-write	Creates or deletes an entry in the boot sequence table: • other(1) • valid(2) • delete(3) • create(4)

SP boot sequence table

Name, OID, and syntax	Access	Description
snAgSpBootSeqTable brcdIp.1.1.2.4.2	None	Identifies the SP boot sequence table.
snAgSpBootSeqSpNumber brcdIp.1.1.2.4.2.1.1	None	The slot number of a switch processor module for which this boot sequence applies. Setting value 0 applies to all SP modules. Index 0 is valid only for setting to simplify the set operation for all the modules.
snAgSpBootSeqIndex brcdIp.1.1.2.4.2.1.2 Syntax: Integer	None	The index to the boot sequence table.
snAgSpBootSeqInstruction brcdIp.1.1.2.4.2.1.3 Syntax: Integer	Read-write	Shows the image from which the device will boot: • fromSpPrimaryFlash(1) • fromSpSecondaryFlash(2) • fromMpPrimaryFlash(3) • fromMpSecondaryFlash(4) • fromPcmciaCard1(5) • fromPcmciaCard2(6) • fromTftpServer(7) • interactively(8)
snAgSpBootSeqIpAddr brcdIp.1.1.2.4.2.1.4 Syntax: IpAddress	Read-write	If the object Boot sequence table on page 170 is set to "fromTftpServer", this object shows the

Name, OID, and syntax	Access	Description
		IP address of the TFTP server that contains the image that will be used in the boot.
snAgSpBootSeqFilename brcdIp.1.1.2.4.2.1.5 Syntax: DisplayString	Read-write	Shows the name of the image filename on the TFTP server that will be used in the boot. This object applies only if the object Boot sequence table on page 170 is set to "fromTftpServer". This object can have up to 32 characters.
snAgSpBootSeqRowStatus brcdIp.1.1.2.4.2.1.6 Syntax: Integer	Read-write	Creates or deletes an entry in the boot sequence table: • valid(1) • delete(2) • create(3)

Encoded octet strings table

Each row in the Encoded Octet Strings (EOS) table represents a fragmented configuration file data packet, including its checksum. An SNMP SET represents a configuration file download process, while an SNMP GET represents a configuration file upload.

This action occurs only if the SNMP-SET of snAgCfgLoad command is sent along with this table consecutively. Consecutive SETs are performed until the network management system has no more packets to send. Likewise, consecutive GETs are done until the agent has no more packets to send.

The applicable snAgCfgLoad command value is as follows:

- uploadFromFlashToNMS(23)
- downloadToFlashFromNMS(24)
- uploadFromDramToNMS(25)
- downloadToDramFromNMS(26)

NOTE
This table is not supported on the XMR Series, MLX Series, MLX Series, CES 2000 Series, and CER 2000 Series devices.

Name, OID, and syntax	Access	Description
snAgCfgEosTable brcdIp.1.1.2.5.1	None	The EOS table.
snAgCfgEosIndex brcdIp.1.1.2.5.1.1.1 Syntax: Integer32	Read-only	Each VLAN EOS buffer identifier has multiple VLAN table entries.
snAgCfgEosPacket brcdIp.1.1.2.5.1.1.2 Syntax: Octet String	Read-write	An encoded octet string. On reads, it contains an integral number of configuration file data packets. The size of each encoded octet string is less than or equal to 1400 bytes. This object can contain up to 1000 octets.
snAgCfgEosChkSum brcdIp.1.1.2.5.1.1.3 Syntax: Integer32	Read-write	A checksum of each configuration file data packet.

Agent System Parameters

Agent system parameters configuration table

The agent system parameters configuration table presents the definition of the configuration system parameters. For example, the table may show the maximum number of VLANs a network can have.

Name, OID, and syntax	Access	Description
snAgentSysParaConfigTable brcdIp.1.1.2.7.1	None	The agent system parameters configuration table.
snAgentSysParaConfigIndex brcdIp.1.1.2.7.1.1.1 Syntax: Integer32	Read-only	The index to the agent system parameters configuration table.
snAgentSysParaConfigDescription brcdIp.1.1.2.7.1.1.2 Syntax: DisplayString	Read-only	The parameter description string. This object can have up to 32 characters.
snAgentSysParaConfigMin brcdIp.1.1.2.7.1.1.3 Syntax: Integer32	Read-only	The minimum value of this agent system parameter.
snAgentSysParaConfigMax brcdIp.1.1.2.7.1.1.4 Syntax: Integer32	Read-only	The maximum value of this agent system parameter.
snAgentSysParaConfigDefault brcdIp.1.1.2.7.1.1.5 Syntax: Integer32	Read-only	The default value of this agent system parameter.
snAgentSysParaConfigCurrent brcdIp.1.1.2.7.1.1.6 Syntax: Integer32	Read-write	The current configured value of this agent system parameter.

Configured module table

The configured module table contains information about modules. It includes the object **snAgentConfigModuleSerialNumber** , which contains the serial number of the Extreme NetIron devices.

NOTE

The snAgentConfigModuleType object has new values included to support the new version of MP card MR2 in the Configured module table. Also, the MP-MR2 is supported only on the XMR Series, MLX Series, and MLX Series devices.

Name, OID, and syntax	Access	Description
snAgentConfigModuleTable brcdIp.1.1.2.8.1	None	A table of information about each configured module.
snAgentConfigModuleIndex brcdIp.1.1.2.8.1.1.1 Syntax: Integer32	Read-only	The index to the agent configured module table.
snAgentConfigModuleType brcdIp.1.1.2.8.1.1.2 Syntax: Integer32	Read-write	The index to the agent configured module table.
snAgentConfigModuleRowStatus brcdIp.1.1.2.8.1.1.3 Syntax: Integer	Read-write	The module type that has been configured for the device: • bi8PortGigManagementModule(0) • bi4PortGigManagementModule(1) • bi16PortCopperManagementModule(2) • bi4PortGigModule(3) • fi2PortGigManagementModule(4) • fi4PortGigManagementModule(5) • bi8PortGigCopperManagementModule(6) • fi8PortGigManagementModule(7) • bi8PortGigModule(8) • bi12PortGigCopper2PortGigFiberManagement(9) • bi24PortCopperModule(10) • fi24PortCopperModule(11) • bi16Port100FXModule(12) • bi8Port100FXModule(13) • bi8PortGigCopperModule(14) • bi12PortGigCopper2PortGigFiber(15) • bi2PortGigManagementModule(18) • bi24Port100FXModule(19) • bi0PortManagementModule(20) • pos622MbsModule(21) • pos155MbsModule(22) • bi2PortGigModule(23) • bi2PortGigCopperModule(24) • fi2PortGigModule(25) • fi4PortGigModule(26) • fi8PortGigModule(27) • fi8PortGigCopperModule(28) • fi8PortGigCopperManagementModule(29) • pos155Mbs2PModule(30)

Name, OID, and syntax	Access	Description
		• fi4PortGigCopperManagementModule(31) • fi2PortGigCopperManagementModule(32) • bi4PortGigCopperManagementModule(33) • bi2PortGigCopperManagementModule(34) • bi8PortGigM4ManagementModule(35) • bi4PortGigM4ManagementModule(36) • bi2PortGigM4ManagementModule(37) • bi0PortGigM4ManagementModule(38) • bi0PortWSMManagementModule(39) • biPos2Port2488MbsModule(40) • bi0PortWSMModule(41) • niPos2Port2488MbsModule(42) • ni4802(43) • bi4PortGigNPAModule(44) • biAtm2Port155MbsModule(45) • biAtm4Port155MbsModule(46) • bi1Port10GigModule(47) • fes4802Module(48) • fes2402Module(49) • fes9604Module(50) • fes12GigCopperAndGigFiberModule(51) • fesx24GigModule(52) • fesx24Gig2TenGigModule(53) • fesx24Gig1TenGigModule(54) • fesx48GigModule(55) • fesx48Gig2TenGigModule(56) • fesx48Gig1TenGigModule(57) • fesx24GigFiberGigCopperModule(112) • fesx24GigFiber2TenGigModule(113) • fesx24GigFiber1TenGigModule(114) • fgs24PortManagementModule(144) • fgs48PortManagementModule(145) • fgsXfp2Port10gModule(152) • fgsCx42Port10gModule(153) • fgsXfp1Cx41Port10gModule(154) • fgsXpf1Port10gModule(155) • fls24PortCopperBaseModule(160) • fls48PortCopperBaseModule(161) • flsXfp1Port10gModule(168)

Name, OID, and syntax	Access	Description
		• flsCx41Port10gModule(169) • fcx624SBaseModule(176) • fcx648SBaseModule(177) • fcx624SPoeBaseModule(180) • fcx648SPoeBaseModule(181) • fcxXfp2Port10gModule(184) • fcxCx42Port16gModule(185) • fcx624SFBaseModule(192) • biFiJc48ePort100fxIpcModule(195) • biFiJc48tPort100fxIpcModule(196) • biFiJc8PortGigM4ManagementModule(197) • biFiJc8PortGigIgcModule(198) • biFiJc16PortGigIgcModule(200) • biJc24PortCopperIpc4GigIgcModule(201) • biJc16PortGigCopperIgcModule(202) • biFiJc24Port100fxIpcModule(206) • bi2Port10GigModule(207) • biJc48tPortRJ21OmpModule(208) • biJc48ePortRJ45OmpModule(209) • biJc24PortIpcRJ45PoeModule(212) • biJc2PortGigIgcM4ManagementModule(214) • fdryBi4Port10GigModule(1048) • fdryBi40PortGigModule(1049) • fdryBi1Port100FXManagementModule(1050) • fdryBi2Port10GigModule(1051) • fdryBi40PortGigCopperModule(1052) • fdryBi60PortGigCopperModule(1053) • fdryBi4Port10GigHVModule(1054) • fdryBi2Port10GigHVModule(1055) • fdryBi8Port10GigHVModule(1056) • fdryBi40PortGigHVModule(1057) • fdryBi40PortGigCopperHVModule(1058) • fdryBi60PortGigCopperHVModule(1059) • fdryBi8Port10GigModule(1060) • fdryBi10PortGigHVModule(1061) • fdryBi20PortGigHVModule(1062) • fdryBi24PortGigModule(1063) • fdryBi24PortGigCopperModule(1064) • fdryBi48PortGigCopperModule(1065)

Name, OID, and syntax	Access	Description
		• fdryBi24PortGigFiberModule(1066) • fdryBi16Port10GigModule(1067) • fdryNi4Port10GigSPModule(1075) • fdryNi40PortGigSPModule(1076) • fdryNi40PortGigCopperSPModule(1077) • fdryNi2Port10GigSPModule(1078) • fdryNi10PortGigSPModule(1079) • fdryNi20PortGigSPModule(1080) • fdryXmr4Port10GigSPModule(1081) • fdryXmr20PortGigSPModule(1082) • fdryXmr2Port10GigSPModule(1083) • fdryXmr20PortGigCopperSPModule(1084) • fdryXmr20PortGigFXSPModule(1085) • fdryNiImrMrManagementModule(1086) • fdryNiXmrMrManagementModule(1087) • fdryMlx4Port10GigSPModule(1088) • fdryMlx2Port10GigSPModule(1089) • fdryMlx20PortGigCopperSPModule(1090) • fdryMlx20PortGigFXSPModule(1091) • niMlx8Port10GigSPModule (1092) • niMlx4Port10GigXModule(1093) - This module is supported only on NetIron devices. • niMlx24PortGigCopperXModule(1094) - This module is supported only on NetIron devices. • niMlx24PortGigSfpXModule(1095) - This module is supported only on NetIron devices. • niCes24PortFiberModule(1096) • niCes24PortCopperModule(1097) • niCes2Port10GigModule(1098) • niCes48PortFiberModule(1099) • niCes48PortCopperModule(1100) • niCes48PortFiberWith2Port10GModule(1101) • niCes48PortCopperWith2Port10GModule(1102) • fdryMlx48PortGigMrj21SPModule(1103) • fdryXmr2PortOC192SPModule(1104) • fdryXmr1PortOC192SPModule(1105)

Name, OID, and syntax	Access	Description
		• fdryXmr8PortOC48SPModule(1106) • fdryXmr4PortOC48SPModule(1107) • fdryXmr2PortOC48SPModule(1108) • fdryNiMlxMrManagementModule(1109) • niMlx8Port10GigMModule(1110) - This module is supported only on NetIron devices. • niMlx8Port10GigDModule(1111) - This module is supported only on NetIron devices. • brMlx8Port10GigXModule(1112) - This module is supported only on NetIron devices. • brMlx2Port100GigXModule(1113) - This module is supported only on NetIron devices. • brcdMlxMr2ManagementModule(1114) - This module is used only for BR-MLX-MR2-M board. • brcdXmrMr2ManagementModule(1115) - This module is used only for BR-MLX-MR2-X board. • brcdMlx32Mr2ManagementModule(1116) - This module is used only BR-MLX32-MR2-M board. • brcdXmr32Mr2ManagementModule(1117) - This module is used only BR-MLX32-MR2-X board. • brcdNiXmr32MrManagementModule(1118) • brcdNiMlx32MrManagementModule(1119) • brcdMlx24Port10GigDMModule(1120) - This module is used for BR-MLX-10Gx24 • brMlx4Port40GigMModule(1121) • brcdNiCes4Port10GigModule(1122) • brMlx2Port100GigCFP2Module(1123) - This module is used for BR-MLX-100Gx2-CFP2 2-port 100GbE. • brMlx20Port10GigModule(1124) - This module is used for BR-MLX-10Gx20 20-port 1/10GbE. • brMlx4Port10GigXIPSecModule(1125) • fdryFiV4Sx12ComboPortManagementModule(2064) • fdryFiV4Sx2Port10gModule(2065) • fdryFiV4Sx24PortGigCopperModule(2066) • fdryFiV4Sx24PortGigFiberModule(2067)

Name, OID, and syntax	Access	Description
		• fdryFiV4Sx2Port10gLanWanModule(2068) • fdryFiV4Sx24Port100m1gFiberModule(2069) • fdryFiV4Sx12ComboPortManagement2Module(2074) • fdryFiV4Sx210gPortManagementModule(2080) • fdryFiSx0PortManagementModule(2081) • fdryFiV4Sx4g4fPortManagementModule(2083) • fdryFiV6Sx12ComboPortManagementModule(2096) • fdryFiV6Sx24PortGigCopperModule(2098) • fdryFiV6Sx2Port10gModule(2100) • fdryFiV6Sx24Port100m1gFiberModule(2101) • fdryFiV6Sx210gPortManagementModule(2102) • fdryFiV6Sx48PortGigCopperPoeModule(2103) • fdryFiV6Sx4g4fPortManagementModule(2104) • fdryFiV6Sx12ComboPortManagement2Module(2105) • fdryFiV6Sx48PortGigCopperModule(2106) • fdryFiV6SxXl0PortManagementModule(2112) • fdryFiV6SxXl210gPortManagementModule(2113) • fdryFws24GPortCopperBaseModule(2226)
snAgentConfigModuleDescription brcdIp.1.1.2.8.1.1.4 Syntax: DisplayString	Read-only	The description of the configured module.
snAgentConfigModuleOperStatus brcdIp.1.1.2.8.1.1.5 Syntax: DisplayString	Read-only	The module operational status. A blank indicates that the physical module has not been inserted in the chassis.
snAgentConfigModuleSerialNumber brcdIp.1.1.2.8.1.1.6 Syntax: DisplayString NOTE This object is not supported for XMR Series, MLX Series, and MLX Series. Use the snAgentBrdSerialNumber in the snAgentBrdTable instead.	Read-only	The module serial number. A blank indicates that the serial number has not been programmed in the module's EEPROM or the serial number is not supported in the module. This object returns the device serial number.
snAgentConfigModuleNumberOfPorts	Read-only	The number of ports in the module.

Name, OID, and syntax	Access	Description
brcdIp.1.1.2.8.1.1.7 Syntax: Integer32		
snAgentConfigModuleMgmtModuleType brcdIp.1.1.2.8.1.1.8 Syntax: Integer	Read-only	The management module types: • other(1) • nonManagementModule(2) • unknownManagementModule(3) • m1ManagementModule(4) • m2ManagementModule(5) • m3ManagementModule(6) • m4ManagementModule(7) • m5ManagementModule(8) • jetcoreStackManagementModule(9) • muchoManagementModule(10) • rottWeilerManagementModule(11) • fesXStackManagementModule(12) • fgsStackManagementModule(13)
snAgentConfigModuleNumberOfCpus brcdIp.1.1.2.8.1.1.9 Syntax: Integer32	Read-only	The number of CPUs in the module.

Configuration module table for stacking

The following table contains information about modules in a stacking device.

Name, OID, and syntax	Access	Description
snAgentConfigModule2Table brcdIp.1.1.2.8.2	None	A table of each configured stacking module information.
snAgentConfigModule2Unit brcdIp.1.1.2.8.2.1.1 Syntax: Integer	Read-only	The index to the configured stacking module table. Value can be from 1 through 8.
snAgentConfigModule2Slot brcdIp.1.1.2.8.2.1.2 Syntax: Integer	Read-only	The index to the agent configured module table. Value can be from 1 through 4.
snAgentConfigModule2Type brcdIp.1.1.2.8.2.1.3 Syntax: Integer	Read-only	The module type that has been configured for the device: • bi8PortGigManagementModule(0) • bi4PortGigManagementModule(1) • bi16PortCopperManagementModule(2) • bi4PortGigModule(3) • fi2PortGigManagementModule(4) • fi4PortGigManagementModule(5) • bi8PortGigCopperManagementModule(6) • fi8PortGigManagementModule(7) • bi8PortGigModule(8) • bi12PortGigCopper2PortGigFiberManagement (9) • bi24PortCopperModule(10)

Name, OID, and syntax	Access	Description
		• fi24PortCopperModule(11) • bi16Port100FXModule(12) • bi8Port100FXModule(13) • bi8PortGigCopperModule(14) • bi12PortGigCopper2PortGigFiber(15) • bi2PortGigManagementModule(18) • bi24Port100FXModule(19) • bi0PortManagementModule(20) • pos622MbsModule(21) • pos155MbsModule(22) • bi2PortGigModule(23) • bi2PortGigCopperModule(24) • fi2PortGigModule(25) • fi4PortGigModule(26) • fi8PortGigModule(27) • fi8PortGigCopperModule(28) • fi8PortGigCopperManagementModule(29) • pos155Mbs2PModule(30) • fi4PortGigCopperManagementModule(31) • fi2PortGigCopperManagementModule(32) • bi4PortGigCopperManagementModule(33) • bi2PortGigCopperManagementModule(34) • bi8PortGigM4ManagementModule(35) • bi4PortGigM4ManagementModule(36) • bi2PortGigM4ManagementModule(37) • bi0PortGigM4ManagementModule(38) • bi0PortWSMManagementModule(39) • biPos2Port2488MbsModule(40) • bi0PortWSMModule(41) • niPos2Port2488MbsModule(42) • ni4802(43) • bi4PortGigNPAModule(44) • biAtm2Port155MbsModule(45) • biAtm4Port155MbsModule(46) • bi1Port10GigModule(47) • fes4802Module(48) • fes2402Module(49) • fes9604Module(50) • fes12GigCopperAndGigFiberModule(51) • fesx24GigModule(52) • fesx24Gig2TenGigModule(53) • fesx24Gig1TenGigModule(54) • fesx48GigModule(55) • fesx48Gig2TenGigModule(56) • fesx48Gig1TenGigModule(57) • superx12ComboPortManagementModule(64) • superx2PortTenGigModule(65)

Name, OID, and syntax	Access	Description
		• superx24PortGigCopperModule(66) • superx24PortGigFiberModule(67) • superx2PortTenGigLanWanModule(68) • superx24Port100tx1PortGigFiberModule(69) • superx12ComboPortManagement2Module(74) • superxR2PortTenGigManagementModule(80) • superxRManagementModule(81) • fesx24GigFiberGigCopperModule(112) • fesx24GigFiber2TenGigModule(113) • fesx24GigFiber1TenGigModule(114) • biFiJc48ePort100fxIpcModule(195) • biFiJc48tPort100fxIpcModule(196) • biFiJc8PortGigM4ManagementModule(197) • biFiJc8PortGigIgcModule(198) • biFiJc16PortGigIgcModule(200) • biJc24PortCopperIpc4GigIgcModule(201) • biJc16PortGigCopperIgcModule(202) • biFiJc24Port100fxIpcModule(206) • bi2Port10GigModule(207) • biJc48tPortRJ21OmpModule(208) • biJc48ePortRJ45OmpModule(209) • biJc24PortIpcRJ45PoeModule(212) • biJc2PortGigIgcM4ManagementModule(214) • fgs24PortManagementModule(144) • fgs48PortManagementModule(145) • fgsXfp2Port10gModule(152) • fgsCx42Port10gModule(153) • fgsXfp1Cx41Port10gModule(154) • fgsXpf1Port10gModule(155) • fls24PortCopperBaseModule(160) • fls48PortCopperBaseModule(161) • flsXfp1Port10gModule(168) • flsCx41Port10gModule(169) • fcx624SBaseModule(176) • fcx648SBaseModule(177) • fcx624SPoeBaseModule(180) • fcx648SPoeBaseModule(181) • fcxXfp2Port10gModule(184) • fcxCx42Port16gModule(185) • fcx624SFBaseModule(192) • fdryIcx6430624BaseModule(2016) • fdryIcx6430648BaseModule(2017) • fdryIcx6430624PoeBaseModule(2020) • fdryIcx6430648PoeBaseModule(2021) • fdryIcx6430sfp4Port4gModule(2024) • fdryIcx6450624BaseModule(2032) • fdryIcx6450648BaseModule(2033)

Name, OID, and syntax	Access	Description
		• fdryIcx6450624PoeBaseModule(2036) • fdryFcxSfpPlus4Port10gModule(2220) • fdryFws24PortCopperBaseModule(2224) • fdryFws48PortCopperBaseModule(2225) • fdryFws24GPortCopperBaseModule(2226) • fdryFws48GPortCopperBaseModule(2227) • fdryIcx7450624BaseModule(2224) • fdryIcx7450648BaseModule(2225) • fdryIcx7450648FBaseModule(2227) • fdryIcx7450624PoeBaseModule(2228) • fdryIcx7450648PoeBaseModule(2229) • fdryIcx7450632ZPBaseModule(2230) • fdryIcx7400ServiceModule (2232) • fdryIcx7450sfpplus4Port40gModule(2233) • fdryIcx7450copper4Port40gModule(2234) • fdryIcx7450sfp4Port4gModule(2235) • fdryIcx7450qsfpplus1Port40gModule(2236) • fdryIcx6610624BaseModule(2240) • fdryIcx6610648BaseModule(2241) • fdryIcx6610624PoeBaseModule(2244) • fdryIcx6610648PoeBaseModule(2245) • fdryIcx6610624FBaseModule(2246) • fdryIcx6610DualMode8PortModule(2248) • fdryIcx6610Qsfp10Port160gModule(2249)
snAgentConfigModule2RowStatus brcdIp.1.1.2.8.2.1.4 Syntax: Integer	Read-write	To create or delete a configured module table entry: • other(1) • valid(2) • delete(3) • create(4)
snAgentConfigModule2Description brcdIp.1.1.2.8.2.1.5 Syntax: Integer	Read-only	A description of the configured module.
snAgentConfigModule2OperStatus brcdIp.1.1.2.8.2.1.6 Syntax: Integer	Read-only	The module operational status. A zero length string indicates that the physical module has not been inserted in the chassis.
snAgentConfigModule2SerialNumber brcdIp.1.1.2.8.2.1.7 Syntax: DisplayString	Read-only	The module serial number. A zero length string indicates that the module serial number EEPROM has not been programmed or the module does not support serial number EEPROM.
snAgentConfigModule2NumberOfPorts brcdIp.1.1.2.8.2.1.8 Syntax: Integer	Read-only	The number of ports on a module.
snAgentConfigModule2MgmtModuleType brcdIp.1.1.2.8.2.1.9 Syntax: Integer	Read-only	The management module types: • other(1) • nonManagementModule(2) • unknownManagementModule(3) • m1ManagementModule(4)

Name, OID, and syntax	Access	Description
		• m2ManagementModule(5) • m3ManagementModule(6) • m4ManagementModule(7) • m5ManagementModule(8) • jetcoreStackManagementModule(9) • muchoManagementModule(10) • rottWeilerManagementModule(11) • fesXStackManagementModule(12) • fgsStackManagementModule(13)
snAgentConfigModule2NumberOfCpus brcdIp.1.1.2.8.2.1.10 Syntax: Integer	Read-only	The number of CPUs on the module.

Agent user access group

The agent user access group section presents the objects used to control user access to devices.

Name, OID, and syntax	Access	Description
snAgentUserMaxAccnt brcdIp.1.1.2.9.1.1 Syntax: Integer32	Read-only	Shows the maximum number of user accounts that can be configured on the device.

Agent user account table

The objects in this table provide information about user accounts.

Name, OID, and syntax	Access	Description
snAgentUserAccntTable brcdIp.1.1.2.9.2	None	A table of user account information.
snAgentUserAccntName brcdIp.1.1.2.9.2.1.1 Syntax: DisplayString	Read-only	Displays the user name. This object can have up to 48 characters
snAgentUserAccntPassword brcdIp.1.1.2.9.2.1.2 Syntax: DisplayString	Read-write	Contains the user password. Valid values: Up to 48 characters **NOTE** **The password-change any** command must be configured on the device to set the password field through SNMP SET operation.
snAgentUserAccntEncryptCode brcdIp.1.1.2.9.2.1.3 Syntax: Integer32	Read-write	States the password encryption method code.
snAgentUserAccntPrivilege brcdIp.1.1.2.9.2.1.4	Read-write	Shows the user privilege.

Name, OID, and syntax	Access	Description
Syntax: Integer32		
snAgentUserAccntRowStatus brcdIp.1.1.2.9.2.1.5 Syntax: Integer	Read-write	Creates, modifies, or deletes a user account table entry: • other(1) • valid(2) • delete(3) • create(4) • modify(5)

Agent redundant group

Use the following objects to manage redundant management groups.

NOTE
The upgraded version of MP card MR2 supports all the objects in the Agent redundant group table. The MP-MR2 is supported only on the XMR Series, MLX Series, and MLX Series devices.

Name, OID, and syntax	Access	Description
snAgentRedunActiveMgmtMod brcdIp.1.1.2.10.1.1 Syntax: Integer32	Read-write	Shows the slot number of the active management module. Setting this object does not take effect immediately. You must save the configuration data to flash storage, then reboot the system before the new value takes effect. Setting a value of 0 requests the system to auto-select an active management module after power up. Default: 0
snAgentRedunSyncConfig brcdIp.1.1.2.10.1.2 Syntax: Integer32	Read-write	Shows how often the data in the active management module will be copied to the backup management module. The value for this object is in seconds. Setting this object to 0 disables the copy process. Setting it to a negative value starts the process immediately, but runs only once. Default: Every 10 seconds
snAgentRedunBkupCopyBootCode brcdIp.1.1.2.10.1.3 Syntax: Integer	Read-write	If enabled, the backup management module copies the boot code of the active management module to its boot code flash storage after power up, and whenever the active management module's boot code is updated. The backup management module does not copy the boot code it is identical to what is already in flash storage: • disabled(0) • enabled(1) Default: disabled(0)
snAgentEnableMgmtModRedunStateChangeTrap brcdIp.1.1.2.10.1.4 Syntax: Integer	Read-write	Indicates if the SNMP agent process has been enabled to generate management module redundancy state change traps: • disabled(0)

Name, OID, and syntax	Access	Description
		• enabled(1) Default: enabled(1)
snAgentRedunBkupBootLoad brcdIp.1.1.2.10.1.5 Syntax: Integer	Read-write	Downloads a new boot code from boot flash storage of the active management module to the backup management module. In a set operation, enter the value downloadBackup(20) to download the boot code from the active management module to the backup management module. A set operation is rejected during a download until an error or normal state is reached. One of the following values is returned by a get operation: • normal(1) - No operation. • operationError(17) - Error codes. • downloadBackup(20) - Download boot code from active module to backup to the backup module.
snAgentRedunSwitchOver brcdIp.1.1.2.10.1.6 Syntax: Integer	Read-write	Switches a backup management module to an active management module: • other(1) • reset(2) - Resets the backup module to active.

System CPU utilization table

The objects in the following table are supported on the MLX Series, MLX Series, XMR Series, CES 2000 Series, and CER 2000 Series devices.

Name, OID, and syntax	Access	Description
snAgentCpuUtilTable brcdIp.1.1.2.11.1	None	The table to list utilization for all CPUs.
snAgentCpuUtilSlotNum brcdIp.1.1.2.11.1.1.1 Syntax: Integer32	Read-only	The slot number of the module that contains the CPU.
snAgentCpuUtilCpuId brcdIp.1.1.2.11.1.1.2 Syntax: Integer32	Read-only	The ID of the CPU: • For non-VM1/WSM management module, there is one CPU. • For VM1/WSM, there is one management CPU and three slave CPUs. The management CPU could be turned off. • For POS and ATM, there is no management CPU but two slave CPUs. • The ID for the management CPU is 1. A value of 2 and greater identifies the slave CPUs.

Name, OID, and syntax	Access	Description
snAgentCpuUtilInterval brcdIp.1.1.2.11.1.1.3 Syntax: Integer32	Read-only	The value, in seconds, for this utilization. For both management and slave CPUs, utilizations for 1 sec, 5 sec, 60 sec, and 300 sec intervals are displayed.
snAgentCpuUtilValue brcdIp.1.1.2.11.1.1.4 Syntax: Gauge32 NOTE This object is supported on the XMR Series and MLX Series devices. This object is not supported on the MLX Series device. Use the snAgentCpuUtilPercent and snAgentCpuUtil100thPercent objects instead.	Read-only	The statistical CPU utilization in units of one-hundredth of a percent.
snAgentCpuUtilPercent brcdIp.1.1.2.11.1.1.5 Syntax: Gauge32 NOTE Execute **cpu-usage on** command in the config mode, if the MP CPU utilization is required on the Extreme NetIron devices. This object is supported on the MLX Series, MLX Series, and XMR Series devices.	Read-only	The statistical CPU utilization in units of one percent.
snAgentCpuUtil100thPercent brcdIp.1.1.2.11.1.1.6 Syntax: Gauge32 NOTE This object is supported on the XMR Series, MLX Series, and MLX Series devices.	Read-only	The statistical CPU utilization in units of one-hundredth of a percent.

System process utilization table

The following table lists CPU utilization and statistics for all CPU processes on the device.

NOTE
The objects in the following table are supported on the MLX Series, XMR Series, MLX Series, CES 2000 Series, and CER 2000 Series devices.

Name, OID, and syntax	Access	Description
snCpuProcessTable brcdIp.1.1.2.11.2	None	System process utilization table.
snCpuProcessName brcdIp.1.1.2.11.2.1.1 Syntax: DisplayString	Read-only	Name of the process.

Name, OID, and syntax	Access	Description
snCpuProcess5SecUtil brcdIp.1.1.2.11.2.1.2 Syntax: Gauge	Read-only	Statistics collected during the last 5 seconds of process utilization. Divide this number by 100 to get the percentage utilization. It can have a value 0 or a value between 100 to 10000 in multiples of 100. If the agent is queried immediately after turning on the CPU usage and 5 seconds have not been elapsed, then the data will not be available. Returns the data for the actual elapsed time for the NetIron devices.
snCpuProcess1MinUtil brcdIp.1.1.2.11.2.1.3 Syntax: Gauge	Read-only	Statistics collected during the last 1 minute of process utilization. Divide this number by 100 to get the percentage utilization. It can have a value 0 or a value between 100 to 10000 in multiples of 100. If the agent is queried immediately after turning on the CPU usage and 1 minute have not been elapsed, then the data will not be available. Returns the data for the actual elapsed time for the NetIron devices.
snCpuProcess5MinUtil brcdIp.1.1.2.11.2.1.4 Syntax: Gauge	Read-only	Statistics collected during the last 5 minutes of process utilization. Divide this number by 100 to get the percentage utilization. It can have a value 0 or a value between 100 to 10000 in multiples of 100. If the agent is queried immediately after turning on the CPU usage and 5 minutes have not been elapsed, then the data will not be available. Returns the data for the actual elapsed time for the NetIron devices.
snCpuProcess15MinUtil brcdIp.1.1.2.11.2.1.5 Syntax: Gauge NOTE This object is not supported on the Extreme NetIron devices.	Read-only	Statistics collected during the last 15 minutes of process utilization. Divide this number by 100 to get the percentage utilization.
snCpuProcessRuntime brcdIp.1.1.2.11.2.1.6 Syntax: Counter	Read-only	Process runtime in milliseconds.
snAgentCpuProcessEnable brcdIp.1.1.2.11.3 Syntax: EnabledStatus	Read-write	Enables the CPU utilization statistics collection.

Resource utilization table

The following tables provides SNMP support for the CPU, Message Queue, and buffer resource utilization details of each task.

NOTE
The following tables are supported on the MLX Series, MLX Series, XMR Series, CES 2000 Series, and CER 2000 Series devices.

Task CPU table

The following table displays the CPU state, wait time, hold time and priority with respect to each task in the device.

Name, OID, and syntax	Access	Description
snAgentTaskCpuTable brcdIp.1.1.2.17.1	None	Displays the CPU state, wait time, hold time and priority with respect to each task in the device.
snAgentTaskCPUTaskID brcdIp.1.1.2.17.1.1.1 Syntax: Integer32	Read-only	Represents the task identification number.
snAgentTaskCpuTaskName brcdIp.1.1.2.17.1.1.2 Syntax: DisplayString	Read-only	Represents the task name.
snAgentTaskCpuState brcdIp.1.1.2.17.1.1.3 Syntax: DisplayString	Read-only	Represents the current state of the task.
snAgentTaskCpuWaitTime brcdIp.1.1.2.17.1.1.4 Syntax: Gauge32	Read-only	A count used to represent the wait time in milliseconds.
snAgentTaskCpuHoldTime brcdIp.1.1.2.17.1.1.5 Syntax: Gauge32	Read-only	A count used to represent the hold time in milliseconds.
snAgentTaskCpuTaskActivity brcdIp.1.1.2.17.1.1.6 Syntax: DisplayString	Read-only	Represents the task activity. • A - running since last show • I - idle

Task Message Queue (MQ) table

The following table displays the Message Queue Priority, Depth, Messages and the failed count with respect to each task and corresponding MQ priority in the device.

Name, OID, and syntax	Access	Description
snAgentTaskMQTable brcdIp.1.1.2.17.2	None	Displays the Message Queue Priority, Depth, Msgs and the failed count with respect to each task and corresponding Message Queue priority in the device.
snAgentTaskMQTaskID brcdIp.1.1.2.17.2.1.1 Syntax: Integer32	Read-only	Represents the task identification number.
snAgentTaskMQTaskName brcdIp.1.1.2.17.2.1.2 Syntax: DisplayString	Read-only	Represents the task name.
snAgentTaskMQPriority brcdIp.1.1.2.17.2.1.3 Syntax: Integer32	Read-only	Represents the priority of the Message Queue.
snAgentTaskMQLength brcdIp.1.1.2.17.2.1.4 Syntax: Integer32	Read-only	Represents the size of the Message Queue.
snAgentTaskMQDepth brcdIp.1.1.2.17.2.1.5 Syntax: Gauge32	Read-only	A count used to represent the Message Queue depth.

Name, OID, and syntax	Access	Description
snAgentTaskMQMaxDepth brcdIp.1.1.2.17.2.1.6 Syntax: Counter32	Read-only	A count used to represent the maximum depth reached ever (clear on read counter).
snAgentTaskMQStickyMaxDepth brcdIp.1.1.2.17.2.1.7 Syntax: Counter32	Read-only	A count used to represent the maximum depth reached ever (this counter is not clear on read).
snAgentTaskMQMsgs brcdIp.1.1.2.17.2.1.8 Syntax: Gauge32	Read-only	A count used to represent the number of messages.
snAgentTaskMQMaxMsgs brcdIp.1.1.2.17.2.1.9 Syntax: Counter32	Read-only	A count used to represent the maximum number of messages reached ever (clear on read counter).
snAgentTaskMQStickyMaxMsgs brcdIp.1.1.2.17.2.1.10 Syntax: Counter32	Read-only	A count used to represent the maximum number of messages reached ever (this counter is not clear on read).
snAgentTaskMQFailedCount brcdIp.1.1.2.17.2.1.11 Syntax: Gauge32	Read-only	A count used to represent failed count (clear on read counter).
snAgentTaskMQStickyFailedCount brcdIp.1.1.2.17.2.1.12 Syntax: Counter32	Read-only	A count used to represent failed count (this counter is not clear on read).

Task buffer table

The following table displays the Task ID, Task name, Pool ID and the buffer count of each task in the device.

Name, OID, and syntax	Access	Description
snAgentTaskBufferTable brcdIp.1.1.2.17.3	None	Displays the Task ID, Task name , Pool_ID and the buffer count of each task in the device .
snAgentTaskBufferTaskID brcdIp.1.1.2.17.3.1.1 Syntax: Integer32	None	Represents the task identification number.
snAgentTaskBufferTaskName brcdIp.1.1.2.17.3.1.2 Syntax: DisplayString	Read-only	Represents the task name.
snAgentTaskBufferPoolID brcdIp.1.1.2.17.3.1.3 Syntax: Integer32	Read-only	Represents the pool identification number.
snAgentTaskBufferCount brcdIp.1.1.2.17.3.1.4 Syntax: Gauge32	Read-only	A count used to represent the number of buffers allocated to a task.

IfXWatermarkTable table

The following table displays the high and low watermark of bits per second and packets per second for each port in the system.

NOTE

The objects in the following table are supported only on the MLX Series, MLX Series, and XMR Series devices. SNMP GET and SNMP WALK operations are supported.

Name, OID, and syntax	Access	Description
IfXWatermarkTable brcdIp.1.1.2.18.1	None	Table displays the highest and lowest transmit and receive bit rate and packet rate of a port for the current and previous 1-hour or 24-hour window.
ifWatermarkCurrentHourWindowStartTime brcdIp.1.1.2.18.1.1.1 Syntax: DisplayString	Read-only	Time at which the current 1-hour window started. The current 1-hour window starts when the line card comes up. The current hour window start time expires every 1-hour.
ifWatermarkCurrentHourHighRxUtilTime brcdIp.1.1.2.18.1.1.2 Syntax: DisplayString	Read-only	Time at which the port bit or packet received rate reached its highest inside the current 1-hour window since IfWatermarkCurrentHourWindowStartTime.
ifWatermarkCurrentHourHighInPktRate brcdIp.1.1.2.18.1.1.3 Syntax: Counter64	Read-only	Packet rate when the highest receive packet rate was recorded inside the current 1-hour window since IfWatermarkCurrentHourWindowStartTime.
ifWatermarkCurrentHourHighInBitRate brcdIp.1.1.2.18.1.1.4 Syntax: Counter64	Read-only	Bit rate when the highest receive bit rate was recorded on the interface inside the current 1-hour window since IfWatermarkCurrentHourWindowStartTime.
ifWatermarkCurrentHourLowRxInUtilTime brcdIp.1.1.2.18.1.1.5 Syntax: DisplayString	Read-only	Time at which the port bit or packet receive rate reached its lowest inside the current 1-hour window since IfWatermarkCurrentHourWindowStartTime.
ifWatermarkCurrentHourLowInPktRate brcdIp.1.1.2.18.1.1.6 Syntax: Counter64	Read-only	Packet rate when the lowest receive packet rate was recorded inside the current 1-hour window since IfWatermarkCurrentHourWindowStartTime
ifWatermarkCurrentHourLowInBitRate brcdIp.1.1.2.18.1.1.7 Syntax: Counter64	Read-only	Bit rate when the lowest receive bit rate was recorded on the interface inside the current 1-hour window since IfWatermarkCurrentHourWindowStartTime.
ifWatermarkCurrentHourHighTxUtilTime brcdIp.1.1.2.18.1.1.8 Syntax: DisplayString	Read-only	Time at which the port bit or packet transmit rate reached its highest inside the current 1-hour window since IfWatermarkCurrentHourWindowStartTime.
ifWatermarkCurrentHourHighOutPktRate brcdIp.1.1.2.18.1.1.9 Syntax: Counter64	Read-only	Packet rate when the highest transmit packet rate was recorded inside the current 1-hour window since IfWatermarkCurrentHourWindowStartTime.
ifWatermarkCurrentHourHighOutBitRate brcdIp.1.1.2.18.1.1.10 Syntax: Counter64	Read-only	Bit rate when the highest transmit bit rate was recorded on the interface inside the current 1-hour window since IfWatermarkCurrentHourWindowStartTime.
ifWatermarkCurrentHourLowTxOutUtilTime brcdIp.1.1.2.18.1.1.11 Syntax: DisplayString	Read-only	Time at which the port bit or packet transmit rate reached its lowest inside the current 1-hour window since IfWatermarkCurrentHourWindowStartTime.

Name, OID, and syntax	Access	Description
ifWatermarkCurrentHourLowOutPktRate brcdIp.1.1.2.18.1.1.12 Syntax: Counter64	Read-only	Packet rate when the lowest received packet rate was recorded inside the current 1-hour window since IfWatermarkCurrentHourWindowStartTime.
ifWatermarkCurrentHourLowOutBitRate brcdIp.1.1.2.18.1.1.13 Syntax: Counter64	Read-only	Bit rate when the lowest receive bit rate was recorded on the interface inside the current 1-hour window since IfWatermarkCurrentHourWindowStartTime.
ifWatermarkLastHourHighRxUtilTime brcdIp.1.1.2.18.1.1.14 Syntax: DisplayString	Read-only	Time at which the port bit or packet receive rate reached its highest inside the last 1-hour.
ifWatermarkLastHourHighInPktRate brcdIp.1.1.2.18.1.1.15 Syntax: Counter64	Read-only	Packet rate when the highest receive packet rate was recorded inside the last 1-hour.
ifWatermarkLastHourHighInBitRate brcdIp.1.1.2.18.1.1.16 Syntax: Counter64	Read-only	Bit rate when the highest receive bit rate was recorded on the interface inside the last 1-hour.
ifWatermarkLastHourLowRxUtilTime brcdIp.1.1.2.18.1.1.17 Syntax: DisplayString	Read-only	Time at which the port bit or packet receive rate reached its lowest inside the last 1-hour.,
ifWatermarkLastHourLowInPktRate brcdIp.1.1.2.18.1.1.18 Syntax: Counter64	Read-only	Packet rate when the lowest receive packet rate was recorded inside the last 1-hour.
ifWatermarkLastHourLowInBitRate brcdIp.1.1.2.18.1.1.19 Syntax: Counter64	Read-only	Bit rate when the lowest receive bit rate was recorded on the interface inside the last 1-hour.
ifWatermarkLastHourHighTxUtilTime brcdIp.1.1.2.18.1.1.20 Syntax: DisplayString	Read-only	Time at which the port bit or packet transmit rate reached its highest inside the last 1-hour.
ifWatermarkLastHourHighOutPktRate brcdIp.1.1.2.18.1.1.21 Syntax: Counter64	Read-only	Packet rate when the highest transmit packet rate was recorded inside the last 1-hour.
ifWatermarkLastHourHighOutBitRate brcdIp.1.1.2.18.1.1.22 Syntax: Counter64	Read-only	Bit rate when the highest transmit bit rate was recorded on the interface inside the last 1-hour.
ifWatermarkLastHourLowTxUtilTime brcdIp.1.1.2.18.1.1.23 Syntax: DisplayString	Read-only	Time at which the port bit or packet transmit rate reached its lowest inside the last 1-hour.
ifWatermarkLastHourLowOutPktRate brcdIp.1.1.2.18.1.1.24 Syntax: Counter64	Read-only	Packet rate when the lowest receive packet rate was recorded inside the last 1-hour.

Name, OID, and syntax	Access	Description
ifWatermarkLastHourLowOutBitRate brcdIp.1.1.2.18.1.1.25 Syntax: Counter64	Read-only	Bit rate when the lowest receive bit rate was recorded on the interface inside the last 1-hour.
ifWatermarkCurrentDayWindowStartTime brcdIp.1.1.2.18.1.1.26 Syntax: DisplayString	Read-only	Time at which the current 24-hour window started. The current 24-hour window starts when the line card comes up.
ifWatermarkCurrentDayHighRxUtilTime brcdIp.1.1.2.18.1.1.27 Syntax: DisplayString	Read-only	Time at which the port bit or packet receive rate reached its highest inside the current 24-hour window since IfWatermarkCurrentDayWindowStartTime.
ifWatermarkCurrentDayHighInPktRate brcdIp.1.1.2.18.1.1.28 Syntax: Counter64	Read-only	Packet rate when the highest receive packet rate was recorded inside the current 24-hour window since IfWatermarkCurrentDayWindowStartTime.
ifWatermarkCurrentDayHighInBitRate brcdIp.1.1.2.18.1.1.29 Syntax: Counter64	Read-only	Bit rate when the highest receive bit rate was recorded on the interface inside the current 24-hour window since IfWatermarkCurrentDayWindowStartTime.
ifWatermarkCurrentDayLowRxInUtilTime brcdIp.1.1.2.18.1.1.30 Syntax: DisplayString	Read-only	Time at which the port bit or packet receive rate reached its lowest inside the current 24-hour window since IfWatermarkCurrentDayWindowStartTime.
ifWatermarkCurrentDayLowInPktRate brcdIp.1.1.2.18.1.1.31 Syntax: Counter64	Read-only	Packet rate when the lowest receive packet rate was recorded inside the current 24-hour window since IfWatermarkCurrentDayWindowStartTime.
ifWatermarkCurrentDayLowInBitRate brcdIp.1.1.2.18.1.1.32 Syntax: Counter64	Read-only	Bit rate when the lowest receive bit rate was recorded on the interface inside the current 24-hour window since IfWatermarkCurrentDayWindowStartTime.
ifWatermarkCurrentDayHighTxUtilTime brcdIp.1.1.2.18.1.1.33 Syntax: DisplayString	Read-only	Time at which the port bit or packet transmit rate reached its highest inside the current 24-hour window since IfWatermarkCurrentDayWindowStartTime.
ifWatermarkCurrentDayHighOutPktRate brcdIp.1.1.2.18.1.1.34 Syntax: Counter64	Read-only	Packet rate when the highest transmit packet rate was recorded inside the current 24-hour window since IfWatermarkCurrentDayWindowStartTime.
ifWatermarkCurrentDayHighOutBitRate brcdIp.1.1.2.18.1.1.35 Syntax: Counter64	Read-only	Bit rate when the highest transmit bit rate was recorded on the interface inside the current 24-hour window since IfWatermarkCurrentDayWindowStartTime.
ifWatermarkCurrentDayLowTxOutUtilTime brcdIp.1.1.2.18.1.1.36 Syntax: DisplayString	Read-only	Time at which the port bit or packet transmit rate reached its lowest inside the current 24-hour window since IfWatermarkCurrentDayWindowStartTime.
ifWatermarkCurrentDayLowOutPktRate brcdIp.1.1.2.18.1.1.37 Syntax: Counter64	Read-only	Packet rate when the lowest receive packet rate was recorded inside the current 24-hour window since IfWatermarkCurrentDayWindowStartTime.

Name, OID, and syntax	Access	Description
ifWatermarkCurrentDayLowOutBitRate brcdIp.1.1.2.18.1.1.38 Syntax: Counter64	Read-only	Bit rate when the lowest receive bit rate was recorded on the interface inside the current 24-hour window since IfWatermarkCurrentDayWindowStartTime.
ifWatermarkLastDayHighRxUtilTime brcdIp.1.1.2.18.1.1.39 Syntax: DisplayString	Read-only	Time at which the port bit or packet receive rate reached its highest inside the last 24-hour window.
ifWatermarkLastDayHighInPktRate brcdIp.1.1.2.18.1.1.40 Syntax: Counter64	Read-only	Packet rate when the highest receive packet rate was recorded inside the last 24-hour window.
ifWatermarkLastDayHighInBitRate brcdIp.1.1.2.18.1.1.41 Syntax: Counter64	Read-only	Bit rate when the highest receive bit rate was recorded on the interface inside the last 24-hour window.
ifWatermarkLastDayLowRxUtilTime brcdIp.1.1.2.18.1.1.42 Syntax: DisplayString	Read-only	Time at which the port bit or packet receive rate reached its lowest inside the last 24-hour window.
ifWatermarkLastDayLowInPktRate brcdIp.1.1.2.18.1.1.43 Syntax: Counter64	Read-only	Packet rate when the lowest receive packet rate was recorded inside the last 24-hour window.
ifWatermarkLastDayLowInBitRate brcdIp.1.1.2.18.1.1.44 Syntax: Counter64	Read-only	Bit rate when the lowest receive bit rate was recorded on the interface inside the last 24-hour window.
ifWatermarkLastDayHighTxUtilTime brcdIp.1.1.2.18.1.1.45 Syntax: DisplayString	Read-only	Time at which the port bit or packet transmit rate reached its highest inside the last 24-hour window.
ifWatermarkLastDayHighOutPktRate brcdIp.1.1.2.18.1.1.46 Syntax: Counter64	Read-only	Packet rate when the highest transmit packet rate was recorded inside the last 24-hour window.
ifWatermarkLastDayHighOutBitRate brcdIp.1.1.2.18.1.1.47 Syntax: Counter64	Read-only	Bit rate when the highest transmit bit rate was recorded on the interface inside the last 24-hour window.
ifWatermarkLastDayLowTxUtilTime brcdIp.1.1.2.18.1.1.48 Syntax: DisplayString	Read-only	Time at which the port bit or packet transmit rate reached its lowest inside the last 24-hour window.
ifWatermarkLastDayLowOutPktRate brcdIp.1.1.2.18.1.1.49 Syntax: Counter64	Read-only	Packet rate when the lowest receive packet rate was recorded inside the last 24-hour window.
ifWatermarkLastDayLowOutBitRate brcdIp.1.1.2.18.1.1.50 Syntax: Counter64	Read-only	Bit rate when the lowest receive bit rate was recorded on the interface inside the last 24-hour window.

Hardware integrated central buffer manager counter table

The following table provides information for the Integrated Central Buffer Manager (ICBM).

NOTE

The objects in the following table are not supported on the MLX Series, MLX Series, XMR Series, CES 2000 Series, and CER 2000 Series devices.

Name, OID, and syntax	Access	Description
snAgentHwICBMCounterTable brcdIp.1.1.2.12.1	None	Table to list the ICBM counter values. This table is not supported on the 10G module.
snAgentHwICBMCounterSlot brcdIp.1.1.2.12.1.1.1 Syntax: Unsigned32	Read-only	The slot number where the ICBM resides.
snAgentHwICBMCounterDMA brcdIp.1.1.2.12.1.1.2 Syntax: Unsigned32	Read-only	DMA ID within a slot where the ICBM resides. This object is valid only for Jetcore modules. For non-Jetcore modules, this index is ignored by the agent. In this case, value 0 will be returned by the agent.
snAgentHwICBMCounterFreeDepth brcdIp.1.1.2.12.1.1.3 Syntax: Counter	Read-only	Current depth of the free queue for this ICBM.
snAgentHwICBMCounterWriteDrop brcdIp.1.1.2.12.1.1.4 Syntax: Counter	Read-only	Write sequencer drop count for this ICBM.
snAgentHwICBMCounterWriteInput brcdIp.1.1.2.12.1.1.5 Syntax: Counter	Read-only	Write sequencer input counter for this ICBM.
snAgentHwICBMCounterWriteOutput brcdIp.1.1.2.12.1.1.6 Syntax: Counter	Read-only	Write sequencer output counter for this ICBM.
snAgentHwICBMCounterReadInput brcdIp.1.1.2.12.1.1.7 Syntax: Counter	Read-only	Read sequencer input counter for this ICBM.
snAgentHwICBMCounterReadOutput brcdIp.1.1.2.12.1.1.8 Syntax: Counter	Read-only	Read sequencer output counter for this ICBM.

Switch Group Configuration

Switch group configuration

The switch group configuration table is partially supported on the Extreme NetIron devices.

Name, OID, and syntax	Access	Description
snSwGroupOperMode brcdIp.1.1.3.1.1 Syntax: Integer **NOTE** This object is not supported on the MLX Series, MLX Series, XMR Series, CES 2000 Series, and CER 2000 Series devices.	Read-write	Indicates if switch ports have VLANs defined: • noVLan(1) - All switch ports with no port VLANs and no tag assigned. • vlanByPort(2) - All switch ports with basic port-based VLANs.
snSwGroupIpL3SwMode brcdIp.1.1.3.1.2 Syntax: Integer	Read-write	Indicates if the Layer 3 IP switch is enabled for the switch group: • disabled(0) • enabled(1)
snSwGroupIpMcastMode brcdIp.1.1.3.1.3 Syntax: Integer	Read-write	Indicates if the IP multicast pruning mode is enabled for the switch group: • disabled(0) • enabled(1)
snSwGroupDefaultCfgMode brcdIp.1.1.3.1.4 Syntax: Integer **NOTE** This object is not supported on the MLX Series, MLX Series, XMR Series, CES 2000 Series, and CER 2000 Series devices.	Read-write	Indicates if the switch group contains a default configuration. If the default configuration is overwritten, the state will change to non-default: • default(1) - Has a default configuration. • nonDefault(2) - Has a non-default configuration.
snSwGroupSwitchAgeTime brcdIp.1.1.3.1.5 Syntax: Integer32	Read-write	Sets the aging period for ports on the device, defining how long a port address remains active in the address table. Valid values: 0 = no aging, or 67 - 65535 seconds Default: 300 seconds
snVLanGroupVlanCurEntry brcdIp.1.1.3.1.6 Syntax: Integer32	Read-only	Shows the number of VLANs that are currently configured.
snVLanGroupSetAllVLan brcdIp.1.1.3.1.7 Syntax: Integer32	Read-write	Shows the VLAN index of a particular entry in snVLanByPortTable (snVLanByPortVLanIndex). All the attributes of the row except for PortMask

Name, OID, and syntax	Access	Description
NOTE This object is not supported on the MLX Series, MLX Series, XMR Series, CES 2000 Series, and CER 2000 Series devices.		will be used to set the same attributes for the entire VLAN group. VLanId and PortMask must be set for the particular entry prior to setting this object. Switch software will be based on this VLAN information to set the entire VLAN. NOTE All the intended attributes of the given row of the table (given VLAN) must be set prior setting this object. When this object is set, Set-All-VLAN action takes place simultaneously. The previous setting is overwritten by the new one.
snSwPortSetAll brcdIp.1.1.3.1.8 Syntax: Integer32 NOTE This object is not supported on the MLX Series, MLX Series, XMR Series, CES 2000 Series, and CER 2000 Series devices.	Read-write	The value of this object is the index number of the snSwPortInfoTable (snSwPortInfoPortIndex). The objects snSwPortInfoMonitorMode, snSwPortInfoTagType, snSwPortInfoChnMode, snSwPortInfoSpeed, snSwPortInfoAdminStatus are all the read-write attributes of that row of the table. They will be used to set the same attributes for all the ports in the system. NOTE Before setting this object, all the intended attributes of the given row of the table must be set. Otherwise, the current data of the row will be used to set the entire port table. The previous setting will be overwritten by the new one.
snFdbTableCurEntry brcdIp.1.1.3.1.9 Syntax: Integer32	Read-only	Shows the total number of entries in the Filtering Databse (FDB) that are configured currently.
snFdbTableStationFlush brcdIp.1.1.3.1.10 Syntax: Integer	Read-write	Shows the state of the flush operation for the FDB table. The following value can be written: • flush(3) - Perform the flush operation. After the flush operation starts, any new flush request is rejected until the operation is complete or failed. The following values can only be read: • normal(1) - Normal state • error(2) - Operation failed • flushing(4) - Operation is in process
snPortStpSetAll brcdIp.1.1.3.1.11 Syntax: Integer32 NOTE This object is not supported on the MLX Series, MLX Series, XMR Series, CES 2000 Series, and CER 2000 Series devices.	Read-write	The value of this object is 1, which means that Port STP **Set-all** command is invoked. The snPortStpPriority and snPortStpPathCost which are the read-write STP-related attributes of the first row of the table, will be used to set the same attributes for all the ports in the system.

Name, OID, and syntax	Access	Description
		NOTE Before setting this object, all the intended attributes of the given row of the table must be set. Otherwise, the current data of the row will be used to set the entire port table. The previous setting will be overwritten by the new one.
snSwProbePortNum brcdIp.1.1.3.1.12 Syntax: Integer32 **NOTE** This object is not supported on the MLX Series, MLX Series, XMR Series, CES 2000 Series, and CER 2000 Series devices.	Read-write	Indicates which chassis port is assigned as the chassis switch probe port. That port operates as a traffic analyzer port. Only one port in the chassis or stackable switch can be assigned as the traffic analyzer port. The value of this object represents the following: • Bit 0 to bit 7 - Port number • Bit 8 to bit 11 - Slot number
snSw8021qTagMode brcdIp.1.1.3.1.13 Syntax: Integer **NOTE** This object is not supported on the MLX Series, MLX Series, XMR Series, CES 2000 Series, and CER 2000 Series devices.	Read-write	Indicates if IEEE802.1q has been enabled for the switch group: • disabled(0) • enabled(1) Default: disabled(0)
snSwGlobalStpMode brcdIp.1.1.3.1.14 Syntax: Integer **NOTE** This object is not supported on the MLX Series, MLX Series, XMR Series, CES 2000 Series, and CER 2000 Series devices.	Read-write	Indicates whether or not Spanning Tree System Global Mode has been enabled for the switch group: • disabled(0) • enabled(1)
snSwIpMcastQuerierMode brcdIp.1.1.3.1.15 Syntax: Integer	Read-write	The IP Multicast pruning mode is configured in either Non-Querier or Querier mode. • querier(1) - Send out host queries. (active) • nonQuerier(2) - Do not send out host queries. (passive) Default: querier(1)
snSwViolatorPortNumber brcdIp.1.1.3.1.17 Syntax: Integer32 **NOTE** This object is not supported on the MLX Series, MLX Series, XMR Series, CES 2000 Series, and CER 2000 Series devices.	Read-only	Indicates the port number of the switch or router that receives the violator packet. This number is included in the locked address violation trap. The value of this object contains the following: • Bit 0 to bit 7 - Port number • Bit 8 to bit 11 - Slot number (for chassis devices only)

Name, OID, and syntax	Access	Description
snSwViolatorMacAddress brcdIp.1.1.3.1.18 Syntax: MAC address	Read-only	Indicates the source MAC address of the violator packet received by the switch or router. This number is included in the locked address violation trap.
snVLanGroupVlanMaxEntry brcdIp.1.1.3.1.19 Syntax: Integer32	Read-write	Shows the maximum number of VLAN entries that can be configured. NOTE This object is read-only on the Extreme NetIron devices. The SET request returns the error as not writable. Use the snAgentSysParaConfigEntry object, to set the maximum allowed VLAN.
snSwEosBufferSize brcdIp.1.1.3.1.20 Syntax: Integer32 NOTE This object is not supported on the MLX Series, MLX Series, XMR Series, CES 2000 Series, and CER 2000 Series devices.	Read-only	Specifies buffer size for all the different EOS buffers.
snVLanByPortEntrySize brcdIp.1.1.3.1.21 Syntax: Integer32 NOTE This object is not supported on the MLX Series, MLX Series, XMR Series, CES 2000 Series, and CER 2000 Series devices.	Read-only	Specifies the size of each VLAN table entry.
snSwPortEntrySize brcdIp.1.1.3.1.22 Syntax: Integer32 NOTE This object is not supported on the MLX Series, MLX Series, XMR Series, CES 2000 Series, and CER 2000 Series devices.	Read-only	Specifies the size of each port table entry.
snFdbStationEntrySize brcdIp.1.1.3.1.23 Syntax: Integer32 NOTE This object is not supported on the MLX Series, MLX Series, XMR Series, CES 2000 Series, and CER 2000 Series devices.	Read-only	Specifies the size of each FDB station table entry.
snPortStpEntrySize brcdIp.1.1.3.1.24 Syntax: Integer32	Read-only	Specifies the size of each port STP table entry.

Name, OID, and syntax	Access	Description
NOTE This object is not supported on the MLX Series, MLX Series, XMR Series, CES 2000 Series, and CER 2000 Series devices.		
snSwEnableBridgeNewRootTrap brcdIp.1.1.3.1.25 Syntax: Integer	Read-write	Indicates whether the SNMP agent process is permitted to generate bridge new root traps.
snSwEnableBridgeTopoChangeTrap brcdIp.1.1.3.1.26 Syntax: Integer	Read-write	Indicates whether the SNMP agent process is permitted to generate bridge topology change traps.
snSwEnableLockedAddrViolationTrap brcdIp.1.1.3.1.27 Syntax: Integer	Read-write	Indicates whether the SNMP agent process is permitted to generate locked address violation traps.
snSwIpxL3SwMode brcdIp.1.1.3.1.28 Syntax: Integer	Read-write	Indicates whether or not Layer 3 IPX switch mode is enabled: • disabled(0) • enabled(1) Default: disabled(0)
snVLanByIpSubnetMaxSubnets brcdIp.1.1.3.1.29 Syntax: Integer32 NOTE This object is not supported on the MLX Series, MLX Series, XMR Series, CES 2000 Series, and CER 2000 Series devices.	Read-only	Shows the maximum number of subnets for each IP VLAN.
snVLanByIpxNetMaxNetworks brcdIp.1.1.3.1.30 Syntax: Integer32 NOTE This object is not supported on the MLX Series, MLX Series, XMR Series, CES 2000 Series, and CER 2000 Series devices.	Read-only	Shows the maximum number of networks for each IPX VLAN.
snSwProtocolVLanMode brcdIp.1.1.3.1.31 Syntax: Integer	Read-write	Indicates whether or not protocol VLAN is enabled: • disabled(0) • enabled(1)
snMacStationVLanId brcdIp.1.1.3.1.32 Syntax: Integer	Read-write	Shows the MAC Station's VLAN ID index in the standard Forwarding Database for Transparent Bridge Table (dot1dTpFdbTable). Because the dot1dTpFdbTable index is the MAC address assigned to one of the ports in the bridge (VLAN) and each MAC address can be re-assigned to different ports belonging to different bridges (VLANs), the snMacStationVLanId can be used to specify which bridge (VLAN) MAC

Name, OID, and syntax	Access	Description
		Station information of the dot1dTpFdbTable to retrieve. If you do not specify the VLAN ID in this MIB, the default VLAN (bridge) ID will be used when dot1dTpFdbTable is retrieved. Valid values: 1 - 4095
snSwClearCounters brcdIp.1.1.3.1.33 Syntax: Integer	Read-write	Clears software counters: • valid(0) - An SNMP-GET of this MIB shows that it is a valid command to use. • clear(1) - Clear counter commands of the following counters: Dot3, MIB2, IP, and IPX counters for all ports.
snSw8021qTagType brcdIp.1.1.3.1.34 Syntax: Integer32	Read-write	Specifies the IEEE802.1q tag type that is embedded in the length or type field of an Ethernet packet. It specifies that the two octets after the length or type field in an Ethernet packet are the tag value. Default: 33024
snSwBroadcastLimit brcdIp.1.1.3.1.35 Syntax: Integer32	Read-write	Specifies the number of broadcast packets per second. This limits the number of broadcast packets to forward out of the switch ports. Setting this object to 0 disables the limitation check. Default: 0 **NOTE** This object is deprecated by snSwBroadcastLimit2 on the Extreme NetIron devices.
snSwMaxMacFilterPerSystem brcdIp.1.1.3.1.36 Syntax: Integer32 **NOTE** This object is not supported on the MLX Series, MLX Series, XMR Series, CES 2000 Series, and CER 2000 Series devices.	Read-only	Specifies the maximum number of MAC filters per system in the MAC filter table.
snSwMaxMacFilterPerPort brcdIp.1.1.3.1.37 Syntax: Integer32 **NOTE** This object is not supported on the MLX Series, MLX Series, XMR Series, CES 2000 Series, and CER 2000 Series devices.	Read-only	Specifies the maximum number of MAC filters per port in the port MAC access filter table.
snSwDefaultVLanId brcdIp.1.1.3.1.38 Syntax: Integer	Read-write	Shows the VLAN ID of the default port VLAN. Valid values: 1 - 4095
snSwGlobalAutoNegotiate brcdIp.1.1.3.1.39	Read-write	Applies only to Gigabit Ethernet ports.

Name, OID, and syntax	Access	Description
Syntax: Integer		Specifies the negotiation mode of the port: • disable(0) - All Gigabit Ethernet ports are in non negotiation mode. • enable(1) - All Gigabit Ethernet ports will start auto-negotiation indefinitely until they succeed. • negFullAuto(2) - All Gigabit Ethernet ports will start with auto-negotiation. If the negotiation fails, then they will automatically switch to non-negotiation mode. Gigabit Ethernet ports on all stackable products do not support negFullAuto(2). • other(3) Default: negFullAuto(2)
snSwQosMechanism brcdIp.1.1.3.1.40 Syntax: Integer **NOTE** This object is not supported on the MLX Series, MLX Series, XMR Series, CES 2000 Series, and CER 2000 Series devices.	Read-write	Specifies the Quality of Service (QoS) mechanism: • strict(0) • weighted(1) Default: weighted(1)
snSwSingleStpMode brcdIp.1.1.3.1.41 Syntax: Integer	Read-write	Indicates if the Single Spanning Tree System Mode in the Switch Group is enabled: • disabled(0) • enabled(1) Default: disabled(0)
snSwFastStpMode brcdIp.1.1.3.1.42 Syntax: Integer	Read-write	Indicates if Fast Spanning Tree System Mode in the Switch Group is enabled: • disabled(0) • enabled(1)
snSwViolatorIfIndex brcdIp.1.1.3.1.43 Syntax: Integer32	Read-only	The port number of the device that received a violator packet. This number is included in the locked address violator trap.
snSwSingleStpVLanId brcdIp.1.1.3.1.44 Syntax: Integer32	Read-only	The VLAN ID of the Single Spanning Tree VLAN if Single Spanning Tree was enabled. This object returns zero if Single Spanning Tree was disabled.
snSwBroadcastLimit2 brcdIp.1.1.3.1.45 Syntax: Unsigned32	Read-write	Limit the number of broadcast packets to forward out of the switch ports. This object specifies the number of broadcast packets per second. Default value: 4294967295

Fabric drop count statistics table

The MLX Series, MLX Series, and XMR Series are provided with Simple Network Management Protocol (SNMP) Management Information Base (MIB) support for the fabric drop count. The fabric drop counters are maintained by the system and are updated automatically whenever there is a packet drop at switch fabric level.

The brcdFabricStatsTable contains information of Switch Fabric Module (SFM) related information are specific to the MLX Series, MLX Series, and XMR Series devices.

NOTE
The following brcdFabricStatsTable is supported only on the High-speed SFM (HSFM) cards. The table support GET and GET-NEXT requests.

Name, OID, and syntax	Access	Description
brcdFabricStatsTable brcdIp.1.1.13.1.1.1	None	The brcdFabricStatsTable contains information of various SFM counters supported by the system.
brcdFabricSfmId brcdIp.1.1.13.1.1.1.1.1 Syntax: Unsigned32	None	The SFM ID.
brcdFabricSfmFeId brcdIp.1.1.13.1.1.1.1.2 Syntax: Unsigned32	None	The Fabric Element (FE) ID.
brcdFabricDropMAC0Count brcdIp.1.1.13.1.1.1.1.3 Syntax: Counter32	Read-only	The number of packets dropped for MAC0 (links 0 through 23) link group.
brcdFabricDropMAC1Count brcdIp.1.1.13.1.1.1.1.4 Syntax: Counter32	Read-only	The number of packets dropped for MAC1 (links 24 through 47) link group.
brcdFabricDropMAC2Count brcdIp.1.1.13.1.1.1.1.5 Syntax: Counter32	Read-only	The number of packets dropped for MAC2 (links 48 through 71) link group.
brcdFabricDropMAC3Count brcdIp.1.1.13.1.1.1.1.6 Syntax: Counter32	Read-only	The number of packets dropped for MAC3 (links 72 through 95) link group.

Switch Port Information Group

Switch port information

The following table contains information about the switch port groups.

The snSwIfInfoTable, which is indexed by ifIndex port format, replaces the snSwPortInfoTable, which is indexed by a proprietary port format.

NOTE

The objects snSwIfStatsInFrames through snSwIfStatsOutKiloBitsPerSec use common application programming interface (API) for LP port statistics.

Name, OID, and syntax	Access	Description
snSwIfInfoTable brcdIp.1.1.3.3.5	None	The switch port information table.
snSwIfInfoPortNum brcdIp.1.1.3.3.5.1.1 Syntax: InterfaceIndex	Read-only	Shows the port or interface index.
snSwIfInfoMonitorMode brcdIp.1.1.3.3.5.1.2 Syntax: Integer	Read-write	• On the Extreme NetIron platforms, this object is deprecated by snPortMonitorTable.
snSwIfInfoMirrorPorts brcdIp.1.1.3.3.5.1.3 Syntax: Integer	Read-write	Contains a list of port or interface indexes (ifindex) that mirror this interface when monitoring is enabled.
snSwIfInfoTagMode brcdIp.1.1.3.3.5.1.4 Syntax: Integer	Read-write	Indicates if the port has an 802.1q tag: • tagged(1) - Ports can have multiple VLAN IDs because these ports can be members of more than one VLAN. • untagged(2) - There is only one VLAN ID per port. • dual(3) - Dual mode is associated with a VLAN ID snSwIfVlanId; dual mode with snSwIfVlanId zero disables the dual mode.
snSwIfInfoTagType brcdIp.1.1.3.3.5.1.5 Syntax: Integer32	Read-write	Indicates the IEEE802.1q tag type of an interface. The tag type is embedded in the two octets in the length or type field of an Ethernet packet. It specifies that the two octets after the length or type field in an Ethernet packet is the tag value. Default value: 33024
snSwIfInfoChnMode brcdIp.1.1.3.3.5.1.6 Syntax: Integer	Read-write	Indicates if the port operates in half- or full-duplex mode: • none(0) - This is not used.

Name, OID, and syntax	Access	Description
		• halfDuplex(1) - Half-duplex mode. Available only for 10/100 Mbps ports. • fullDuplex(2) - Full-duplex mode. 100BaseFx, 1000BaseSx, and 1000BaseLx ports operate only at fullDuplex(2). The read-back channel status from hardware are as follows: • halfDuplex(1) - Half-duplex mode. • fullDuplex(2) - Full-duplex mode. The port media type (expansion or regular) and port link type (trunk or feeder) determine the value of this object. The port cannot be set to half-duplex mode if the port connect mode is m200e(4). However, the value of this parameter may be automatically set whenever the expansion port is connected, for example, in the case of a cascade-connecting device.
snSwIfInfoSpeed brcdIp.1.1.3.3.5.1.7 Syntax: Integer	Read-write	Indicates the speed configuration for a port: • none(0) - Link down or no traffic. • sAutoSense(1) - Auto-sensing 10 or 100 Mbits. • s10M(2) - 10 Mbits per second. • s100M(3) - 100 Mbits per second. • s1G(4) - 1 Gbits per second. • s1GM(5) - 1 Gbits per second master. • s155M(6) - 155 Mbits per second (ATM) (for expansion board only). • s10G(7) - 10 Gbits per second. • s622M(8) - OC12 - 622 Mbits per second. (XMR Series, MLX Series, and MLX Series.) • s2488M(9) - OC48 - 2.488 Gbits per second. (XMR Series, MLX Series, and MLX Series.) • s9953M(10) - OC192 - 9.953 Gbits per second. (XMR Series, MLX Series, and MLX Series.) • s16G(11) - 16 Gbits per second. • s100G(12) - 100 Gbits per second. • s40G(13) - 40 Gbits per second. • S2500M(14) - 2.5 Gbits per second. The read-back hardware status are the following: • none(0) - Link down or no traffic. • s10M(2) - 10 Mbits per second. • s100M(3) - 100 Mbits per second. • s1G(4) - 1G bits per second. • s1GM(5) - 1G bits per second master. • s155M(6) - 155 Mbits per second (ATM) (for expansion board only).

Name, OID, and syntax	Access	Description
		• s10G(7) - 10 Gbits per second. • s622M(8) - OC12 - 622 Mbits per second. (XMR Series, MLX Series, and MLX Series.) • s2488M(9) - OC48 - 2.488 Gbits per second. (XMR Series, MLX Series, and MLX Series.) • s9953M(10) - OC192 - 9.953 Gbits per second. (XMR Series, MLX Series, and MLX Series.) • s16G(11) - 16 Gbits per second. • s40G(13) - 40 Gbits per second. The port media type (expansion or regular) and port link type (trunk or feeder) determine whether this object can be written and the valid values for this object. It is not allowed to change speed for trunk ports. For expansion ports, all of the above speeds can be set; however, the value of this parameter may be automatically set whenever the expansion port is connected, for example, in the case of a cascade-connecting device.
snSwIfInfoMediaType brcdIp.1.1.3.3.5.1.8 Syntax: Integer	Read-only	Shows the media type for the port: • other(1) - Other or unknown media. • m100BaseTX(2) - 100 Mbits per second copper. • m100BaseFX(3) - 100 Mbits per second fiber. • m1000BaseFX(4) - 1 Gbits per second fiber. • mT3(5) - 45 Mbits per second (T3). • m155ATM(6) - 155 Mbits per second (ATM). • m1000BaseTX(7) - 1 Gbits per second copper. • m622ATM(8) - 622 Mbits per second (ATM). • m155POS(9) - 155 Mbits per second (POS). • m622POS(10) - 622 Mbits per second (POS). • m2488POS(11) - 2488 Mbits per second (POS). • m10000BaseFX(12) - 10 Gbits per second fiber. • m9953POS(13) - 9953 Mbits per second (POS). (XMR Series, MLX Series, and MLX Series) • m16GStacking(14) - 16 Gbits per second fiber. • m100GBaseFX(15) - 100 Gbits per second fiber. • m40GStacking(16) - 40 Gbits per second fiber.

Name, OID, and syntax	Access	Description
		• m40GBaseFX(17) - 40 Gbits per second fiber. • m10000BaseTX(18) - 10 Gbits per second copper. • m2500BaseTX(19) - 2.5 Gbits per second.
snSwIfInfoConnectorType brcdIp.1.1.3.3.5.1.9 Syntax: Integer	Read-only	Shows the type of connector that the port offers: • other(1) - Other or unknown connector. • copper(2) - Copper connector. • fiber(3) - Fiber connector. This describes the physical connector type. • both(4) - Supports both Copper and Fiber.
snSwIfInfoAdminStatus brcdIp.1.1.3.3.5.1.10 Syntax: Integer	Read-write	Shows the desired state of all ports: • up(1) - Ready to pass packets • down(2) • testing(3) - No operational packets can be passed (same as ifAdminStatus in MIB-II)
snSwIfInfoLinkStatus brcdIp.1.1.3.3.5.1.11 Syntax: Integer	Read-only	Shows the current operational state of the interface: • up(1) - Ready to pass packets • down(2) • testing(3) - No operational packets can be passed (same as ifAdminStatus in MIB-II)
snSwIfInfoPortQos brcdIp.1.1.3.3.5.1.12 Syntax: Integer	Read-write	Indicates the Quality of Service (QoS) level selected for the port: • low(0) - Low priority • high(1) - High priority • level0(0) • level1(1) • level2(2) • level3(3) • level4(4) • level5(5) • level6(6) • level7(7)
snSwIfInfoPhysAddress brcdIp.1.1.3.3.5.1.13 Syntax: Physical address	Read-only	Shows the physical address of the port.
snSwIfLockAddressCount brcdIp.1.1.3.3.5.1.14 Syntax: Integer	Read-write	Indicates the number of source MAC addresses that are allowed on the interface. Valid values: 0 - 2048. The value 0 means an unlimited number of addresses are allowed. Default: 8
snSwIfStpPortEnable brcdIp.1.1.3.3.5.1.15	Read-write	Indicates if STP is enabled for the port: • disabled(0)

Name, OID, and syntax	Access	Description
Syntax: Integer		• enabled(1)
snSwIfDhcpGateListId brcdIp.1.1.3.3.5.1.16 Syntax: Integer	Read-write	Specifies the ID for a DHCP gateway list entry relative to this switch port. Valid values: 0 - 32. A value of 0 means that the ID is unassigned.
snSwIfName brcdIp.1.1.3.3.5.1.17 Syntax: Display string	Read-write	Indicates the port name or description. This description may have been entered using the CLI. Valid values: Up to 32 characters for most devices. Up to 255 characters for MLX Series devices and other Extreme NetIron devices.
snSwIfDescr brcdIp.1.1.3.3.5.1.18 Syntax: Display string	Read-only	A textual string containing the slot or port information about the interface.
snSwIfInfoAutoNegotiate brcdIp.1.1.3.3.5.1.19 Syntax: Integer	Read-write	Applies only to Gigabit Ethernet ports. Indicates if auto-negotiation mode is enabled on the port: • disabled(0) - The port will be placed in non-negotiation mode. • enabled(1) - The port will start auto-negotiation indefinitely until it succeeds. • negFullAuto(2) - The port will start with auto-negotiation. If the negotiation fails, then it will automatically switch to non-negotiation mode. This option is not supported in stackable products with Gigabit Ethernet ports. • global(3) - The port negotiation mode follows the value of snSwGlobalAutoNegotiate. • other(4) - Non-Gigabit Ethernet port returns this value. Default: global(3)
snSwIfInfoFlowControl brcdIp.1.1.3.3.5.1.20 Syntax: Integer	Read-write	Indicates if port flow control is enabled: • disable(0) • enable(1) Default: enabled(1)
snSwIfInfoGigType brcdIp.1.1.3.3.5.1.21 Syntax: Integer	Read-only	Applies only to Gigabit Ethernet ports. Shows the media type for the port: • m1000BaseSX(0) - 1-Gbps fiber, with a short wavelength transceiver • m1000BaseLX(1) - 1-Gbps fiber, with a long wavelength transceiver (3 km) • m1000BaseLH(2) - 1-Gbps fiber, with a special wavelength transceiver (50 km)

Name, OID, and syntax	Access	Description
		• m1000BaseLHB(4) - 1-Gbps fiber, with a special wavelength transceiver (150 km) • m1000BaseTX(5) - 1-Gbps copper (100 m) • m10000BaseSR(6) - 10-Gbps fiber, with a short range wavelength transceiver (100 m) • m10000BaseLR(7) - 10-Gbps fiber, with a long range wavelength transceiver (10 km) • m10000BaseER(8) - 10-Gbps fiber, with a extended range wavelength transceiver (40 km) • sfpCWDM1470nm80Km(9) - 1-Gbps CWDM fiber, with a wavelength 1470nm, reach 80 kms • sfpCWDM1490nm80Km(10) - 1-Gbps CWDM fiber, with a wavelength 1490nm, reach 80 kms • sfpCWDM1510nm80Km(11) - 1-Gbps CWDM fiber, with a wavelength 1510nm, reach 80 kms • sfpCWDM1530nm80Km(12) - 1-Gbps CWDM fiber, with a wavelength 1530nm, reach 80 kms • sfpCWDM1550nm80Km(13) - 1-Gbps CWDM fiber, with a wavelength 1550nm, reach 80 kms • sfpCWDM1570nm80Km(14) - 1-Gbps CWDM fiber, with a wavelength 1570nm, reach 80 kms • sfpCWDM1590nm80Km(15) - 1-Gbps CWDM fiber, with a wavelength 1590nm, reach 80 kms • sfpCWDM1610nm80Km(16) - 1-Gbps CWDM fiber, with a wavelength 1610nm, reach 80 kms • sfpCWDM1470nm100Km(17) - 1-Gbps CWDM fiber, with a wavelength 1470nm, reach 100 kms • sfpCWDM1490nm100Km(18) - 1-Gbps CWDM fiber, with a wavelength 1490nm, reach 100 kms • sfpCWDM1510nm100Km(19) - 1-Gbps CWDM fiber, with a wavelength 1510nm, reach 100 kms • sfpCWDM1530nm100Km(20) - 1-Gbps CWDM fiber, with a wavelength 1530nm, reach 100 kms • sfpCWDM1550nm100Km(21) - 1-Gbps CWDM fiber, with a wavelength 1550nm, reach 100 kms

Name, OID, and syntax	Access	Description
		• sfpCWDM1570nm100Km(22) - 1-Gbps CWDM fiber, with a wavelength 1570nm, reach 100 kms • sfpCWDM1590nm100Km(23) - 1-Gbps CWDM fiber, with a wavelength 1590nm, reach 100 kms
snSwIfInfoGigType (continued)		• sfpCWDM1610nm100Km(24) - 1Gbps CWDM fiber, with a wavelength 1610nm, reach 100 kms • m1000BaseLHX(25) - 1Gbps fiber, with a special wavelength transceiver (150km) • m1000BaseLMC(35) - Link Media Copper • mXFP10000BaseSR(36) - 10GBASE fiber, 850nm serial pluggable XFP optic (LC), target range 300m over MMF • mXFP10000BaseLR(37) - 10GBASE fiber, 1310nm serial pluggable XFP optic (LC) for up to 10km over SMF • mXFP10000BaseER(38) - 10GBASE fiber, 1550nm serial pluggable XFP optic (LC) for up to 40km over SMF • mXFP10000BaseSW(39) - not used • mXFP10000BaseLW(40) - not used • mXFP10000BaseEW(41) - not used • mXFP10000BaseCX4(42) - 10GBASE-CX4, XFP module,15m, CX4 connector • mXFP10000BaseZR(43) - 1550nm serial pluggable XFP optic (LC) for up to 80km over SMF • mXFP10000BaseZRD(44) - 10GBASE-ZR DWDM, XFP optic, 80km • mXFP10000BaseSRSW(46) - same as mXFP10000BaseSR(36) • mXFP10000BaseLRLW(47) - same as mXFP10000BaseLR(37) • mXFP10000BaseEREW(48) - same as mXFP10000BaseER(38) • mCFP100GBaseSR10(145) - 100GbE CFP optic (MPO 2x12), SR10, for distances up to 100m over MMF • mCFP100GBaseLR4(146) - 100GbE CFP optic (SC), LR4, for distances up to 10 km over SMF • mCFP100GBaseER4(147) - 100GbE CFP optic, ER4, for distances up to 40 km over SMF

Name, OID, and syntax	Access	Description
		• mCFP100GBase10x10g2Km(148) - 100GbE CFP optic (LC), 10x10, for distances up to 2 km over SMF • mCFP100GBase10x10g10Km(149) - 100GbE CFP optic (LC), 10x10, for distances up to 10 km over SMF • qSFP40000BaseSR4(150) - SR proper value for 40G • qSFP40000Base10KmLR4(151) - LR proper vallue for 40G • mCFP2-100GBaseSR10(154) • mCFP2-100GBaseLR4(155) • mCFP2-100GBaseER4(156) • mCFP2-100GBase10x10g2Km(157) • mCFP2-100GBase10x10g10Km(158) • notApplicable(255) - a non-gigabit port
snSwIfFastSpanPortEnable brcdIp.1.1.3.3.5.1.22 Syntax: Integer	Read-write	Indicates if fast span is enabled on the port: • disabled(0) • enabled(1)
snSwIfFastSpanUplinkEnable brcdIp.1.1.3.3.5.1.23 Syntax: Integer	Read-write	Indicates if fast span uplink is enabled on the port: • disabled(0) • enabled(1)
snSwIfVlanId brcdIp.1.1.3.3.5.1.24 Syntax: Integer	Read-only	Shows the ID of a VLAN of which this port is a member. Port must be untagged. Valid values: 0 - 4095; where 0 means an invalid VLAN ID value, which is returned for tagged ports. Reading is valid only for untagged and dual mode. Writing is valid for only dual mode.
snSwIfRouteOnly brcdIp.1.1.3.3.5.1.25 Syntax: Integer	Read-write	Indicates if Layer 2 switching is enabled on a routing switch port: • disabled(0) - Instructs the routing switch to perform routing first. If that fails, it performs switching. • enabled(1) - Instructs the routing switch to perform routing only. For a Layer 2 switching-only product, reading this object always returns "disabled". Writing "enabled" to this object takes no effect. Default: disabled(0)
snSwIfPresent brcdIp.1.1.3.3.5.1.26 Syntax: Integer	Read-only	Indicates if the mini-GBIC optic is absent or present: • false(0) • true(1)
snSwIfGBICStatus brcdIp.1.1.3.3.5.1.27 Syntax: Integer	Read-only	Indicates if the Gigabit port has a GBIC or miniGBIC port: • GBIC(1) - GBIC

Name, OID, and syntax	Access	Description
		• miniGBIC(2) - MiniGBIC • empty(3) - GBIC is missing • other(4) - Not a removable Gigabit port
snSwIfLoadInterval brcdIp.1.1.3.3.5.1.28 Syntax: Integer	Read-write	Shows the number of seconds for which average port utilization should be calculated. Valid values: 30 - 300, in 30 second increments. Default: 300 seconds
snSwIfStatsInFrames brcdIp.1.1.3.3.5.1.29 Syntax: Counter32 **NOTE** This object is not supported on the MLX Series, MLX Series, XMR Series, CES 2000 Series, and CER 2000 Series devices.	Read-only	Shows the total number of packets received on the interface.
snSwIfStatsOutFrames brcdIp.1.1.3.3.5.1.30 Syntax: Counter32 **NOTE** This object is not supported on the MLX Series, MLX Series, XMR Series, CES 2000 Series, and CER 2000 Series devices.	Read-only	Shows the total number of packets transmitted out of the interface.
snSwIfStatsAlignErrors brcdIp.1.1.3.3.5.1.31 Syntax: Counter32 **NOTE** This object is not supported on the MLX Series, MLX Series, XMR Series, CES 2000 Series, and CER 2000 Series devices.	Read-only	Shows the number of dot3StatsAlignmentErrors, which consists of frames received on a particular interface that are not an integral number of octets in length and do not pass the FCS check. The count represented by an instance of this object is incremented when the alignmentError status is returned by the MAC service to the LLC (or other MAC user). According to the conventions of IEEE 802.3 Layer Management, received frames for which multiple error conditions are obtained, are counted exclusively according to the error status presented to the LLC.
snSwIfStatsFCSErrors brcdIp.1.1.3.3.5.1.32 Syntax: Counter32 **NOTE** This object is not supported on the MLX Series, MLX Series, XMR Series, CES 2000 Series, and CER 2000 Series devices.	Read-only	Shows the number of dot3StatsFCSErrors, which consists of frames received on a particular interface that are an integral number of octets in length but do not pass the FCS check. The count represented by an instance of this object is incremented when the frameCheckError status is returned by the MAC service to the LLC (or other MAC user). According to the conventions of IEEE 802.3 Layer Management, received frames for which multiple error conditions are obtained, are counted exclusively according to the error status presented to the LLC.

Name, OID, and syntax	Access	Description
snSwIfStatsMultiColliFrames brcdIp.1.1.3.3.5.1.33 Syntax: Counter32 **NOTE** This object is not supported on the MLX Series, MLX Series, XMR Series, CES 2000 Series, and CER 2000 Series devices.	Read-only	Shows the number of dot3StatsMultipleCollisionFrames, which consists of successfully transmitted frames on a particular interface for which transmission is inhibited by more than one collision. A frame that is counted by an instance of this object is also counted by the corresponding instance of ifOutUcastPkts, ifOutMulticastPkts, or ifOutBroadcastPkts and is not counted by the corresponding instance of the dot3StatsSingleCollisionFrames object.
snSwIfStatsTxColliFrames brcdIp.1.1.3.3.5.1.34 Syntax: Counter32 **NOTE** This object is not supported on the MLX Series, MLX Series, XMR Series, CES 2000 Series, and CER 2000 Series devices.	Read-only	Shows the number of successfully transmitted frames on a particular interface for which transmission is inhibited by more than one collision. This count is a combination of the dot3StatsSingleCollisionFrames and dot3StatsMultipleCollisionFrames objects.
snSwIfStatsRxColliFrames brcdIp.1.1.3.3.5.1.35 Syntax: Counter32 **NOTE** This object is not supported on the MLX Series, MLX Series, XMR Series, CES 2000 Series, and CER 2000 Series devices.	Read-only	Shows the number of successfully received frames on a particular interface for which transmission is inhibited by more than one collision.
snSwIfStatsFrameTooLongs brcdIp.1.1.3.3.5.1.36 Syntax: Counter32 **NOTE** This object is not supported on the MLX Series, MLX Series, XMR Series, CES 2000 Series, and CER 2000 Series devices.	Read-only	Shows the number of dot3StatsFrameTooLongs, which consists of frames received on a particular interface that exceed the maximum permitted frame size. The count represented by an instance of this object is incremented when the frameTooLong status is returned by the MAC service to the LLC (or other MAC user). According to the conventions of IEEE 802.3 Layer Management, received frames for which multiple error conditions are obtained are counted exclusively according to the error status presented to the LLC.
snSwIfStatsFrameTooShorts brcdIp.1.1.3.3.5.1.37 Syntax: Counter32 **NOTE** This object is not supported on the MLX Series, MLX Series, XMR Series, CES 2000 Series, and CER 2000 Series devices.	Read-only	Shows the number frames received on a particular interface that are below the minimum permitted frame size.
snSwIfStatsInBcastFrames brcdIp.1.1.3.3.5.1.38 Syntax: Counter32	Read-write	Shows the total number of broadcast packets received on the interface.

Name, OID, and syntax	Access	Description
NOTE This object is not supported on the MLX Series, MLX Series, XMR Series, CES 2000 Series, and CER 2000 Series devices.		
snSwIfStatsOutBcastFrames brcdIp.1.1.3.3.5.1.39 Syntax: Counter32 **NOTE** This object is not supported on the MLX Series, MLX Series, XMR Series, CES 2000 Series, and CER 2000 Series devices.	Read-only	Shows the total number of broadcast packets transmitted out of the interface.
snSwIfStatsInMcastFrames brcdIp.1.1.3.3.5.1.40 Syntax: Counter32 **NOTE** This object is not supported on the MLX Series, MLX Series, XMR Series, CES 2000 Series, and CER 2000 Series devices.	Read-only	Shows the total number of multicast packets received on the interface.
snSwIfStatsOutMcastFrames brcdIp.1.1.3.3.5.1.41 Syntax: Counter32 **NOTE** This object is not supported on the MLX Series, MLX Series, XMR Series, CES 2000 Series, and CER 2000 Series devices.	Read-only	Shows the total number of multicast packets transmitted out of the interface.
snSwIfStatsInDiscard brcdIp.1.1.3.3.5.1.42 Syntax: Counter32 **NOTE** This object is not supported on the MLX Series, MLX Series, XMR Series, CES 2000 Series, and CER 2000 Series devices.	Read-only	Shows the number of inbound packets that will be discarded even though they have no errors. These packets will be discarded to prevent them from being delivered to a higher-layer protocol. For example, packets may be discarded to free up buffer space.
snSwIfStatsOutDiscard brcdIp.1.1.3.3.5.1.43 Syntax: Counter32 **NOTE** This object is not supported on the MLX Series, MLX Series, XMR Series, CES 2000 Series, and CER 2000 Series devices.	Read-only	Shows the number of outbound packets that will be discarded even though they contain no errors. For example, packets may be discarded to free up buffer space.
snSwIfStatsMacStations brcdIp.1.1.3.3.5.1.44	Read-only	Shows the total number of MAC Stations connected to the interface.

Name, OID, and syntax	Access	Description
Syntax: Integer32 **NOTE** This object is not supported on the MLX Series, MLX Series, XMR Series, CES 2000 Series, and CER 2000 Series devices.		
snSwIfStatsLinkChange brcdIp.1.1.3.3.5.1.45 Syntax: Counter32 **NOTE** This object is not supported on the MLX Series, MLX Series, XMR Series, CES 2000 Series, and CER 2000 Series devices.	Read-only	Shows the total number of link state changes on the interface.
snSwIfInOctets brcdIp.1.1.3.3.5.1.46 Syntax: Counter64 **NOTE** This object is not supported on the MLX Series, MLX Series, XMR Series, CES 2000 Series, and CER 2000 Series devices.	Read-only	Shows the total number of octets received on the interface, including framing characters. This object is a 64-bit counter of the ifInOctets object defined in RFC 1213. The octet string is in big-endian byte order. This object has eight octets.
snSwIfOutOctets brcdIp.1.1.3.3.5.1.47 Syntax: Counter64 **NOTE** This object is not supported on the MLX Series, MLX Series, XMR Series, CES 2000 Series, and CER 2000 Series devices.	Read-only	Shows the total number of octets transmitted out of the interface, including framing characters. This object is a 64-bit counter of the ifOutOctets object, defined in RFC 1213. The octet string is in big-endian byte order. This object has eight octets.
snSwIfStatsInBitsPerSec brcdIp.1.1.3.3.5.1.48 Syntax: Gauge32 **NOTE** This object is not supported on the MLX Series, MLX Series, XMR Series, CES 2000 Series, and CER 2000 Series devices.	Read-only	Shows the number of bits per second received on the interface over a five-minute interval.
snSwIfStatsOutBitsPerSec brcdIp.1.1.3.3.5.1.49 Syntax: Gauge32 **NOTE** This object is not supported on the MLX Series, MLX Series, XMR Series, CES 2000 Series, and CER 2000 Series devices.	Read-only	Shows the number of bits per second transmitted out of the interface over a five-minute interval.

Name, OID, and syntax	Access	Description
snSwIfStatsInPktsPerSec brcdIp.1.1.3.3.5.1.50 Syntax: Gauge32 **NOTE** This object is not supported on the MLX Series, MLX Series, XMR Series, CES 2000 Series, and CER 2000 Series devices.	Read-only	Shows the number of packets per second received on the interface over a five-minute interval.
snSwIfStatsOutPktsPerSec brcdIp.1.1.3.3.5.1.51 Syntax: Gauge32 **NOTE** This object is not supported on the MLX Series, MLX Series, XMR Series, CES 2000 Series, and CER 2000 Series devices.	Read-only	Shows the number of packets per second transmitted out of the interface over a five-minute interval.
snSwIfStatsInUtilization brcdIp.1.1.3.3.5.1.52 Syntax: Integer **NOTE** This object is not supported on the MLX Series, MLX Series, XMR Series, CES 2000 Series, and CER 2000 Series devices.	Read-only	Indentifies the input network utilization in hundredths of a percent over a five-minute interval. Valid values: 0 - 10000
snSwIfStatsOutUtilization brcdIp.1.1.3.3.5.1.53 Syntax: Integer **NOTE** This object is not supported on the MLX Series, MLX Series, XMR Series, CES 2000 Series, and CER 2000 Series devices.	Read-only	Shows the output network utilization in hundredths of a percent over a five-minute interval. Valid values: 0 - 10000
NOTE Ethernet devices must allow a minimum idle period between transmission of frames known as interframe gap (IFG) or interpacket gap (IPG). The gap provides a brief recovery time between frames to allow devices to prepare to receive the next frame. The minimum IFG is 96 bit times, which is 9.6 microseconds for 10 Mbps Ethernet, 960 nanoseconds for 100 Mbps Ethernet, and 96 nanoseconds for 1 Gbps Ethernet. In addition, to account for the bit rate on the port, port utilization should also account for the IFG, which normally is filtered by the packet synchronization circuitry.Refer to the etherHistoryUtilization objects in the *RFC 1757: Remote Network Monitoring Management Information Base* for details.		
snSwIfStatsInKiloBitsPerSec brcdIp.1.1.3.3.5.1.54 Syntax: Unsigned32 **NOTE** This object is not supported on the MLX Series, MLX Series, XMR Series, CES 2000 Series, and CER 2000 Series devices.	Read-only	Shows the bit rate, in kilobits per second, received on a 10 Gigabit or faster interface within a five-minute interval.

Name, OID, and syntax	Access	Description
snSwIfStatsOutKiloBitsPerSec brcdIp.1.1.3.3.5.1.55 Syntax: Unsigned32 **NOTE** This object is not supported on the MLX Series, MLX Series, XMR Series, CES 2000 Series, and CER 2000 Series devices.	Read-only	Shows the bit rate, in kilobits per second, transmitted from a 10 Gigabit or faster interface within a five-minute interval.
snSwIfStatsInJumboFrames brcdIp.1.1.3.3.5.1.56 Syntax: Counter64	Read-only	The total number of jumbo packets received on the interface. This always returns 0 when applied to MLX Series, XMR Series, and MLX Series.
snSwIfStatsOutJumboFrames brcdIp.1.1.3.3.5.1.57 Syntax: Counter64	Read-only	The total number of jumbo packets transmitted out of the interface. This always returns 0 when applied to MLX Series, XMR Series, and MLX Series devices.
snSwIfSInfoMirrorMode brcdIp.1.1.3.3.5.1.58 Syntax: Integer	Read-write	Enables or disables the mirror port. • disable(0) • enable(1)
snSwIfMacLearningDisable brcdIp.1.1.3.3.5.1.59 Syntax: TruthVal	Read-write	DIsplays the status of MAC learning on an Ethernet port. For POS ports, a Get operation will return the default value and a Set operation will return an error.
snSwIfInfoL2FowardEnable brcdIp.1.1.3.3.5.1.60 Syntax: Integer	Read-write	Displays the status of the cluster Layer 2 forward feature on an Ethernet port. The STP packets coming from the MCT VLANs is dropped when the object is set to the disabled(2) state. • enabled(1) • disabled(2) • globalConfig(3) **NOTE** The snSwIfInfoL2FowardEnable object has more preference than the brcdMctL2Forward object for the interface when set to enabled(1) or disabled(2). When set to globalConfig(3), the status of the brcdMctL2Forward object is applied for the interface.
snSwIfInfoAllowAllVlan brcdIp.1.1.3.3.5.1.61 Syntax: TruthVal **NOTE** This object is not supported on the CES 2000 Series and CER 2000 Series devices.	Read-write	Specifies allowing all VLAN packets for Policy-Based Routing (PBR).
snSwIfInfoNativeMacAddress brcdIp.1.1.3.3.5.1.62	Read-only	The port's native MAC address. The native MAC address represents the switch port.

Name, OID, and syntax	Access	Description
Syntax: PhysAddress		

Interface ID Registration Group

Interface ID to ifIndex lookup table

Given an interface ID, the interface ID to ifIndex lookup table returns the ifIndex value. The table is useful for mapping a known interface to the corresponding ifIndex value. The contents of the interface ID to ifIndex lookup table can only be accessed using GET operations. Unlike other SNMP tables, this table does not support GET-NEXT operations. If you try to walk the table using GET-NEXT, no rows will be returned.

Name, OID, and syntax	Access	Description
snInterfaceLookupTable brcdIp.1.1.3.3.3	None	The Interface ID to ifIndex lookup table.
snInterfaceLookupInterfaceId brcdIp.1.1.3.3.3.1.1 Syntax: InterfaceId	Read-only	Shows the interface ID, which consists of the following: **Octet 0** - Port type, which can be one of the following: • 1 - Ethernet • 2 - POS • 3 - ATM • 4 - Virtual • 5 - Loopback • 6 - GRE Tunnel These values applies to XMR Series, MLX Series, and to MLX Series devices. • 7 - ATM Subif • 8 - MPLS Tunnel • 9 - ATM PVC • 10 - Management • 11 - Trunk • 12 - IP Tunnel (for IP tunnels, except MPLS) This value also applies to 6 - 4 tunnels in the XMR Series, MLX Series, and to MLX Series devices. **Octet 1** • If the value of Octet 0 is 1, 2, 3, 7, or 9, then this octet shows the slot number of the device.

Name, OID, and syntax	Access	Description
		• If the value of Octet 0 is 6 or 8, then this octet shows the tunnel ID. • If the value of Octet 0 is 5, then this octet shows the loopback ID. • If the value of Octet 0 is 4, then this octet shows a virtual ID. **Octet 2** - If the value of Octet 0 is 1, 2, 3, 7, or 9, then this octet shows the port number. **Octet 3** - If the value of Octet 0 is 7 or 9, then this octet shows the ATM Subif number. **Octet 4** - If the value of Octet 0 is 9, then this octet shows the ATM VPI number. **Octet 5** - If the value of Octet 0 is 9, then this octet shows the ATM VCI number.
snInterfaceLookupIfIndex brcdIp.1.1.3.3.3.1.2 Syntax: Integer32	Read-only	Shows the interface in the ifIndex format.

ifIndex to interface ID lookup table

The ifIndex to interface ID lookup table maps ifindex values to the interface ID lookup table. If the table provides an ifIndex, this table returns the interface ID value.

Name, OID, and syntax	Access	Description
snIfIndexLookupTable brcdIp.1.1.3.3.4	None	The ifIndex to interface ID lookup table.
snIfIndexLookupIfIndex brcdIp.1.1.3.3.4.1.1 Syntax: Integer32	Read-only	Shows the interface in the ifIndex format.
snIfIndexLookupInterfaceId brcdIp.1.1.3.3.4.1.2 Syntax: InterfaceId	Read-only	Shows the interface ID, which consists of the following: **Octet 0** - Port type, which can be one of the following: • 1 - Ethernet • 2 - POS • 3 - ATM • 4 - Virtual • 5 - Loopback • 6 - GRE Tunnel • 7 - ATM Subif • 8 - MPLS Tunnel • 9 - ATM PVC • 10 - Management • 11 - Trunk • 12 - IP Tunnel (for IP tunnels, except MPLS)

Name, OID, and syntax	Access	Description
		This value also applies to 6 - 4 tunnels in the Extreme NetIron devices. **Octet 1** • If the value of Octet 0 is 1, 2, 3, 7, or 9, then this octet shows the slot number of the device. • If the value of Octet 0 is 6 or 8, then this octet shows the tunnel ID. • If the value of Octet 0 is 5, then this octet shows the loopback ID. • If the value of Octet 0 is 4, then this octet shows a virtual ID. **Octet 2** - If the value of Octet 0 is 1, 2, 3, 7, or 9, then this octet shows the port number. **Octet 3** - If the value of Octet 0 is 7 or 9, then this octet shows the ATM Subif number). **Octet 4** - If the value of Octet 0 is 9, then this octet shows the ATM VPI number. **Octet 5** - If the value of Octet 0 is 9, then this octet shows the ATM VCI number.

Interface ID2 to ifIndex lookup table

The Interface ID2 to ifIndex lookup table is useful for mapping a known interface to the corresponding ifIndex value. If the provides an interface ID2, this table returns the ifIndex value.

NOTE
The contents of the interface ID2 to ifIndex lookup table can only be accessed using GET operations. Unlike other SNMP tables, this table does not support GET-NEXT operations. If you try to walk the table using GET-NEXT, no rows will be returned.

Name, OID, and syntax	Access	Description
snInterfaceLookup2Table brcdIp.1.1.3.3.7	None	The Interface ID2 to ifIndex lookup table.
snInterfaceLookup2InterfaceId brcdIp.1.1.3.3.7.1.1 Syntax: InterfaceId	Read-only	Shows the interface ID, which consists of the following: **Octet 0** - Port type, which can be one of the following: • 1 - Ethernet • 2 - POS • 3 - ATM • 4 - Virtual • 5 - Loopback • 6 - GRE Tunnel The values 1 - 6 applies to XMR Series, MLX Series, and MLX Series devices. • 7 - ATM Subif

Name, OID, and syntax	Access	Description
		• 8 - MPLS Tunnel • 9 - ATM PVC • 10 - Management • 11 - Trunk • 12 - IP Tunnel (for IP tunnels, except MPLS)The value also applies to 6 - 4 tunnels in XMR Series, MLX Series, and MLX Series devices. **Octet 1** • If the value of Octet 0 is 1, 2, 3, 7, or 9, then this octet shows the slot number of the device. • If the value of Octet 0 is 6 or 8, then this octet shows the tunnel ID. • If the value of Octet 0 is 5, then this octet shows the loopback ID. • If the value of Octet 0 is 4, then this octet shows a virtual ID. **Octet 2** - If the value of Octet 0 is 1, 2, 3, 7, or 9, then this octet shows the port number. **Octet 3** - If the value of Octet 0 is 7 or 9, then this octet shows the ATM Subif number. **Octet 4** - If the value of Octet 0 is 9, then this octet shows the ATM VPI number. **Octet 5** - If the value of Octet 0 is 9, then this octet shows the ATM VCI number.
snInterfaceLookup2IfIndex brcdIp.1.1.3.3.7.1.2 Syntax: Integer32	Read-only	Shows the interface in the ifIndex format.

ifIndex to interface ID2 lookup table

The ifIndex to interface ID2 lookup table maps ifindex values to the Interface ID lookup table. If the provides an ifIndex, this table returns the interface ID value.

Name, OID, and syntax	Access	Description
snIfIndexLookup2Table brcdIp.1.1.3.3.8	None	The ifIndex to interface ID2 lookup table.
snIfIndexLookup2IfIndex brcdIp.1.1.3.3.8.1.1 Syntax: Integer32	Read-only	Shows the interface in the ifIndex format.
snIfIndexLookup2InterfaceId brcdIp.1.1.3.3.8.1.2 Syntax: InterfaceId	Read-only	Shows the interface ID, which consists of the following: **Octet 0** - Port type, which can be one of the following: • 1 - Ethernet • 2 - POS

Name, OID, and syntax	Access	Description
		• 3 - ATM • 4 - Virtual • 5 - Loopback • 6 - GRE Tunnel The values 1 - 6 applies to Extreme NetIron devices. • 7 - ATM Subif • 8 - MPLS Tunnel • 9 - ATM PVC • 10 - Management • 11 - Trunk • 12 - IP Tunnel (for IP tunnels, except MPLS) This value also applies to 6 - 4 tunnels in the Extreme NetIron devices, **Octet 1** • If the value of Octet 0 is 1, 2, 3, 7, or 9, then this octet shows the slot number of the device. • If the value of Octet 0 is 6 or 8, then this octet shows the tunnel ID. • If the value of Octet 0 is 5, then this octet shows the loopback ID. • If the value of Octet 0 is 4, then this octet shows a virtual ID. **Octet 2** - If the value of Octet 0 is 1, 2, 3, 7, or 9, then this octet shows the port number. **Octet 3** - If the value of Octet 0 is 7 or 9, then this octet shows the ATM Subif number. **Octet 4** - If the value of Octet 0 is 9, then this octet shows the ATM VPI number. **Octet 5** - If the value of Octet 0 is 9, then this octet shows the ATM VCI number.

ifIndex to optical parameters table

If the table provides an ifIndex, the ifIndex to optical parameters table returns the optical parameters for the ifIndex.

NOTE
The following objects provide information for POS and Ethernet optical monitoring. They are equivalent to the output of the **show optics** command.

NOTE
The following snIfOpticalMonitoringInfoTable is supported on the Extreme NetIron devices.

Name, OID, and syntax	Access	Description
snIfOpticalMonitoringInfoTable	None	This table lists the instrumented parameters of all optical interfaces.

Name, OID, and syntax	Access	Description
brcdIp.1.1.3.3.6		
snIfOpticalMonitoringTemperature brcdIp.1.1.3.3.6.1.1 Syntax: Display string	Read-only	This object holds the value of the transmitter laser diode temperature for the interface. This object indicates the health of the transmitter. The format is xxx.yyyy C (Celcius), followed by whether the measured value is normal, high or low alarm, or high or low warning. For 100G LR4 and LR10 optic, this object returns the average temperature for all the lanes.
snIfOpticalMonitoringTxPower brcdIp.1.1.3.3.6.1.2 Syntax: Display string	Read-only	This object holds the value of the transmitter optical signal power for the interface, measured in dBm, followed by whether this is a normal value, or high or low warning or alarm. For 100G LR4 and LR10 optic, this object returns the aggregated Tx power for all the lanes.
snIfOpticalMonitoringRxPower brcdIp.1.1.3.3.6.1.3 Syntax: Display string	Read-only	This object holds the value of the receiver optical signal power for the interface, measured in dBm, followed by whether this is a normal value, high or low warning, or alarm. For 100G LR4 and LR10 optic, this object returns the aggregated Rx power for all the lanes.
snIfOpticalMonitoringTxBiasCurrent brcdIp.1.1.3.3.6.1.4 Syntax: Display string	Read-only	The Tx bias current. It is measured in mA, and is followed by whether this is a normal value, high or low warning, or alarm. For 100G LR4 and LR10 optic, this object returns the aggregated Tx bias current for all the lanes.

The following table is introduced to display the Tx and Rx Power status and its value in units of MicroWatt.

TABLE 6 snIfOpticalMonitoring2Table

Name, OID, and syntax	Access	Description
snIfOpticalMonitoring2Table brcdIp.1.1.3.3.12	None	This table lists the instrumented parameters of all optical interfaces. It augments snIfOpticalMonitoringInfoTable for displaying the Tx and Rx power status and the Tx Power and Rx Power value in units of microwatt.
snIfOpticalMonitoring2TxPowerStatus brcdIp.1.1.3.3.12.1.1 Syntax: Integer	Read-only	This object holds the status of the transmitter optical signal power for the interface indicating whether this is normal or an alarm is present.
snIfOpticalMonitoring2TxPowerVal brcdIp.1.1.3.3.12.1.2 Syntax: Unsigned32	Read-only	This object holds the value of the transmitter optical signal power for the interface, measured in microWatt. For 100G LR4 and LR10 optic, this object returns the aggregated Tx power for all the lanes.
snIfOpticalMonitoring2RxPowerStatus brcdIp.1.1.3.3.12.1.3 Syntax: Integer	Read-only	This object holds the status of the receiver optical signal power for the interface, indicating whether this is a normal value or an alarm.

TABLE 6 snIfOpticalMonitoring2Table (continued)

Name, OID, and syntax	Access	Description
snIfOpticalMonitoring2RxPowerVal brcdIp.1.1.3.3.12.1.4 Syntax: Unsigned 32	Read-only	This object holds the value of the receiver optical signal power for the interface, measured in microWatt. For 100G LR4 and LR10 optic, this object returns the aggregated Rx Power for all the lanes.

Optical lane monitoring table

The following table objects display the optical parameters table per lane for 100G of type LR4, LR10, ER4, SR4, SR10, CWDM4, and 40G of type LR4 and SR4 is supported.

NOTE
The following snIfOpticalLaneMonitoringTable is supported on the Extreme NetIron devices.

Name, OID, and syntax	Access	Description
snIfOpticalLaneMonitoringTable brcdIp.1.1.3.3.10	None	This table lists the instrumented parameters of all lanes within a 40G optic of type SR4 and LR4, 100G optic of type LR4 and LR10. The LR4 and SR4 have 4 lanes per optic and LR10 has 10 lanes per optic.
snIfOpticalLaneMonitoringLane brcdIp.1.1.3.3.10.1.1 Syntax: Unsigned32	None	This objects is the lane number of the 40G and 100G optic. LR4 and SR4 have 4 lanes per optic and LR10 has 10 lanes per optic.
snIfOpticalLaneMonitoringTemperature brcdIp.1.1.3.3.10.1.2 Syntax: DisplayString	Read-only	This object holds the value of the transmitter laser diode temperature for the lane in the interface. Indicates the health of the transmitter. The format is xxx.yyyy C (Celcius), followed by whether the measured value is normal, high/low alarm, or high/low warning.
snIfOpticalLaneMonitoringTxPower brcdIp.1.1.3.3.10.1.3 Syntax: DisplayString	Read-only	This object holds the value of the transmitter optical signal power for the lane in the interface, measured in dBm, followed by whether this is a this is a normal value, or high or low warning or alarm.
snIfOpticalLaneMonitoringRxPower brcdIp.1.1.3.3.10.1.4 Syntax: DisplayString	Read-only	This object holds the value of the receiver optical signal power for the lane in the interface, measured in dBm, followed by whether this is a normal value, or high/low warning or alarm.
snIfOpticalLaneMonitoringTxBiasCurrent brcdIp.1.1.3.3.10.1.5 Syntax: DisplayString	Read-only	The Tx Bias Current. It is measured in mA, and is followed by whether this is a normal value, or high/low warning or alarm.

The following table is introduced to display the Tx and Rx Power status and its value in units of MicroWatt.

TABLE 7 snIfOpticalLaneMonitoring2Table

Name, OID, and syntax	Access	Description
snIfOpticalLaneMonitoring2Table brcdIp.1.1.3.3.13	None	This table lists the instrumented parameters of all lanes within a 40G Optic of type SR4 and LR4, 100G optic of type LR4 and LR10. The LR4 and SR4 have 4 lanes per optic and LR10 has 10 lanes per optic. It augments snIfOpticalLaneMonitoringTable for displaying the Tx and Rx power status and the Tx Power and Rx Power value in units of Microwatt.
snIfOpticalLaneMonitoring2TxPowerStatus brcdIp.1.1.3.3.13.1.1 Syntax: Integer	Read-only	This object holds the status of the transmitter optical signal power for the lane in the interface, indicating whether this is normal or an alarm is present. • notSupported(1) • notApplicable(2) • highAlarm(3) • highWarn(4) • normal(5) • lowWarn(6) • lowAlarm(7)
snIfOpticalLaneMonitoring2TxPowerVal brcdIp.1.1.3.3.13.1.2 Syntax: Unsigned32	Read-only	This object holds the value of the transmitter optical signal power for the lane in the interface, measured in MicroWatt.
snIfOpticalLaneMonitoring2RxPowerStatus brcdIp.1.1.3.3.13.1.3 Syntax: Integer	Read-only	This object holds the status of the receiver optical signal power for the lane in the interface, indicating whether this is normal or an alarm is present. • notSupported(1) • notApplicable(2) • highAlarm(3) • highWarn(4) • normal(5) • lowWarn(6) • lowAlarm(7)
snIfOpticalLaneMonitoring2RxPowerVal brcdIp.1.1.3.3.13.1.4 Syntax: Unsigned32	Read-only	This object holds the value of the receiver optical signal power for the lane in the interface, measured in MicroWatt.

Interface media information table

The following table shows the information of the media device installed in the physical ports.

These objects retrieve information from the output of the **show media** command.

Name, OID, and syntax	Access	Description
snIfMediaInfoTable brcdIp.1.1.3.3.9	None	The information of the media device (SFP/XFP/ Copper) installed in the physical port. Only the ifIndices of Ethernet ports that are associated

Name, OID, and syntax	Access	Description
		with the operational cards are included in this table.
snIfMediaType brcdIp.1.1.3.3.9.1.1 Syntax: Display string	Read-only	The type of the media installed in the physical port.
snIfMediaVendorName brcdIp.1.1.3.3.9.1.2 Syntax: Display string	Read-only	The media vendor name (full name of the corporation).
snIfMediaVersion brcdIp.1.1.3.3.9.1.3 Syntax: Display string	Read-only	The media vendor product version number.
snIfMediaPartNumber brcdIp.1.1.3.3.9.1.4 Syntax: Display string	Read-only	The media vendor part number.
snIfMediaSerialNumber brcdIp.1.1.3.3.9.1.5 Syntax: Display string	Read-only	The vendor serial number of the media device.

Loopback interface configuration table

The following table lists the objects that are supported on the MLX Series, MLX Series, and XMR Series devices.

Name, OID, and syntax	Access	Description
snLoopbackIntfConfigTable brcdIp.1.2.13.1	None	The loopback interface configuration table.
snLoopbackIntfConfigPortIndex brcdIp.1.2.13.1.1.1 Syntax: Integer	Read-only	Shows the port index for a loopback interface configuration entry. There can be up to eight entries in this table. Valid values: 1 - 64
snLoopbackIntfMode brcdIp.1.2.13.1.1.2 Syntax: Integer	Read-write	Indicates if loopback interface is enabled: • disabled(0) • enabled(1)
snLoopbackIntfRowStatus brcdIp.1.2.13.1.1.3 Syntax: Integer	Read-write	Controls the management of the table rows. The following values can be written are: • delete(3) - Deletes the row. • create(4) - Creates a new row. • modify(5) - Modifies an existing row. If the row exists, then a SET with a value of create(4) returns a "bad value" error. Deleted rows are removed from the table immediately. The following values can be returned on reads: • noSuch(0) - No such row. • invalid(1) - Row is inoperative. • valid(2) - Row exists and is valid.

CAM Statistics

IP CAM statistics table

The following table lists the CAM statistics for Layer 3. The objects in the table are the output for the **dm cam-stat ip** command.

NOTE
The following table is not supported on the MLX Series, MLX Series, XMR Series, CES 2000 Series, and CER 2000 Series devices.

Name, OID, and syntax	Access	Description
snCAMIpStatTable brcdIp.1.1.2.12.2	None	IP CAM statistics table.
snCAMIpStatIfIndex brcdIp.1.1.2.12.2.1.1 Syntax: Unsigned32	Read-only	The ifIndex value of the local interface.
snCAMIpStatLevel brcdIp.1.1.2.12.2.1.2 Syntax: Unsigned32	Read-only	The level of CAM entry for that interface.
snCAMIpStatFreeEntries brcdIp.1.1.2.12.2.1.3 Syntax: Unsigned32	Read-only	Free entries in the IP CAM for that interface and level.
snCAMIpStatTotalEntries brcdIp.1.1.2.12.2.1.4 Syntax: Unsigned32	Read-only	Total entries in the IP CAM for that interface and level.

The output provides the following information:

- L3 L3 1 - 2047 (0x00001 - 0x007ff), free 2047 (0x007ff)
- L3 L2 2048 - 4095 (0x00800 - 0x00fff), free 2048 (0x00800)
- L3 4096 - 32767 (0x01000 - 0x07fff), free 28662 (0x06ff6)

Values are shared across the DMA. Also, if IP activity across DMAs is not different, some fields may show the same values.

CAM statistics table

The following table shows CAM statistics for all master DMAs. The objects are equivalent to the **dm cam stat** *dma master num* command.

NOTE
The following table is not supported on the MLX Series, MLX Series, XMR Series, CES 2000 Series, and CER 2000 Series devices.

Name, OID, and syntax	Access	Description
snCAMStatTable brcdIp.1.1.2.12.3	None	CAM statistics table.
snCamStatDMAIdNumber brcdIp.1.1.2.12.3.1.1 Syntax: Unsigned32	Read-only	DMA ID number.
snCamStatDMAMasterNumber brcdIp.1.1.2.12.3.1.2 Syntax: Unsigned32	Read-only	DMA master for the DMA ID number.
snCamStatFreePool0Entries brcdIp.1.1.2.12.3.1.3 Syntax: Unsigned32	Read-only	CAM free pool0 entries.
snCamStatFreePool1Entries brcdIp.1.1.2.12.3.1.4 Syntax: Unsigned32	Read-only	CAM free pool1 entries.
snCamStatFreePool2Entries brcdIp.1.1.2.12.3.1.5 Syntax: Unsigned32	Read-only	CAM free pool2 entries.
snCamStatFreePool3Entries brcdIp.1.1.2.12.3.1.6 Syntax: Unsigned32	Read-only	CAM free pool3 entries.
snCamStatFreeL2Entries brcdIp.1.1.2.12.3.1.7 Syntax: Unsigned32	Read-only	CAM free Layer 2 entries
snCamStatFreeL2LowestSection brcdIp.1.1.2.12.3.1.8 Syntax: Unsigned32	Read-only	CAM free Layer 2 lowest section entries.
snCamStatHostLookupCount brcdIp.1.1.2.12.3.1.9 Syntax: Unsigned32	Read-only	CAM host lookup count for router.
snCamStatRouteLookupCount brcdIp.1.1.2.12.3.1.10 Syntax: Unsigned32	Read-only	CAM route lookup count for router.
snCamStatLevel1 brcdIp.1.1.2.12.3.1.11 Syntax: Unsigned32	Read-only	CAM stat level 1 entries for router.
snCamStatLevel2 brcdIp.1.1.2.12.3.1.12 Syntax: Unsigned32	Read-only	CAM stat level 2 entries for router.
snCamStatLevel3 brcdIp.1.1.2.12.3.1.13 Syntax: Unsigned32	Read-only	CAM stat level 3 entries for router.
snCamStatMacFailCount	Read-only	CAM MAC fail count.

Name, OID, and syntax	Access	Description
brcdIp.1.1.2.12.3.1.14 Syntax: Unsigned32		
snCamStatIPRouteFailCount brcdIp.1.1.2.12.3.1.15 Syntax: Counter	Read-only	CAM IP route fail count.
snCamStatIPSessionFailCount brcdIp.1.1.2.12.3.1.16 Syntax: Counter	Read-only	CAM IP session fail count.
snCamStatIPMCastFailCount brcdIp.1.1.2.12.3.1.17 Syntax: Counter	Read-only	CAM IP multicast fail count.
snCamStatL2SessionFailCount brcdIp.1.1.2.12.3.1.18 Syntax: Counter	Read-only	CAM Layer 2 session fail count.
snCamStatAddMACCount brcdIp.1.1.2.12.3.1.19 Syntax: Counter	Read-only	CAM add MAC count.
snCamStatAddVLANCount brcdIp.1.1.2.12.3.1.20 Syntax: Counter	Read-only	CAM add VLAN count.
snCamStatAddIPHostCount brcdIp.1.1.2.12.3.1.21 Syntax: Counter	Read-only	CAM add IP host count.
snCamStatAddIPRouteCount brcdIp.1.1.2.12.3.1.22 Syntax: Counter	Read-only	CAM add IP route count.
snCamStatAddIPSessionCount brcdIp.1.1.2.12.3.1.23 Syntax: Counter	Read-only	CAM add IP session count.
snCamStatAddIPMCastCount brcdIp.1.1.2.12.3.1.24 Syntax: Counter	Read-only	CAM add IP multicast count.
snCamStatAddL2SessionCount brcdIp.1.1.2.12.3.1.25 Syntax: Counter	Read-only	CAM add Layer 2 session count.
snCamStatAddIPXCount brcdIp.1.1.2.12.3.1.26 Syntax: Counter	Read-only	CAM add IPX count.
snCamStatDeleteDMACamCount brcdIp.1.1.2.12.3.1.27 Syntax: Counter	Read-only	CAM delete DMA CAM count.

CAM profile

The following object identifies CAM partition profiles. Each profile adjusts the partitions to optimize the device for corresponding applications.

Name, OID, and syntax	Access	Description
snCamProfile brcdIp.1.14.1.1.1.1 Syntax: Integer	Read-only	Identifies the CAM partition profile. Each profile adjusts the partitions to optimize the device for corresponding applications. Displays one of the following: • default(1) • ipv4(2) • ipv4Ipv6(3) • ipv4Ipv62(4) • ipv4Vpls(5) • ipv4Vpn(6) • ipv6(7) • l2Metro(8) • l2Metro2(9) • mplsL3vpn(10) • mplsL3vpn2(11) • mplsVpls(12) • mplsVpls2(13) • mplsVpnVpls(14) • multiService(15) • multiService2(16) • multiService3(17) • multiService4(18) • multiService5(19) • multiService6(20) • telemetry1(21)

CAM usage for Layer 3 traffic

The following table contains information about the CAM usage on the device by Layer 3 traffic.

Name, OID, and syntax	Access	Description
snCamUsageL3Table brcdIp.1.14.1.1.2.1	None	The CAM usage table for Layer 3 traffic.
snCamUsageL3Slot brcdIp.1.14.1.1.2.1.1.1 Syntax: Unsigned32	None	A number that uniquely identifies an interface module on the device.
snCamUsageL3Processor brcdIp.1.14.1.1.2.1.1.2 Syntax: Unsigned32	None	A number which uniquely identifies the network processor of the interface module identified by the CAM usage for Layer 3 traffic object.

Name, OID, and syntax	Access	Description
snCamUsageL3Type brcdIp.1.14.1.1.2.1.1.3 Syntax: Integer	None	Identifies the type of Layer 3 traffic passing through the network processor: • ipv4(1) • ipv6(2) • ipv4vpn(3) • ipv6vpn(4)
snCamUsageL3Supernet brcdIp.1.14.1.1.2.1.1.4 Syntax: Unsigned32	None	Identifies the supernet for the Layer 3 type traffic. It provides information for the longest match lookup. For example: • 0 - All the bits of an IP address will be matched. • 1 - All but the lowest bit in an IP address will be matched. Valid Values: • IPv4 and IPv4VPN (0 - 32), where a value of 32 indicates the entry is the total of other supernets indexed by [0..31]. • IPv6 (0 - 10), where a value of 10 indicates the entry is the total of other Supernets indexed by [0..9].
snCamUsageL3Size brcdIp.1.14.1.1.2.1.1.5 Syntax: Unsigned32	Read-only	The effective CAM size by the Layer 3 traffic: • IPv4 traffic - Each unit is 4 bytes. • IPv4vpn traffic - Each unit is 8 bytes. • IPv6 traffic - Each unit is 16 bytes.
snCamUsageL3Free brcdIp.1.14.1.1.2.1.1.6 Syntax: Gauge32	Read-only	The amount of CAM currently available by the Layer 3 traffic entry: • IPv4 traffic - each unit is 4 bytes. • IPv4vpn traffic - each unit is 8 bytes. • IPv6 traffic - each unit is 16 bytes.
snCamUsageL3UsedPercent brcdIp.1.14.1.1.2.1.1.7 Syntax: Percent	Read-only	The percentage of CAM currently being used by the Layer 3 traffic.

CAM usage for Layer 2 traffic

The following table contains information about the CAM usage on the device by Layer 2 traffic.

Name, OID, and syntax	Access	Description
snCamUsageL2Table brcdIp.1.14.1.1.2.2	None	The CAM usage table for Layer 2 traffic.
snCamUsageL2Slot brcdIp.1.14.1.1.2.2.1.1 Syntax: Unsigned32	None	A number that uniquely identifies an interface module on the device.
snCamUsageL2Processor brcdIp.1.14.1.1.2.2.1.2	None	A number which uniquely identifies the network processor of the interface module identified by the CAM usage for Layer 2 traffic object.

Name, OID, and syntax	Access	Description
Syntax: Unsigned32		
snCamUsageL2Type brcdIp.1.14.1.1.2.2.1.3 Syntax: Integer	None	Identifies the type of Layer 2 traffic passing through the network processor: • forwarding(1) • protocol(2) • flooding(3) • total(4) • portBUMRL(5)
snCamUsageL2Size brcdIp.1.14.1.1.2.2.1.4 Syntax: Unsigned32	Read-only	Indicates the effective CAM size for this Layer 2 traffic entry. Each unit is 8 bytes.
snCamUsageL2Free brcdIp.1.14.1.1.2.2.1.5 Syntax: Gauge32	Read-only	Shows the amount of CAM currently available for this Layer 2 traffic. Each unit is 8 bytes.
snCamUsageL2UsedPercent brcdIp.1.14.1.1.2.2.1.6 Syntax: Percent	Read-only	Shows the percentage of CAM currently being used for this Layer 2 traffic.

CAM usage session table

The following table contains information about the CAM usage on the device by sessions traffic.

Name, OID, and syntax	Access	Description
snCamUsageSessionTable brcdIp.1.14.1.1.2.3	None	The CAM usage table for Layer 3 traffic.
snCamUsageSessionSlot brcdIp.1.14.1.1.2.3.1.1 Syntax: Unsigned32	None	A number that uniquely identifies an interface module on the device.
snCamUsageSessionProcessor brcdIp.1.14.1.1.2.3.1.2 Syntax: Unsigned32	None	A number which uniquely identifies the network processor on the interface module identified by the CAM usage session table object.
snCamUsageSessionType brcdIp.1.14.1.1.2.3.1.3 Syntax: Integer	None	Identifies the type of session: • ipv4Multicast(1) • ipv4andMacReceiveAcl(2) • ipv4andMacRuleAcl(3) • ipv4andMacTotal(4) • ipv4andMacOut(5) • ipv6Multicast(6) • ipv6ReceiveAcl(7) • ipv6RuleAcl(8) • ipv6Total(9) • ipv6Out(10) • labelOut(11) • ipv4SrcGuardDenial(12) • ipv4SrcGuardPermit(13)

Name, OID, and syntax	Access	Description
		• internalForwardingLookup(14) • l2OpenFlowCatchAll(27) • l2OpenFlowUnprotected(28) • l2OpenFlowNormal(29) • l2OpenFlowProtected(30) • ipv4OpenFlowCatchAll(31) • ipv4OpenFlowUnprotected(32) • ipv4OpenFlowNormal(33) • ipv4OpenFlowProtected(34) • broadcastAcl(35) • macTotal(36) • ipv4ReceiveAcl(37) - Supported only on the Extreme NetIron devices. • ipv4RuleAcl(38) - Supported only on the Extreme NetIron devices. • ipv4Total(39) - Supported only on the Extreme NetIron devices.
snCamUsageSessionSize brcdIp.1.14.1.1.2.3.1.4 Syntax: Unsigned32	Read-only	Identifies the effective CAM size for this session traffic entry: • IPv4 sessions - Each unit is 16 bytes. • IPv6 sessions - Each unit is 64 bytes.
snCamUsageSessionFree brcdIp.1.14.1.1.2.3.1.5 Syntax: Gauge32	Read-only	The amount of CAM currently available for this session: • IPv4 sessions - Each unit is 16 bytes. • IPv6 sessions - Each unit is 64 bytes.
snCamUsageSessionUsedPercent brcdIp.1.14.1.1.2.3.1.6 Syntax: Percent	Read-only	The percentage of CAM currently being used by this session.

CAM usage other table

The following table contains information about the CAM usage on the device by traffic other than Layer 3, Layer 2, and Sessions.

Name, OID, and syntax	Access	Description
snCamUsageOtherTable brcdIp.1.14.1.1.2.4	None	CAM usage table for traffic types other than Layer 3, Layer 2, and Sessions traffic.
snCamUsageOtherSlot brcdIp.1.14.1.1.2.4.1.1 Syntax: Unsigned32	None	A number that uniquely identifies an interface module on the device.
snCamUsageOtherProcessor brcdIp.1.14.1.1.2.4.1.2 Syntax: Unsigned32	None	A number which uniquely identifies the network processor on the interface module identified by the CAM usage other table object.
snCamUsageOtherType brcdIp.1.14.1.1.2.4.1.3 Syntax: Integer	None	Identifies the traffic type: • gre(1) • multicastVpls(2)

Name, OID, and syntax	Access	Description
snCamUsageOtherSize brcdIp.1.14.1.1.2.4.1.4 Syntax: Unsigned32	Read-only	Indicates the effective CAM size for this Other traffic type: • GRE - Each unit is 8 bytes. • Multicast VPLS - Each unit is 16 bytes.
snCamUsageOtherFree brcdIp.1.14.1.1.2.4.1.5 Syntax: Gauge32	Read-only	Indicates the amount of CAM currently available to this traffic type: • GRE: each unit is 8 bytes • Multicast VPLS: each unit is 16 bytes
snCamUsageOtherUsedPercent brcdIp.1.14.1.1.2.4.1.6 Syntax: Percent	Read-only	Indicates the percentage of CAM currently being used for this traffic type.

System DRAM

System DRAM information group

The system DRAM information group displays memory utilization statistics for protocols that use dynamic memory allocation. It shows the same information that the **show memory** command displays.

Name, OID, and syntax	Access	Description
snAgSystemDRAM brcdIp.1.1.2.12.4	None	The system DRAM information groups.
snAgSystemDRAMUtil brcdIp.1.1.2.12.4.1 Syntax: Integer	Read-only	The amount of system dynamic memory that is currently utilized, in percent. This object replaces "snAgGblDynMemUtil".
snAgSystemDRAMTotal brcdIp.1.1.2.12.4.2 Syntax: Integer	Read-only	The total amount of system dynamic memory, in bytes. This object replaces "snAgGblDynMemTotal".
snAgSystemDRAMFree brcdIp.1.1.2.12.4.3 Syntax: Integer	Read-only	The amount of free system dynamic memory, in bytes. This object replaces "snAgGblDynMemFree".
snAgSystemDRAMForBGP brcdIp.1.1.2.12.4.4 Syntax: Integer	Read-only	The amount of free dynamic memory used by BGP, in bytes.
snAgSystemDRAMForOSPF brcdIp.1.1.2.12.4.5 Syntax: Integer	Read-only	The amount of free dynamic memory used by OSPF, in bytes.

System temperature table

This section displays the SNMP MIB objects for temperature readings on the MLX Series, XMR Series, MLX Series, CES 2000 Series, and CER 2000 Series devices.

For stacking devices, refer to System stacking temperature table on page 241. The system temperature table shows temperature reading information for each module's temperature sensor.

Name, OID, and syntax	Access	Description
snAgentTempTable brcdIp.1.1.2.13.1	None	The table that displays the temperature reading for each module's temperature sensor. Note that temperature readings are displayed only for those modules that have temperature sensors.

Name, OID, and syntax	Access	Description
snAgentTempSlotNum brcdIp.1.1.2.13.1.1.1 Syntax: Integer32	None	The slot number of the module to which the temperature sensor is attached.
snAgentTempSensorId brcdIp.1.1.2.13.1.1.2 Syntax: Integer32	None	The identification number of the module's temperature sensor. The following applies to the Management modules: • Sensor 1 - The intake temperature. • Sensor 2 - The exhaust-side temperature.
snAgentTempSensorDescr brcdIp.1.1.2.13.1.1.3 Syntax: Display string	Read-only	The description of the temperature sensor.
snAgentTempValue brcdIp.1.1.2.13.1.1.4 Syntax: Integer	Read-only	The temperature reading for the temperature sensor. This value is displayed in units of 0.5° Celsius. Valid values: 110 - 250

System temperature threshold table

The following table lists the temperature levels of the fan settings.

NOTE

The new MP card MR2 supports all the objects in the System temperature threshold table. The MP-MR2 is supported only on the MLX Series, XMR Series, and MLX Series devices.

Name, OID, and syntax	Access	Description
snAgentTempThresholdTable brcdIp.1.1.2.13.2	None	The table lists the temperature threshold levels for four speeds of fan settings: • low • medium • medium-high • high
snAgentTempThresholdModule brcdIp.1.1.2.13.2.1.1 Syntax: Integer	None	The module in the system for which threshold levels represented by this row are applicable.
snAgentTempThresholdLevel brcdIp.1.1.2.13.2.1.2 Syntax: Integer	None	The temperature threshold level of the module for which threshold levels represented by this row are applicable.
snAgentTempThresholdHighValue brcdIp.1.1.2.13.2.1.3 Syntax: Integer	Read-write	The high value for the temperature threshold, above which the fans would need to operate at the next higher speed. If the value reaches more than the high threshold value for the 'high' level, the module will be shut down.
snAgentTempThresholdLowValue brcdIp.1.1.2.13.2.1.4 Syntax: Integer	Read-write	The low value for the temperature threshold, below which the fans would need to operate at the next lower speed. This value is not applicable

Name, OID, and syntax	Access	Description
		for the 'low' level, as there are no more lower speeds.

System stacking temperature table

The following table shows temperature information for a module's temperature sensor in the stacking devices.

Name, OID, and syntax	Access	Description
snAgentTemp2Table brcdIp.1.1.2.13.3	None	This table lists the temperatures of the modules in each unit. This table is applicable only to modules with temperature sensors.
snAgentTemp2UnitNum brcdIp.1.1.2.13.3.1.1 Syntax: Integer	None	The unit number of the module that contains the temperature sensor represented by this row.
snAgentTemp2SlotNum brcdIp.1.1.2.13.3.1.2 Syntax: Integer	None	The slot number of the module that contains the temperature sensor represented by this row.
snAgentTemp2SensorDescr brcdIp.1.1.2.13.3.1.4 Syntax: DisplayString	Read-only	Description of the temperature sensor. This is the same as snAgentTempSensorId, which is in numeric format. It is used to traverse the temperature sensor table. The description provides the meaning and purpose of this sensor. There can be up to 128 characters in the description.
snAgentTemp2Value brcdIp.1.1.2.13.3.1.5 Syntax: Integer	Read-only	Temperature of the sensor represented by this row. Each unit is 0.5° Celsius. Valid values: 110° - 250° Celsius.

Software licensing

The following table contains information about the software licenses configured on the device.

Name, OID, and syntax	Access	Description
fdryLicenseTable brcdIp.1.1.2.15.1	None	A list of licenses maintained by the license sub-system.
fdryLicensePackageName brcdIp.1.1.2.15.1.1.1 Syntax: DisplayString	None	The name of the package, whose license information, this entry displays.
fdryLicenseLid brcdIp.1.1.2.15.1.1.2 Syntax: DisplayString	None	The License ID (LID) of the chassis or the line module for which this entry displays license information.
fdryLicenseHash brcdIp.1.1.2.15.1.1.3 Syntax: DisplayString	None	A unique hash for identifying a license entry in the system. This helps traverse through the entries with the same package name and LID.

Name, OID, and syntax	Access	Description
fdryLicenseType brcdIp.1.1.2.15.1.1.4 Syntax: Integer	Read-only	The type of the license, which can be either normal or trial.
fdryLicensePrecedence brcdIp.1.1.2.15.1.1.5 Syntax: Unsigned32	Read-only	Defines the priority of a particular trial license among those having the same package name and LID. This is primarily used for determining which license to use when there are many trial and normal licenses with the same package name and LID.
fdryLicenseTrialDays brcdIp.1.1.2.15.1.1.6 Syntax: Unsigned32	Read-only	The number of trial days for the license, if it is a trial license. Otherwise, the value has no meaning for normal licenses and read as 0 on a Get operation.
fdryLicenseTrialTimeElapsed brcdIp.1.1.2.15.1.1.7 Syntax: Unsigned32	Read-only	The cumulative number of hours used for this trial license. This counts all the usages of the trial license. For a normal license, this is 0.
fdryLicenseTrialTimeLeft brcdIp.1.1.2.15.1.1.8 Syntax: Unsigned32	Read-only	The number of hours left for the trial license. This is derived from the total number of hours and the cumulative number of hours used. For a normal license, this is 0.
fdryLicenseTrialState brcdIp.1.1.2.15.1.1.9 Syntax: Integer	Read-only	This indicates the state of the trial license: • Invalid - The license is not valid. • Unused - The license is never used. • Active - The license has been used at least once. • Expired - The license has expired and can no longer be used.
fdryLicenseVendorInfo brcdIp.1.1.2.15.1.1.10 Syntax: DisplayString	Read-only	This is the Extreme-specific package data which is an octet string. This contains encoded information of license-specific information such as package bit mask, number of ports and so on.
fdryLicenseSlot brcdIp.1.1.2.15.1.1.11 Syntax: Integer32	Read-only	This indicates the slot number of the module to which the license belongs. There is a one-to-one mapping between LID and slot number, as each module has a unique LID and can be present in only one slot.

License information

The following object indicates the feature (license) installed on the device.

Name, OID, and syntax	Access	Description
fdryLicensedFeatureInfo brcdIp.1.1.2.15.2 Syntax: Bits	Read-only	Indicates the feature or package for which the license has been enabled on the device: • ospf(0) • isis(1) • bgp(2) • mpls(3)

Name, OID, and syntax	Access	Description
NOTE This object is supported only on the MLX Series, XMR Series, MLX Series, CES 2000 Series, and CER 2000 Series devices.		

Package upgrade operation

The following objects indicate the package upgrade process on all the Extreme NetIron devices.

Name, OID, and syntax	Access	Description
brcdSwPackageFname brcdIp.1.1.2.16.1.1.1 Syntax: DisplayString	Read-write	Specifies the name of the release package file or the manifest file, which includes the path that is currently associated with the system. When the object is not used, the value is a zero(0) length string.
brcdSwPackageLoad brcdIp.1.1.2.16.1.1.2 Syntax: Integer	Read-write	Specifies the action object to upgrade the system using a release package. The value none(1) specifies the system comes up and not used for SET request. The following values download the release package from a TFTP server and upgrade the system: • tftpToPrimary(2)—Installs both MP and LP application images to the primary code. • tftpToSecondary(3)—Installs both MP and LP application images to the secondary code. • tftpToMgmtModulePrimaryIntfModule Secondary(4)—Installs an MP application image to the primary code and an LP application image to the secondary code. • tftpToMgmtModuleSecondaryIntfMod ule Primary(5)—Installs an MP application image to the secondary code and an LP application image to the primary code.
brcdSwPackageLoadStatus brcdIp.1.1.2.16.1.1.3 Syntax: Integer	Read-only	Indicates the progress of the upgrade operation. The operation starts with the “normal(1)” value when there is no outstanding upgrade process. When an upgrade process is initiated, the operation is transitioned to the “started(2)” value and proceeds further. When the upgrade process stops, whether the operation is successful or with errors, it returns to the “normal(1)” value. Finally, the brcdSwPackageLoadResultTable is populated with the summary of the upgrade process. • normal(1) • started(2) • internalError(3)

Name, OID, and syntax	Access	Description
		• manifestFileDownloadError(4) • manifestFileValidationError(5) • downloadingManagementModuleBoot(6) • downloadingManagementModuleMonitor(7) • downloadingManagementModuleApplication(8) • downloadingInterfaceModuleBoot(9) • downloadingInterfaceModuleMonitor(10) • downloadingInterfaceModuleApplication(11) • downloadingInterfaceModuleFpga(12) • downloadingFpgaMBridge(13) • downloadingFpgaSBridge(14) • downloadingFpgaHBridge(15) • upgradingManagementModuleBoot(16) • upgradingManagementModuleMonitor(17) • upgradingManagementModuleApplication(18) • upgradingInterfaceModuleBoot(19) • upgradingInterfaceModuleMonitor(20) • upgradingInterfaceModuleApplication(21) • upgradingInterfaceModuleFpga(22) • upgradingFpgaMBridge(23) • upgradingFpgaSBridge(24) • upgradingFpgaHBridge(25)
brcdSwPackageUpgradeAllImages brcdIp.1.1.2.16.1.1.4 Syntax: TruthVal	Read-write	Specifies all images upgrade. • true(1) - The upgrade sequence includes MP FPGA images (MBRIDGE/MBRIDGE32 and SBRIDGE/HSBRIDGE). • false(2) - Upgrades only MP and LP monitor images, MP and LP application images, and LP bundled FPGA images for the XMR Series and the MLX Series. For CES 2000 Series and CER 2000 Series, only the monitor, application, and FPGA images are upgraded. Returns false(2), for a read-only operation. Default: false(2)

Package upgrade result table

The following table contains the objects that indicate the summary of the last upgrade operation completed on the Extreme NetIron devices.

Name, OID, and syntax	Access	Description
brcdSwPackageLoadResultTable brcdIp.1.1.2.16.1.5	None	Contains the summary of the upgrade operation.
brcdSwPackageUpgradeResultIndex brcdIp.1.1.2.16.1.5.1.1 Syntax: Unsigned32	None	Specifies the sequential index or upgrade step.
brcdSwPackageUpgradeResultImageType brcdIp.1.1.2.16.1.5.1.2 Syntax: BrcdImageType	Read-only	Specifies the associated image type for the step of the upgrade process.
brcdSwPackageUpgradeResultStatus brcdIp.1.1.2.16.1.5.1.3 Syntax: Integer	Read-only	Indicates the upgrade status for the particular image upgrade.
brcdSwPackageUpgradeResultTimeStamp brcdIp.1.1.2.16.1.5.1.4 Syntax: TimeStamp	Read-only	Specifies the time stamp when the upgrade step is performed.
brcdSwPackageUpgradeResultDescription brcdIp.1.1.2.16.1.5.1.5 Syntax: DisplayString	Read-only	Contains the summary description for the particular image upgrade. **NOTE** The result description is empty when brcdSwPackageLoadResultStatus is "ok".
brcdSwPackageUpgradeSkipVersionCheck brcdIp.1.1.2.16.1.5.1.6 Syntax: TruthValue **NOTE** This object is not supported on the CES 2000 Series and CER 2000 Series devices.	Read-write	Skips the version comparison of the FPGA images. By default, performs the version comparison between the image version in the manifest file with the file installed in the system. • true - Forces the system to upgrade the images by skipping the version check • false - Default value **NOTE** This object is not supported in LP Auto-upgrade modules.

Interface module auto-upgrade objects

The following objects are for configuring the interface module auto-upgrade process for the Extreme NetIron devices.

Name, OID, and syntax	Access	Description
brcdSwIntfModAutoUpgradeMode brcdIp.1.1.2.16.1.2.1 Syntax: Integer	Read-write	Specifies the mode of an LP auto-upgrade. The following values can be written: • unknown(1) • disabled(2) • tftp(3) • slot1(4) • slot2(5)
brcdSwIntfModAutoUpgradeTftpAddrType brcdIp.1.1.2.16.1.2.2 Syntax: InetAddressType	Read-write	Specifies the IP address type of a TFTP server. The following address types are supported: • ipv4(1)

Name, OID, and syntax	Access	Description
		• ipv6(2)
brcdSwIntfModAutoUpgradeTftpAddr brcdIp.1.1.2.16.1.2.3 Syntax: InetAddress	Read-write	Specifies the IP address of a TFTP server for auto-upgrade.
brcdSwIntfModAutoUpgradeSrcPath brcdIp.1.1.2.16.1.2.4 Syntax: DisplayString	Read-write	Specifies the path to the topmost directory of the release package relative to the source.
brcdSwIntfModAutoUpgradeAllImages brcdIp.1.1.2.16.1.2.5 Syntax: TruthValue	Read-write	Specifies all images upgrade. • The upgrade sequence includes only the LP boot image, if set to true(1). • The default false(2), upgrades only the LP FPGA images. Returns false(2), for a read-only operation. This object is deprecated. SET operation is not supported and READ operation will return false(2).

NTP MIB Definition

NTP general group

You can configure Layer 2 and Layer 3 switches to consult SNTP servers for the current system time and date. As Layer 2 and Layer 3 switches do not retain time and date information across power cycles, using the SNTP feature alleviates the need to reconfigure time and date after a system reset.

The following objects provide information on the NTP server. These objects apply to all devices.

Name, OID, and syntax	Access	Description
snNTPGeneral brcdIp.1.1.3.11.1	None	Begins the NTP configuration objects.
snNTPPollInterval brcdIp.1.1.3.11.1.1 Syntax: Integer **NOTE** This MIB object is not supported on the Extreme NetIron devices.	Read-write	Specifies how often to poll the NTP server. Each unit is one second. Valid values: 1 - 65535 Default: 1800 seconds
snNTPTimeZone brcdIp.1.1.3.11.1.2 Syntax: Integer	Read-write	Time zone: • alaska(0) • aleutian(1) • arizona(2) • central(3) • eastIndiana(4) • eastern(5) • hawaii(6) • michigan(7) • mountain(8) • pacific(9) • samoa(10) • gmtPlus1200(11) • gmtPlus1100(12) • gmtPlus1000(13) • gmtPlus0900(14) • gmtPlus0800(15) • gmtPlus0700(16) • gmtPlus0600(17) • gmtPlus0500(18) • gmtPlus0400(19) • gmtPlus0300(20) • gmtPlus0200(21) • gmtPlus0100(22) • gmt(23) - default

Name, OID, and syntax	Access	Description
		• gmtMinus0100(24) • gmtMinus0200(25) • gmtMinus0300(26) • gmtMinus0400(27) • gmtMinus0500(28) • gmtMinus0600(29) • gmtMinus0700(30) • gmtMinus0800(31) • gmtMinus0900(32) • gmtMinus1000(33) • gmtMinus1100(34) • gmtMinus1200(35) • gmtPlus1130(36) • gmtPlus1030(37) • gmtPlus0930(38) • gmtPlus0630(39) • gmtPlus0530(40) • gmtPlus0430(41) • gmtPlus0330(42) • gmtMinus0330(43) • gmtMinus0830(44) • gmtMinus0930(45)
snNTPSummerTimeEnable brcdIp.1.1.3.11.1.3 Syntax: Integer	Read-write	Indicates if daylight saving time is enabled: • disabled(0) • enabled(1) - Enables daylight saving time starting at 02:00:00 on the first Sunday in April and ending at 02:00:00 in last Sunday in October. Default: disabled(0)
snNTPSystemClock brcdIp.1.1.3.11.1.4 Syntax: Octet String	Read-write	Shows the format of the system clock: • octet 0 - Seconds after the minute [0-60] • octet 1 - Minutes after the hour [0-59] • octet 2 - Hours since midnight [0-23] • octet 3 - Day of the month [1-31] • octet 4 - Months since January [0-11] • octet 5 - Years since 1900 • octet 6 - Days since Sunday [0-6] Octets 0 to 5 must have valid values and Octet 6 must be set to 0. To disable the system clock set all octets to zero.
snNTPSync brcdIp.1.1.3.11.1.5 Syntax: Integer	Read-write	Initiates the time synchronization to the NTP servers. For set operation, only "synchronize(2)" is accepted. For get operation, always return "other(1)".

Name, OID, and syntax	Access	Description
NOTE This MIB object is not supported on the Extreme NetIron devices.		

Trace route group

Trace route group

This group uses the following method to detect routes used to reach a destination address.

1. The originating Layer 3 Switch sends a probe packet (a UDP packet) to the destination address with a time-to-live (TTL) value of 1.
2. The first Layer 3 Switch that receives this packet decrements the TTL, then drops the packet and returns a ICMP packet to the originator.
3. The originating Layer 3 Switch records the route in the Trace route result table on page 252.
4. The originating Layer 3 Switch sends a probe packet (a UDP packet) to the destination address with a TTL value of 2.
5. The second Layer 3 Switch that receives this packet decrements the TTL, then drops the packet and returns an ICMP packet to the originator.
6. The originating Layer 3 Switch records the route in Trace route result table on page 252.

   This procedure is repeated until the destination is reached or the maximum TTL is reached.

General trace route group

The following objects define the trace route probe packet.

Name, OID, and Syntax	Access	Description
snRtIpTraceRouteGeneral brcdIp.1.2.2.10.1	None	Beginning from NetIron 05.9.00 release, this MIB object supports VRF.
snRtIpTraceRouteTargetAddr brcdIp.1.2.2.10.1.1 Syntax: IpAddress	Read-write	Shows the target IP address of the trace route.
snRtIpTraceRouteMinTtl brcdIp.1.2.2.10.1.2 Syntax: Integer	Read-write	Indicates the minimum TTL value carried in the first probe packet. Valid values: 1 - 255 seconds Default: 1 second
snRtIpTraceRouteMaxTtl brcdIp.1.2.2.10.1.3 Syntax: Integer	Read-write	Indicates the maximum TTL value carried in the last probe packet. Valid values: 1 - 255 seconds.

Name, OID, and Syntax	Access	Description
		Default: 30 second
snRtIpTraceRouteTimeOut brcdIp.1.2.2.10.1.4 Syntax: Integer	Read-write	Indicates the number of seconds the Layer 3 Switch waits for a response from the probe packet (i.e. the ICMP packet) before timing out. Valid values: 1 - 120 seconds. Default: 2 seconds
snRtIpTraceRouteControl brcdIp.1.2.2.10.1.5 Syntax: Integer	Read-write	Indicates the progress of the trace route: • start(1) - snRtIpTraceRouteDestAddr must have been initialized before start(1) can be written. • abort(2) - Stops the current trace route operation. • success(3) - The destination address is reached. • failure(4) - Either the destination address is not reach, trace route times out, or the ending TTL is reached before the operation is completed. • inProgress(5) - Trace route operation has started. Only "start" and "abort" are writable values; whereas, "success", "failure" and "inProgress" are read-only (or returned) values. The Trace route result table on page 252 contains the routes and target addresses.

Trace route result table

This table contains the routes and the target addresses used in the trace route operation to reach the destination address.

Name, OID, and Syntax	Access	Description
snRtIpTraceRouteResultTable brcdIp.1.2.2.10.2.1	None	The trace route results table.
snRtIpTraceRouteResultndex brcdIp.1.2.2.10.2.1.1.1 Syntax: Integer32	Read-only	The index for an entry in the trace route results table.
snRtIpTraceRouteResultAdr brcdIp.1.2.2.10.2.1.1.2 Syntax: IpAddress	Read-only	Indicates the IP address of the Layer 3 Switch or the target IP address of the Layer 3 Switch.
snRtIpTraceRouteResultRoundTripTime1 brcdIp.1.2.2.10.2.1.1.3 Syntax: Time ticks	Read-only	Shows the round trip time between the transmission of the first probe packet and the received response of the ICMP packet.
snRtIpTraceRouteResultRoundTripTime2 brcdIp.1.2.2.10.2.1.1.4 Syntax: Time ticks	Read-only	Shows the round trip time between the transmission of the second probe and the received response of the ICMP packet.

IP forwarding cache table

The IP forwarding cache provides a fast-path mechanism for forwarding IP packets. The cache contains entries for IP destinations.

Name, OID, and Syntax	Access	Description
snRtIpFwdCacheTable brcdIp.1.2.2.11	None	IP forwarding cache table.
snRtIpFwdCacheIndex brcdIp.1.2.2.11.1.1 Syntax: Integer32	Read-only	An index in the IP Forwarding Cache Table for this entry.
snRtIpFwdCacheIp brcdIp.1.2.2.11.1.2 Syntax: IpAddress	Read-only	Shows the IP address of a forwarding cache station.
snRtIpFwdCacheMac brcdIp.1.2.2.11.1.3 Syntax: Octet String	Read-only	Shows the MAC address of a forwarding cache station. This object has six octets.
snRtIpFwdCacheNextHopIp brcdIp.1.2.2.11.1.4 Syntax: IpAddress	Read-only	Indicates the IP address of the Layer 3 Switch for the next hop.
snRtIpFwdCacheOutgoingPort brcdIp.1.2.2.11.1.5 Syntax: Integer	Read-only	Specifies the outgoing port to which packets will be forwarded. Valid values: 0 - 3900. A value of zero indicates that there is no outgoing port for this entry. Non-zero value has the following meaning: • Bit 0 to bit 7 - Port number. • Bit 8 to bit 11 - Slot number. For virtual Layer 3 Switch interface, slot number is 15. Port number is the virtual Layer 3 Switch port number, which is a value from 1 - 60.
snRtIpFwdCacheType brcdIp.1.2.2.11.1.6 Syntax: Integer	Read-only	Indicates the type of entry this is: • dynamic(1) • permanent(2)
snRtIpFwdCacheAction brcdIp.1.2.2.11.1.7 Syntax: Integer	Read-only	Indicates the action taken with this entry: • other(1) • forward(2) • forUs(3) • waitForArp(4) • complexFilter(5) • icmpDeny(6) • dropPacket(7)
snRtIpFwdCacheFragCheck brcdIp.1.2.2.11.1.8 Syntax: Integer	Read-only	Indicates if fragmentation-needed is enabled: • disabled(0) • enabled(1) NOTE Devices cannot forward the packet without fragmenting it.

Name, OID, and Syntax	Access	Description
snRtIpFwdCacheSnapHdr brcdIp.1.2.2.11.1.9 Syntax: Integer	Read-only	Indicates if Ethernet SNAP (also called IEEE 802.3) encapsulation is enabled: • disabled(0) • enabled(1)
snRtIpFwdCacheVLanId brcdIp.1.2.2.11.1.10 Syntax: Integer32	Read-only	Shows the VLAN ID of an IP Forwarding Cache Table entry. A value of zero indicates that no VLAN is associated with this entry.
snRtIpFwdCacheOutgoingIf brcdIp.1.2.2.11.1.11 Syntax: Integer	Read-only	Shows the outgoing interface that will be used to forward packets. An value of zero indicates that no outgoing interface is associated with this entry.

IP AS-Path access list table

The IP forwarding cache provides a fast-path mechanism for forwarding IP packets. The cache contains entries for IP destinations.

Name, OID, and Syntax	Access	Description
snIpAsPathAccessListTable brcdIp.1.2.2.12	None	The IP AS-Path access list table.
snIpAsPathAccessListIndex brcdIp.1.2.2.12.1.1 Syntax: Integer32	Read-only	The table index for a filter entry.
snIpAsPathAccessListSequence brcdIp.1.2.2.12.1.2 Syntax: Integer32	Read-write	The table sequence index for a filter entry.
snIpAsPathAccessListAction brcdIp.1.2.2.12.1.3 Syntax: Integer	Read-write	The action to take if the BGP address matches with this filter.
snIpAsPathAccessListRegExpression brcdIp.1.2.2.12.1.4 Syntax: Octet String	Read-write	Autonomous system in the filter using a regular expression. Each character of the regular expression string is represented by one octet.
snIpAsPathAccessListRowStatus brcdIp.1.2.2.12.1.5 Syntax: Integer	Read-write	This object is used to create and delete row in the table and control if they are used. The values that can be written are: • delete (3) - Deletes the row • create (4) - Creates a new row • modify (5) - Modifies an existing row If the row exists, then a SET with value of create (4) returns error 'badvalue'. Deleted rows go away immediately. The following values can be returned on reads: • nosuch (0) - No such row • invalid (1) - Setting it to 'invalid' has the effect of rendering it inoperative • valid (2) - The row exists and is valid

IP community list table

The following table is not supported on the MLX Series, MLX Series, XMR Series, CES 2000 Series, and CER 2000 Series devices.

Name, OID, and Syntax	Access	Description
snIpCommunityListTable brcdIp.1.2.2.13	None	The IP community list table.
snIpCommunityListIndex brcdIp.1.2.2.13.1.1 Syntax: Integer	Read-only	An index for an entry in the table.
snIpCommunityListSequence brcdIp.1.2.2.13.1.2 Syntax: Integer	Read-only	Identifies the sequence of this entry in this table.
snIpCommunityListAction brcdIp.1.2.2.13.1.3 Syntax: Integer	Read-write	Determines what action to take if the address in the packet matches this filter: • deny(0) • permit(1)
snIpCommunityListCommNum brcdIp.1.2.2.13.1.4 Syntax: Octet String	Read-write	Specifies the community number. This is a number from 1 to 0xFFFFFFFF. There are 20 numbers. Each number is represented by four octets.
snIpCommunityListInternet brcdIp.1.2.2.13.1.5 Syntax: Integer	Read-write	Indicates if the community is enabled: • disabled(0) • enabled(1)
snIpCommunityListNoAdvertise brcdIp.1.2.2.13.1.6 Syntax: Integer	Read-write	Indicates if routes will not be advertised to any internal or external peer: • false(0) • true(1)
snIpCommunityListNoExport brcdIp.1.2.2.13.1.7 Syntax: Integer	Read-write	Determines if the route will not be advertised to an EBGP peer: • false(0) • true(1)
snIpCommunityListRowStatus brcdIp.1.2.2.13.1.8 Syntax: Integer	Read-write	Controls the management of the table rows. The values that can be written are: • delete(3) - Deletes the row • create(4) - Creates a new row • modify(5) - Modifies an existing row If the row exists, then a SET with a value of create(4) returns a "bad value" error. Deleted rows are removed from the table immediately. The following values can be returned on reads: • noSuch(0) - No such row • invalid(1) - Row is inoperative • valid(2) - Row exists and is valid
snIpCommunityListLocalAs brcdIp.1.2.2.13.1.9 Syntax: Integer	Read-write	Indicates if this route will be sent to peers (advertised) in other sub-autonomous systems within the local confederation: • false(0) - Do not advertise this route to an external system.

Name, OID, and Syntax	Access	Description
		• true(1) - Advertise this route.

IP prefix list table

An IP prefix list specifies a list of networks. When you apply an IP prefix list to a neighbor, the Layer 3 Switch sends or receives only a route whose destination is in the IP prefix list. You can configure up to 100 prefix lists. The software interprets the prefix lists in sequential order, beginning with the lowest sequence number.

Name, OID, and Syntax	Access	Description
snIpPrefixListTable brcdIp.1.2.2.14	None	IP prefix list table.
snIpPrefixListName brcdIp.1.2.2.14.1.1 Syntax: Octet String	Read-only	Specifies the name of the prefix list. This name can be used when applying the prefix list to a neighbor. It is an octet string; each character of the name is represented by one octet. There can be up to 32 octets for this name.
snIpPrefixListSequence brcdIp.1.2.2.14.1.2 Syntax: Integer32	Read-only	Shows the sequence of an entry in the table. There can be up to 100 prefix list entries. If a sequence number is not specified, then entries are numbered in increments of 5, beginning with prefix list entry 5. Incoming or outgoing routes are matched against the entries in the IP prefix list in numerical order, beginning with the lowest sequence number.
snIpPrefixListDesc brcdIp.1.2.2.14.1.3 Syntax: Octet String	Read-write	Specifies the description of the prefix. This description is in an octet string; each character in the description is represented by one octet. There can be up to 80 octets in the description.
snIpPrefixListAction brcdIp.1.2.2.14.1.4 Syntax: Integer	Read-write	Indicates what to do with the route if it matches this entry: • deny(0) • permit(1)
snIpPrefixListAddr brcdIp.1.2.2.14.1.5 Syntax: IpAddress	Read-write	Shows the IP address of the prefix.
snIpPrefixListMask brcdIp.1.2.2.14.1.6 Syntax: IpAddress **NOTE** This object is not supported on the MLX Series, MLX Series, XMR Series, CES 2000 Series, and CER 2000 Series devices.	Read-write	Shows the number of bits in the prefix network mask.
snIpPrefixListGeValue brcdIp.1.2.2.14.1.7 Syntax: Integer	Read-write	Specifies that the prefix is greater than the value of the IP prefix list table object. Valid values: 0 - 32
snIpPrefixListLeValue brcdIp.1.2.2.14.1.8	Read-write	Specifies that the prefix is less than the value of the IP prefix list table object.

Name, OID, and Syntax	Access	Description
Syntax: Integer		Valid values: 0 - 32
NOTE You can specify a range of length for prefixes that are more specific than the values for the IP prefix list table and IP prefix list table objects. The **ge-value** or **le-value** you specify must meet the following condition:length < ge-value <= le-value <= 32 If a value for IP prefix list table is specified, then the mask-length range is from the value of IP prefix list table to 32. If a value for IP prefix list table is specified, then mask-length range is from length to the value of IP prefix list table. If no value is specified for either the less than or greater than objects, then routes must exactly match the prefixes on the list.		
snIpPrefixListRowStatus brcdIp.1.2.2.14.1.9 Syntax: Integer	Read-write	Controls the management of the table rows. The values that can be written are: • delete(3) - Deletes the row • create(4) - Creates a new row • modify(5) - Modifies an existing row If the row exists, then a SET with a value of create(4) returns a "bad value" error. Deleted rows are removed from the table immediately. The following values can be returned on reads: • noSuch(0) - No such row • invalid(1) - Row is inoperative • valid(2) - Row exists and is valid
snIpPrefixListLength brcdIp.1.2.2.14.1.10 Syntax: Integer32	Read-write	The length of the IP prefix's mask.

IP AS-Path access list string table

AS-Path is a list of the other ASs through which a route passes. BGP4 routers can use the AS-Path to detect and eliminate routing loops. The IP AS-Path access list string table contains filters that are used to deny or permit updates received from BGP4 neighbors.

Name, OID, and Syntax	Access	Description
snIpAsPathAccessListStringTable brcdIp.1.2.2.16	None	IP AS-Path access list string table.
snIpAsPathAccessListStringName brcdIp.1.2.2.16.1.1 Syntax: DisplayString	Read-only	An index for the entry in the table.
snIpAsPathAccessListStringSequence brcdIp.1.2.2.16.1.2 Syntax: Integer32	Read-only	The sequence index for this entry in this table.
snIpAsPathAccessListStringAction brcdIp.1.2.2.16.1.3 Syntax: Integer	Read-write	Determines what to do with the packet if its address matches this entry: • deny(0) • permit(1)
snIpAsPathAccessListStringRegExpression brcdIp.1.2.2.16.1.4 Syntax: Integer	Read-write	Specifies the AS-Path information that will be permitted or denied. This object contains a regular expression. Each character of the regular expression string is represented by one octet.

Name, OID, and Syntax	Access	Description
snIpAsPathAccessListStringRowStatus brcdIp.1.2.2.16.1.5 Syntax: Integer	Read-write	Controls the management of the table rows. The values that can be written are • delete(3) - Deletes the row • create(4) - Creates a new row • modify(5) - Modifies an existing row If the row exists, then a SET with a value of create(4) returns a "bad value" error. Deleted rows are deleted immediately. The following values can be returned on reads: • noSuch(0) - No such row • invalid(1) - Row is inoperative • valid(2) - Row exists and is valid

IP community list string table

This table contains the list of community strings used.

Name, OID, and Syntax	Access	Description
snIpCommunityListStringTable brcdIp.1.2.2.17	None	IP community list string table.
snIpCommunityListStringName brcdIp.1.2.2.17.1.1 Syntax: Octet String	Read-only	An index for an entry in the table. This object can have up to 32 octets.
snIpCommunityListStringSequence brcdIp.1.2.2.17.1.2 Syntax: Integer32	Read-only	Indicates the sequence of this entry in the table.
snIpCommunityListStringAction brcdIp.1.2.2.17.1.3 Syntax: Integer	Read-write	Indicates the action to take if the community string on the packet matches this filter: • deny(0) • permit(1)
snIpCommunityListStringCommNum brcdIp.1.2.2.17.1.4 Syntax: Integer	Read-write	Shows the community string's number, represented by four octets. This number can be from 1 to 0xFFFFFFFF. There can be up to 20 community string numbers.
snIpCommunityListStringInternet brcdIp.1.2.2.17.1.5 Syntax: Integer	Read-write	Indicates if the community is enabled: • disabled(0) • enabled(1)
snIpCommunityListStringNoAdvertise brcdIp.1.2.2.17.1.6 Syntax: Integer	Read-write	Indicates the community string will not be advertised to any internal or external peers: • false(0) • true(1)
snIpCommunityListStringNoExport brcdIp.1.2.2.17.1.7 Syntax: Integer	Read-write	Indicates if this route is not advertised as an EBGP peer: • false(0) • true(1)

Name, OID, and Syntax	Access	Description
snIpCommunityListStringRowStatus brcdIp.1.2.2.17.1.8 Syntax: Integer	Read-write	Controls the management of the table rows. The values that can be written are: • delete(3) - Delete the row • create(4) - Create a new row • modify(5) - Modify an existing row If the row exists, then a SET with a value of create(4) returns a "bad value" error. Deleted rows are removed from the table immediately. The following values can be returned on reads: • noSuch(0) - No such row • invalid(1) - Row is inoperative • valid(2) - Row exists and is valid
snIpCommunityListStringLocalAs brcdIp.1.2.2.17.1.9 Syntax: Integer	Read-write	Determines if this route will be sent to peers in other sub autonomous systems within the local confederation. Do not advertise this route to an external system.
snIpCommunityListStringType brcdIp.1.2.2.17.1.10 Syntax: Integer	Read-write	Displays the type of the community list, whether standard or extended.
snIpCommunityListStringRegExpr brcdIp.1.2.2.17.1.11 Syntax: DisplayString	Read-write	This will display the regular expression string for extended community list. This object returns the value NULL for standard community list.

POS MIB Definition

Packet port information table

Packet over SONET (POS) is the serial transmission of data over SONET frames through the use of the Point-to-Point Protocol (PPP). The POS modules allow direct connection to interfaces within SONET. POS is a transport technology that encapsulates packet data, such as an IP datagram, directly into SONET.

The POS modules are available on NetIron Internet Backbone routers with redundant management modules.

The following table presents information about POS ports.

NOTE
The following table is not supported on the MLX Series, MLX Series, XMR Series, CES 2000 Series, and CER 2000 Series devices.

Name, OID, and syntax	Access	Description
snPOSInfoTable brcdIp.1.2.14.1.1	None	POS port information table.
snPOSInfoPortNum brcdIp.1.2.14.1.1.1.1 Syntax: Integer	Read-only	The chassis slot and port number: • Bit 0 to bit 7 - Port number • Bit 8 to bit 11 - Slot number (for chassis devices only)
snPOSIfIndex brcdIp.1.2.14.1.1.1.2 Syntax: Integer	Read-only	Identifies the instance of the ifIndex object as defined in RFC 1213 and RFC 1573.
snPOSDescr brcdIp.1.2.14.1.1.1.3 Syntax: DisplayString	Read-only	Description of the chassis slot and port.
snPOSName brcdIp.1.2.14.1.1.1.4 Syntax: DisplayString	Read-write	Name of the port. Valid values: Up to 255 characters
snPOSInfoSpeed brcdIp.1.2.14.1.1.1.5 Syntax: Integer	Read-write	The bandwidth of the interface, which can be one of the following: • s155000(1) bps • s622000(2) bps • other(3) • s2488000(4) bps
snPOSInfoAdminStatus brcdIp.1.2.14.1.1.1.6 Syntax: Integer	Read-write	The desired state of the interface, which can be one of the following: • up(1) - The port is ready to pass packets.

Name, OID, and syntax	Access	Description
		• down(2) - The port is not ready to pass packets. • testing(3) - The port is in test mode. No packets can be passed.
snPOSInfoLinkStatus brcdIp.1.2.14.1.1.1.7 Syntax: Integer	Read-only	The current operational state of the link, which can be one of the following: • up(1) - The port is ready to pass packets. • down(2) - The port is not ready to pass packets. • testing(3) - The port is in test mode. No packets can be passed.
snPOSInfoClock brcdIp.1.2.14.1.1.1.8 Syntax: Integer	Read-write	The clock source, which can be one of the following: • internal(1) - The interface is using the clock on the POS module. • line(2) - The interface is using the clock source supplied on the network. Default: internal(1)
snPOSInfoLoopBack brcdIp.1.2.14.1.1.1.9 Syntax: Integer	Read-write	The loopback state of the interface. The loopback state can be one of the following: • line(1) - The loopback path consists of both this POS interface and the POS interface at the remote end of the link. Use this mode to check the POS interface along the link. • internal(2) - The loopback path consists only of the POS circuitry on this interface. Use this mode to check the POS circuitry. • none(3) - The interface is not operating in loopback mode.
snPOSInfoScrambleATM brcdIp.1.2.14.1.1.1.10 Syntax: Integer	Read-write	The state of the ATM scramble mode, which can be one of the following: • disabled(0) - Scrambling is disabled. • enabled(1) - Scrambling of the Synchronous Payload Envelope (SPE) is enabled. Data in the SONET packet is scrambled for security. Default: disabled(0)
snPOSInfoFraming brcdIp.1.2.14.1.1.1.11 Syntax: Integer	Read-write	The frame type used on the interface. The frame type can be one of the following: • sonet(1) - Synchronous Optical Network. • sdh(2) - Synchronous Digital Hierarchy. Default: sonet(1)
snPOSInfoCRC brcdIp.1.2.14.1.1.1.12 Syntax: Integer	Read-write	The length of the CRC field in packets transmitted on the interface. The length can be one of the following: • crc32bits(1) - The field is 8 bits long.

Name, OID, and syntax	Access	Description
		• crc16bits(2) - The field is 16 bits long. Default: crc32bits(1)
snPOSInfoKeepAlive brcdIp.1.2.14.1.1.1.13 Syntax: Integer	Read-write	The time interval when keepalive messages are sent. Default: 10 seconds
snPOSInfoFlagC2 brcdIp.1.2.14.1.1.1.14 Syntax: Integer	Read-write	The value of the c2 flag in the SONET headers of packets transmitted by the interface. The c2 flag identifies the payload type of the packets transmitted on this interface. Default: 0xcf, which means that the payload is SONET or SDH.
snPOSInfoFlagJ0 brcdIp.1.2.14.1.1.1.15 Syntax: Integer	Read-write	The value of the j0 flag in the SONET headers of packets transmitted by the interface. This flag sets the trace byte, which is used to trace the origin of an STS-1 frame on a SONET network. Default: 0xcc
snPOSInfoFlagH1 brcdIp.1.2.14.1.1.1.16 Syntax: Integer	Read-write	The value of the h1 flag in the SONET headers of packets transmitted by the interface. This flag sets the H1 pointer, which is used to indicate where the Synchronous Payload Envelope (SPE)starts within the packet. The SPE contains the packet's payload: • 0x00 - The pointer for SONET frames. • 0x02 - The pointer for SDH frames. Default: 0x00
snPOSStatsInFrames brcdIp.1.2.14.1.1.1.17 Syntax: Counter	Read-only	The total number of packets received on the interface.
snPOSStatsOutFrames brcdIp.1.2.14.1.1.1.18 Syntax: Counter	Read-only	The total number of packets transmitted out of the interface.
snPOSStatsAlignErrors brcdIp.1.2.14.1.1.1.19 Syntax: Counter	Read-only	The number of packets that contained frame alignment errors.
snPOSStatsFCSErrors brcdIp.1.2.14.1.1.1.20 Syntax: Counter	Read-only	The number of packets that contained Frame Check Sequence (FCS) errors.
snPOSStatsFrameTooLongs brcdIp.1.2.14.1.1.1.21 Syntax: Counter	Read-only	The number of packets that were longer than the configured MTU.
snPOSStatsFrameTooShorts brcdIp.1.2.14.1.1.1.22 Syntax: Counter	Read-only	The number of packets that were shorter than the minimum valid length.
snPOSStatsInDiscard brcdIp.1.2.14.1.1.1.23 Syntax: Counter	Read-only	The number of inbound packets that were discarded to prevent them from being delivered to a higher-layer protocol, even though no errors

Name, OID, and syntax	Access	Description
		had been detected. For example, a packet may be discarded to free up buffer space.
snPOSStatsOutDiscard brcdIp.1.2.14.1.1.1.24 Syntax: Counter	Read-only	The number of outbound packets that were discarded to prevent them from being transmitted, even though they contain no errors. For example, a packet may be discarded to free up buffer space.
snPOSInOctets brcdIp.1.2.14.1.1.1.25 Syntax: Octet String	Read-only	The total number of packets in octets that were received on the interface, including framing characters. This object is a 64-bit counter of the ifInOctets object, defined in RFC 1213. The octet string is in big-endian byte order.
snPOSOutOctets brcdIp.1.2.14.1.1.1.26 Syntax: Octet String	Read-only	The total number of packets in octets that were transmitted out of the interface, including framing characters. This object is a 64-bit counter of the ifOutOctets object, defined in RFC 1213. The octet string is in big-endian byte order.
snPOSStatsInBitsPerSec brcdIp.1.2.14.1.1.1.27 Syntax: Gauge	Read-only	The number of bits per second received on the interface over a five-minute interval.
snPOSStatsOutBitsPerSec brcdIp.1.2.14.1.1.1.28 Syntax: Gauge	Read-only	The number of bits per second transmitted out of the interface over a five-minute interval.
snPOSStatsInPktsPerSec brcdIp.1.2.14.1.1.1.29 Syntax: Gauge	Read-only	The number of packets per second received on the interface over a five-minute interval.
snPOSStatsOutPktsPerSec brcdIp.1.2.14.1.1.1.30 Syntax: Gauge	Read-only	The number of packets per second transmitted out of the interface over a five-minute interval.
snPOSStatsInUtilization brcdIp.1.2.14.1.1.1.31 Syntax: Integer	Read-only	The network utilization by incoming traffic in hundredths of a percent over a five-minute interval. NOTE This object is not supported.
snPOSStatsOutUtilization brcdIp.1.2.14.1.1.1.32 Syntax: Integer	Read-only	The network utilization by outgoing traffic in hundredths of a percent over a five-minute interval. NOTE This object is not supported.
snPOSTagType brcdIp.1.2.14.1.1.1.33 Syntax: Integer	Read-only	Shows whether or not the port has a VLAN tag: • tagged(1) - The port has a VLAN tag. This port can have multiple VLANs. • untagged(2) - The port is not tagged.
snPOSStatsB1 brcdIp.1.2.14.1.1.1.34 Syntax: Counter	Read-only	Shows the number of received frames that have parity errors at the section layer of the SONET link.

Name, OID, and syntax	Access	Description
snPOSStatsB2 brcdIp.1.2.14.1.1.1.35 Syntax: Counter	Read-only	Shows the number of received frames that have parity errors at the line layer of the SONET link.
snPOSStatsB3 brcdIp.1.2.14.1.1.1.36 Syntax: Counter	Read-only	Shows the number of received frames that have parity errors at the path layer of the SONET link.
snPOSStatsAIS brcdIp.1.2.14.1.1.1.37 Syntax: Counter	Read-only	Shows the number of Alarm Indicator Signals (AISs) that were received by the interface.
snPOSStatsRDI brcdIp.1.2.14.1.1.1.38 Syntax: Counter	Read-only	Shows the number of Remote Defect Indicator (RDI) signals that were received by the interface.
snPOSStatsLOP brcdIp.1.2.14.1.1.1.39 Syntax: Counter	Read-only	Indicates a loss of pointer (LOP) that results from an invalid path pointer or if an excessive number of new data flags have been enabled.
snPOSStatsLOF brcdIp.1.2.14.1.1.1.40 Syntax: Counter	Read-only	Shows how many times the interface experienced out of frame alignment problems, which is also called a loss of frame (LOF) condition.
snPOSStatsLOS brcdIp.1.2.14.1.1.1.41 Syntax: Counter	Read-only	Indicates the number of times the interface experienced a loss of signal (LOS). With LOS, incoming signals are all zeros during a 100 microsecond period.

POS MIB information table

The following table presents information about the POS session.

Name, OID, and syntax	Access	Description
snPOSInfo2Table brcdIp.1.2.14.1.2	None	This object describes the POS MIB information table.
snPOSInfo2Clock brcdIp.1.2.14.1.2.1.1 Syntax: Integer	Read-write	This object describes the clock source for the POS interface: • internal(1) - Internal source. • line(2) - Clocking is derived from the line. Default Value: internal(1)
snPOSInfo2ScrambleATM brcdIp.1.2.14.1.2.1.2 Syntax: POSStatus	Read-write	ATM style scrambling for the POS interface: • disabled(0) - Scrambling is disabled. • enabled(1) - Scrambling is enabled. Default Value: disabled(0)
snPOSInfo2CRC brcdIp.1.2.14.1.2.1.3 Syntax: Integer	Read-write	Length of Cyclic Redundancy Check (CRC) on the POS interface: • crc32bits(1) - 32 bits • crc16bits(2) - 16 buts Default Value: crc32bits(1)

Name, OID, and syntax	Access	Description
snPOSInfo2KeepAlive brcdIp.1.2.14.1.2.1.4 Syntax: Unsigned32	Read-write	This object describes the keepalive timer for the POS interface in seconds. Valid values: 0 - 65535 seconds Default: 10 seconds
snPOSInfo2FlagC2 brcdIp.1.2.14.1.2.1.5 Syntax: Unsigned32	Read-write	The C2 flag. Valid values: 0 - 255
snPOSInfo2SSM brcdIp.1.2.14.1.2.1.6 Syntax: Integer	Read-write	The Synchronization Status Message (SSM) is sent over the SONET/SDH line to tell the other end about the quality of the clock being sent over the line: • t1 SonetPrimaryReferenceSource(1) - SONET Primary Reference Source • t1 SonetTraceabilityUnknown(2) - SONET Traceability Unknown • t1 SonetStratum2Traceable(3) - SONET Stratum 2 Traceable • t1 SonetTransitNodeClock(4) - SONET Transit Node Clock • t1 SonetStratum3eTraceable(5) - SONET Stratum 3e Traceable • t1 SonetStratum3Traceable(6) - SONET Stratum 3 Traceable • t1 SonetMinClockTraceable(7) - SONET Minimum Clock Traceable • t1 SonetDus(8) - SONET Do not Use for Synchronization • e1 SdhTraceabilityUnknown(9) - SDH Traceability Unknown • e1 SdhSsmTransitNodeClock-g812(10) - SDH Transit Node Clock G812 • e1 SdhDus(11) - SDH Do not Use for Synchronization • e1 SdhSsmPrimaryReferenceClock-g811(12) - SDH Primary Reference Clock G811 • e1 SdhSsmLocalG812(13) - SDH Local G812 • e1 SdhSsmSyncEquipmentTimingSource(14) - SDH Synchronization Equipment Timing Source Default: t1 SonetTraceabilityUnknown(2)
snPOSInfo2Encapsulation brcdIp.1.2.14.1.2.1.7 Syntax: Integer	Read-write	Layer 2 encapsulation on the POS interface: • ppp(1) - Point to Point Protocol (PPP) • chdlc(2) - Cisco High-level Data Link Control (cHDLC)
snPOSInfo2AlarmMonitoring brcdIp.1.2.14.1.2.1.8 Syntax: Integer	Read-write	Alarm monitoring on the POS interface: • off(0) - Alarm monitoring is off. • on(1) - Alarm monitoring is on.

Name, OID, and syntax	Access	Description
		Default: on(1)
snPOSInfo2OverheadJ0ExpectedMessage brcdIp.1.2.14.1.2.1.9 Syntax: Octet String	Read-write	Overhead J0 expected message.
snPOSInfo2OverheadJ0TransmitMessage brcdIp.1.2.14.1.2.1.10 Syntax: Octet String	Read-write	Overhead J0 transmit message.
snPOSInfo2OverheadJ1ExpectedMessage brcdIp.1.2.14.1.2.1.11 Syntax: Octet String	Read-write	Overhead J1expected message.
snPOSInfo2OverheadJ1MessageLength brcdIp.1.2.14.1.2.1.12 Syntax: Integer	Read-write	Overhead J1 length of message: • s16(16) - 16 bytes • s64(64) - 64 bytes Default Value: s64(64)
snPOSInfo2OverheadJ1TransmitMessage brcdIp.1.2.14.1.2.1.13 Syntax: Octet String	Read-write	Overhead J1 transmit message.

POS PPP group

If the POS MIB information table on page 265 object is set to Point to Point Protocol (PPP), the following table provides information on the states of various control protocols.

Name, OID, and syntax	Access	Description
snPOSPPPTable brcdIp.1.2.14.1.3	None	The POS PPP table.
snPOSPPP-LCP brcdIp.1.2.14.1.3.1 Syntax: DisplayString	Read-only	The PPP link control protocol state.
snPOSPPP-IPCP brcdIp.1.2.14.1.3.2 Syntax: DisplayString	Read-only	The PPP IP control protocol state.
snPOSPPP-IPv6CP brcdIp.1.2.14.1.3.3 Syntax: DisplayString	Read-only	The PPP IPv6 control protocol state.
snPOSPPP-OSINLCP brcdIp.1.2.14.1.3.4 Syntax: DisplayString	Read-only	The PPP OSI network layer control protocol state.
snPOSPPP-MPLSCP brcdIp.1.2.14.1.3.5 Syntax: DisplayString	Read-only	The PPP MPLS control protocol state.

POS cHDLC group

If the POS MIB information table on page 265 object is set to Cisco High-level Data Link Control (cHDLC), the following table provides information on various cHDLC parameters.

Name, OID, and syntax	Access	Description
snPOScHDLCTable brcdIp.1.2.14.1.4	None	The POS cHDLC group table.
snPOScHDLCLineState brcdIp.1.2.14.1.4.1 Syntax: Integer	Read-only	The state of the POS cHDLC line: • down(0) • up(1) • unknown(2)
snPOScHDLCInLoopback brcdIp.1.2.14.1.4.2 Syntax: Integer	Read-only	Indicates if cHDLC in loopback is used: • no(0) • yes(1) • unknown(2)
snPOScHDLCMySeq brcdIp.1.2.14.1.4.3 Syntax: Unsigned32	Read-only	The cHDLC of the device's sequence number.
snPOScHDLCMySeqSeen brcdIp.1.2.14.1.4.4 Syntax: Unsigned32	Read-only	The cHDLC of the device's sequence number that is seen.
snPOScHDLCPeerSeqSeen brcdIp.1.2.14.1.4.5 Syntax: Unsigned32	Read-only	The cHDLC peer sequence number seen.
snPOScHDLCUniqueSent brcdIp.1.2.14.1.4.6 Syntax: Unsigned32	Read-only	The unique cHDLC sent.
snPOScHDLCUniqueReceived brcdIp.1.2.14.1.4.7 Syntax: Unsigned32	Read-only	The unique cHDLC received.

FDP MIB Defintions

FDP interface table

The Foundry Discovery Protocol (FDP) interface table shows whether or not the FDP is enabled on a physical interface. You can use the following table to disable or enable FDP on individual interfaces.

NOTE

You cannot disable the Cisco Discovery Protocol (CDP) on individual interfaces.

Name, OID, and syntax	Access	Description
snFdpInterfaceTable brcdIp.1.1.3.20.1.1.1	None	The FDP interface table
snFdpInterfaceIfIndex brcdIp.1.1.3.20.1.1.1.1.1	None	Shows the ifIndex value of the local interface.
snFdpInterfaceEnable brcdIp.1.1.3.20.1.1.1.1.2 Syntax: Integer	Read-write	Determines if FDP is enabled on the interface: • false(0) - FDP is disabled. • true(1) - FDP is enabled. Default: true(1)
snFdpInterfaceCdpEnable brcdIp.1.1.3.20.1.1.1.1.3 Syntax: Integer	Read-write	Determines if CDP is enabled on the interface: • false(0) - CDP is disabled. • true(1) - CDP is enabled. Default: true(1)

FDP cache table

Each entry in the FDP cache table contains information received from FDP or Cisco Discovery Protocol (CDP) on one interface of one device. The table is available if FDP or CDP is enabled globally. Entries appear when an FDP or CDP advertisement is received from a neighbor device. Entries are deleted when FDP or CDP is disabled on an interface or globally.

Name, OID, and syntax	Access	Description
snFdpCacheTable brcdIp.1.1.3.20.1.2.1	None	The FDP cache table.
snFdpCacheIfIndex brcdIp.1.1.3.20.1.2.1.1.1	None	Shows the ifIndex value of the local interface.
snFdpCacheDeviceIndex brcdIp.1.1.3.20.1.2.1.1.2 Syntax: Integer32	Read-only	A unique value for each device from which FDP or CDP messages are being received.
snFdpCacheDeviceId brcdIp.1.1.3.20.1.2.1.1.3	Read-only	Shows a description for the device as reported in the most recent FDP or CDP message.

Name, OID, and syntax	Access	Description
Syntax: DisplayString		A zero-length string indicates no Device-ID field (TLV) was reported in the most recent FDP or CDP message.
snFdpCacheAddressType brcdIp.1.1.3.20.1.2.1.1.4 Syntax: Integer	Read-only	Indicates the type of address contained in the FDP cache table object for this entry: • ip(1) • ipx(2) • appletalk(3)
snFdpCacheAddress brcdIp.1.1.3.20.1.2.1.1.5 Syntax: Octet String	Read-only	Shows the network-layer address of the device's SNMP agent, as reported in the most recent FDP or CDP message. A device may have more than one address. This object shows the first address on the device. The format of this object depends on the value of the snFdpCacheAddressType object: • ip(1) - 4 octets • ipx(2) - 10 octets: – Octets 1-4 - Network number – Octets 5-10 - Host number • appletalk(3) - 3 octets: – Octets 1-2 - Network number – Octet 3 - Host number
snFdpCacheVersion brcdIp.1.1.3.20.1.2.1.1.6 Syntax: DisplayString	Read-only	Shows the software version running in the device as reported in the most recent FDP or CDP message.
snFdpCacheDevicePort brcdIp.1.1.3.20.1.2.1.1.7 Syntax: DisplayString	Read-only	Shows the port ID of the device as reported in the most recent FDP or CDP message. This will typically be the value of the ifName object. A zero-length string indicates no Port-ID field (TLV) was reported in the most recent FDP or CDP message.
snFdpCachePlatform brcdIp.1.1.3.20.1.2.1.1.8 Syntax: DisplayString	Read-only	Shows the device's hardware platform as reported in the most recent FDP or CDP message. A zero-length string indicates that no Platform field (TLV) was reported in the most recent FDP or CDP message.
snFdpCacheCapabilities brcdIp.1.1.3.20.1.2.1.1.9 Syntax: DisplayString	Read-only	Shows the device's functional capabilities as reported in the most recent FDP or CDP message.
snFdpCacheVendorId brcdIp.1.1.3.20.1.2.1.1.10 Syntax: Integer	Read-only	Indicates if FDP or CDP received the entry: • fdp(1) • cdp(2)
snFdpCacheIsAggregateVlan brcdIp.1.1.3.20.1.2.1.1.11 Syntax: Integer	Read-only	Indicates if this entry is from a neighbor device that is in an aggregated VLAN: • false(0) - It is not in an aggregated VLAN. • true(1) - It is in an aggregate VLAN.
snFdpCacheDeviceTagType brcdIp.1.1.3.20.1.2.1.1.12	Read-only	Shows the tag type of the neighbor device that sent this entry.

Name, OID, and syntax	Access	Description
Syntax: Integer		
snFdpCacheDevicePortVlanMask brcdIp.1.1.3.20.1.2.1.1.13 Syntax: Octet String	Read-only	Shows the port VLAN masks, in a 512-byte octet string, of the neighbor that sent this entry.
snFdpCachePortTagMode brcdIp.1.1.3.20.1.2.1.1.14 Syntax: Integer	Read-only	Shows the port tag mode on the neighbor device: • untagged(1) • tagged(2) • dual(3)
snFdpCacheDefaultTrafficeVlanIdForDualMode brcdIp.1.1.3.20.1.2.1.1.15 Syntax: Integer32	Read-only	Shows the default traffic a VLAN ID for neighbor devices that have dual-mode ports.

FDP global configuration objects

The following objects are used to configure FDP globally.

Name, OID, and syntax	Access	Description
snFdpGlobalRun brcdIp.1.1.3.20.1.3.1 Syntax: Integer	Read-write	Indicates if the FDP is enabled: • false(0) - FDP is disabled. FDP entries in snFdpCacheTable are deleted when FDP is disabled. • true(1) - FDP is enabled. Enabling FDP automatically enables CDP globally. Default: false(0)
snFdpGlobalMessageInterval brcdIp.1.1.3.20.1.3.2 Syntax: Integer	Read-write	Indicates the interval at which FDP messages are to be generated. Valid values: 5 - 900 seconds Default: 60 seconds
snFdpGlobalHoldTime brcdIp.1.1.3.20.1.3.3 Syntax: Integer	Read-write	Indicates how long the receiving device will hold FDP messages. Valid values: 10 - 255 seconds Default: 180 seconds
snFdpGlobalCdpRun brcdIp.1.1.3.20.1.3.4 Syntax: Integer	Read-write	Shows if the CDP is enabled: • false(0) - CDP is disabled. CDP entries in snFdpCacheTable are deleted when FDP is disabled. • true(1) - CDP is enabled. Enabling CDP does not automatically enable FDP globally. Default: false (0)

FDP cached address entry table

The FDP cached address entry table shows all the cached addresses from which FDP or CDP messages are being received. The table is available if FDP or CDP is enabled globally.

Name, OID, and syntax	Access	Description
snFdpCachedAddressTable brcdIp.1.1.3.20.1.4.1	None	The FDP cached address entry table.
snFdpCachedAddrIfIndex brcdIp.1.1.3.20.1.4.1.1.1 Syntax: Integer	None	Shows the ifIndex value of the local interface.
snFdpCachedAddrDeviceIndex brcdIp.1.1.3.20.1.4.1.1.2 Syntax: Integer32	Read-only	Shows a unique value for each device from which FDP or CDP messages are being received.
snFdpCachedAddrDeviceAddrEntryIndex brcdIp.1.1.3.20.1.4.1.1.3 Syntax: Integer32	Read-only	Shows a unique value for each address on the device from which FDP or CDP messages are being received. A device may have several addresses. There will be one entry for each address.
snFdpCachedAddrType brcdIp.1.1.3.20.1.4.1.1.4 Syntax: Integer	Read-only	Indicates the type of address contained in the FDP cached address entry table object for this entry: • ip(1) • ipx(2) • appletalk(3)
snFdpCachedAddrValue brcdIp.1.1.3.20.1.4.1.1.5 Syntax: Octet String	Read-only	Indicates the network-layer address of the device's SNMP agent as reported in the most recent FDP or CDP message. The format of this object depends on the value of the snFdpCachedAddrValue object: • ip(1) - 4 octets • ipx(2) - 10 octets: – Octets 1-4 - Network number – Octets 5-10 - Host number • appletalk(3) - 3 octets: – Octets 1-2 - Network number – Octet 3 - Host number

Network Processor MIB Definition

NP statistics table

NOTE
The MIB objects for various Network Processor (NP) statistics supported on the MLX Series, MLX Series, and XMR Series devices. It is not supported on the CES 2000 Series and CER 2000 Series devices.

The Network Processor statistics table displays information about the statistics on all the POS and Ethernet cards.

Use the **show np statistics** command to show the Network Processor statistics.

Use the **clear np statistics** command to clear both the CLI and SNMP statistics counters for the Network Processor. The **snmp-server preserve-statistics** command does not preserve the Network Processor statistics.

Name, OID, and syntax	Access	Description
brcdNPStatsTable brcdIp.1.14.2.1.1.1	None	The Network Processor table.
brcdNPStatsIfIndex brcdIp.1.14.2.1.1.1.1.1 Syntax: InterfaceIndex	None	The interface index for the entry. This is applicable only for the interfaces that are physically present and operationally up.
brcdNPStatsRxRawGoodPkts brcdIp.1.14.2.1.1.1.1.2 Syntax: Counter 64	Read-only	Shows the number of good packets received from the MAC address.
brcdNPStatsRxForwardPkts brcdIp.1.14.2.1.1.1.1.3 Syntax: Counter 64	Read-only	Shows the number of packets forwarded by a packet evaluation engine on the ingress path.
brcdNPStatsRxDiscardPkts brcdIp.1.14.2.1.1.1.1.4 Syntax: Counter 64	Read-only	Shows the number of packets flagged for discard by a packet evaluation engine.
brcdNPStatsRxMiscPkts brcdIp.1.14.2.1.1.1.1.5 Syntax: Counter 64	Read-only	Shows the number of miscellaneous packets received.
brcdNPStatsRxUnicastPkts brcdIp.1.14.2.1.1.1.1.6 Syntax: Counter 64	Read-only	Shows the number of unicast packets received.
brcdNPStatsRxBroadcastPkts brcdIp.1.14.2.1.1.1.1.7 Syntax: Counter 64	Read-only	Shows the number of broadcast packets received.

Name, OID, and syntax	Access	Description
brcdNPStatsRxMulticastPkts brcdIp.1.14.2.1.1.1.1.8 Syntax: Counter 64	Read-only	Shows the number of multicast packets received.
brcdNPStatsRxSendtoTMPkts brcdIp.1.14.2.1.1.1.1.9 Syntax: Counter 64	Read-only	Shows the number of packets sent to the Traffic Manager.
brcdNPStatsRxBadPkts brcdIp.1.14.2.1.1.1.1.10 Syntax: Counter 64	Read-only	Shows the number of bad packets received.
brcdNPStatsRxLookupUnavailable brcdIp.1.14.2.1.1.1.1.11 Syntax: Counter 64	Read-only	Shows the number of packets dropped due to unavailability of the CAM interface for packet lookups.
brcdNPStatsRxACLDrop brcdIp.1.14.2.1.1.1.1.12 Syntax: Counter 64	Read-only	Shows the number of ACL drops on the ingress path.
brcdNPStatsRxPriority0And1Drop brcdIp.1.14.2.1.1.1.1.13 Syntax: Counter 64	Read-only	Shows the number of packets dropped based on priority 0 and 1 on the ingress path.
brcdNPStatsRxPriority2And3Drop brcdIp.1.14.2.1.1.1.1.14 Syntax: Counter 64	Read-only	Shows the number of packets dropped based on priority 2 and 3 on the ingress path.
brcdNPStatsRxPriority4And5Drop brcdIp.1.14.2.1.1.1.1.15 Syntax: Counter 64	Read-only	Shows the number of packets dropped based on priority 4 and 5 on the ingress path.
brcdNPStatsRxPriority6And7Drop brcdIp.1.14.2.1.1.1.1.16 Syntax: Counter 64	Read-only	Shows the number of packets dropped based on priority 6 and 7 on the ingress path.
brcdNPStatsRxSuppressRPFDrop brcdIp.1.14.2.1.1.1.1.17 Syntax: Counter 64	Read-only	Shows the number of suppressed RPF drops on the ingress path due to ACL override.
brcdNPStatsRxRPFDrop brcdIp.1.14.2.1.1.1.1.18 Syntax: Counter 64	Read-only	Shows the number of RPF drops on the ingress path.
brcdNPStatsRxIPv4Pkts brcdIp.1.14.2.1.1.1.1.19 Syntax: Counter 64	Read-only	Shows the number of packets that have IPv4 EType (0x0800) and IP version (0x4).
brcdNPStatsRxIPv6Pkts brcdIp.1.14.2.1.1.1.1.20 Syntax: Counter 64	Read-only	Shows the number of packets that have IPv6 EType (0x86DD) and IP version (0x6).
brcdNPStatsRxRouteOnlyDrop brcdIp.1.14.2.1.1.1.1.21 Syntax: Counter 64	Read-only	Shows the number of packets dropped due to the route-only configuration during MAC-DA processing.
brcdNPStatsRxIPv6SuppressRPFDrop brcdIp.1.14.2.1.1.1.1.22 Syntax: Counter 64	Read-only	Shows the number of suppressed IPv6 RFP drops on the ingress path due to ACL override.

Name, OID, and syntax	Access	Description
brcdNPStatsRxIPv6RPFDropCount brcdIp.1.14.2.1.1.1.1.23 Syntax: Counter 64	Read-only	Shows the number of IPv6 RPF drops on the ingress path.
brcdNPStatsRxIPv4Bytes brcdIp.1.14.2.1.1.1.1.24 Syntax: Counter 64	Read-only	Shows the number of raw packet bytes (+FCS) that have IPv4 EType (0x0800) and IP version (0x4).
brcdNPStatsRxIPv6Bytes brcdIp.1.14.2.1.1.1.1.25 Syntax: Counter 64	Read-only	Shows the number of raw packet bytes (+FCS) that have IPv6 EType (0x86DD) and IP version (0x6).
brcdNPStatsRxPOSCtrlProtocolPkts brcdIp.1.14.2.1.1.1.1.26 Syntax: Counter 64	Read-only	Shows the number of control protocol packets received in the POS mode. NOTE This object is supported only on the POS interfaces. For other interfaces, this object returns "0".
brcdNPStatsRxPOSLinkDrop brcdIp.1.14.2.1.1.1.1.27 Syntax: Counter 64	Read-only	Shows the number of packets dropped due to the link state in the POS mode. NOTE This object is supported only on the POS interfaces. For other interfaces, this object returns "0".
brcdNPStatsRxRoutedPktsDrop brcdIp.1.14.2.1.1.1.1.28 Syntax: Counter 64	Read-only	Shows the number of IPv4 or IPv6 routed packets that are received and then dropped because the time-to-live (TTL) is "0" or routing is not enabled on the given virtual interface.
brcdNPStatsTxSentToMACPkts brcdIp.1.14.2.1.1.1.1.29 Syntax: Counter 64	Read-only	Shows the total number of packets sent to a MAC address for transmission.
brcdNPStatsTxRawGoodPkts brcdIp.1.14.2.1.1.1.1.30 Syntax: Counter 64	Read-only	Shows the total number of packets sent to egress processing logic that pass the initial length checks.
brcdNPStatsTxSrcPortSupressDrop brcdIp.1.14.2.1.1.1.1.31 Syntax: Counter 64	Read-only	Shows the number of packets dropped because of the suppression of the transmit source port.
brcdNPStatsTxBadPktCnt brcdIp.1.14.2.1.1.1.1.32 Syntax: Counter 64	Read-only	Shows the total number of packets dropped in egress logic that fail the initial length checks.
brcdNPStatsTxUnicastPkts brcdIp.1.14.2.1.1.1.1.33 Syntax: Counter 64	Read-only	Shows the number of unicast packets transmitted.
brcdNPStatsTxBroadcastPkts brcdIp.1.14.2.1.1.1.1.34 Syntax: Counter 64	Read-only	Shows the number of broadcast packets transmitted.
brcdNPStatsTxMulticastPkts brcdIp.1.14.2.1.1.1.1.35 Syntax: Counter 64	Read-only	Shows the number of multicast packets transmitted.

Name, OID, and syntax	Access	Description
brcdNPStatsTxReceiveFromTM brcdIp.1.14.2.1.1.1.1.36 Syntax: Counter 64	Read-only	Shows the number of packets received from the Traffic Manager.
brcdNPStatsTxACLDrop brcdIp.1.14.2.1.1.1.1.37 Syntax: Counter 64	Read-only	Shows the number of packets dropped by the outbound ACL logic.
brcdNPStatsTxPFCMulticastDrop brcdIp.1.14.2.1.1.1.1.38 Syntax: Counter 64	Read-only	Shows the total number of multicast FID packets that have been dropped by egress logic that map to the egress queue that is in the paused state. NOTE This object is supported only on the NI-MLX-10Gx8-D 8-port 10GbE module, NI-MLX-10Gx8-M 8-port 10GbE (M) module, NI-MLX-10Gx8-X 8-port 10GbE (X) module, BR-MLX-40Gx4-M 4-port 40GbE module, BR-MLX-10Gx20 20-port 1/10GbE module, BR-MLX-100Gx2-CFP2 2-port 100GbE module, and BR-MLX-10Gx4-M-IPSEC 4-port 10GbE module. Zero is returned for the other cards.
brcdNPStatsTxPFCMTUExceedDrop brcdIp.1.14.2.1.1.1.1.39 Syntax: Counter 64	Read-only	Shows the total number of packets dropped by egress logic that exceed the MTU of the egress queue. NOTE This object is supported only on the NI-MLX-10Gx8-D 8-port 10GbE module, NI-MLX-10Gx8-M 8-port 10GbE (M) module, NI-MLX-10Gx8-X 8-port 10GbE (X) module, BR-MLX-40Gx4-M 4-port 40GbE module, BR-MLX-10Gx20 20-port 1/10GbE module, and BR-MLX-100Gx2-CFP2 2-port 100GbE module, and BR-MLX-10Gx4-M-IPSEC 4-port 10GbE module. Zero is returned for the other cards.
brcdNPStatsTxPFCQMAPErrorDrop brcdIp.1.14.2.1.1.1.1.40 Syntax: Counter 64	Read-only	Shows the number of packets dropped by egress logic that do not match with any valid egress queue.

Name, OID, and syntax	Access	Description
		NOTE This object is supported only on the NI-MLX-10Gx8-D 8-port 10GbE module, NI-MLX-10Gx8-M 8-port 10GbE (M) module, NI-MLX-10Gx8-X 8-port 10GbE (X) module, BR-MLX-40Gx4-M 4-port 40GbE module, BR-MLX-10Gx20 20-port 1/10GbE module, and BR-MLX-100Gx2-CFP2 2-port 100GbE module, and BR-MLX-10Gx4-M-IPSEC 4-port 10GbE module. Zero is returned for the other cards.
brcdNPStatsTxIPv4Pkts brcdIp.1.14.2.1.1.1.1.41 Syntax: Counter 64	Read-only	Shows the number of IPv4 packets transmitted from the port. The packets have IPv4 Etype (0x0800) and IP version (0x4).
brcdNPStatsTxIPv6Pkts brcdIp.1.14.2.1.1.1.1.42 Syntax: Counter 64	Read-only	Shows the number of IPv6 packets transmitted from the port. The packets have IPv6 Etype (0x86DD) and IP version (0x6).
brcdNPStatsTxIPv4Bytes brcdIp.1.14.2.1.1.1.1.43 Syntax: Counter 64	Read-only	Shows the number of packet bytes (+FCS) that have IPv4 EType (0x0800) and IP version (0x4).
brcdNPStatsTxIPv6Bytes brcdIp.1.14.2.1.1.1.1.44 Syntax: Counter 64	Read-only	Shows the number of packet bytes (+FCS) that have IPv6 EType (0x86DD) and IP version (0x6).
brcdNPStatsTxCtrlProtocolPkts brcdIp.1.14.2.1.1.1.1.45 Syntax: Counter 64	Read-only	Shows the number of control protocol packets sent in the POS mode. **NOTE** This object is supported only on the POS interfaces. For other interfaces, this object returns “0”.
brcdNPStatsTxPOSLinkDrop brcdIp.1.14.2.1.1.1.1.46 Syntax: Counter 64	Read-only	Shows the number of packets dropped due to the link state in the POS mode. **NOTE** This object is supported only on the POS interfaces. For other interfaces, this object returns “0”.

NP QoS statistics table

The brcdNPQosStatTable displays information of Network Processor (NP) QoS-related statistics per port for per priority.

By default, the SNMP support is disabled. It is recommended to use **enable-qos-statistics** command to enable Quality of Service (QoS) accounting and **snmp-server enable mib np-qos-stat** command to enable the SNMP support.

Use **clear np qos statistics** [**ethernet***slot/port* | **pos***slot/port* | **slot***slot no*] and **clear np qos stats lag** *lag_name* commands to clear all the CLI and SNMP statistics counters for the NP QoS statistics.

NOTE
The MIB objects in the following table are read-only and support only SNMP GET, GET-NEXT, WALK, and GET-BULK requests.

The following table contains information of Network Processor QoS-related statistics supported on the XMR Series and MLX Series devices and the table is not supported on the CES 2000 Series and CER 2000 Series devices.

Name, OID, and syntax	Access	Description
brcdNPQosStatTable brcdIp.1.14.2.1.1.2	None	The NP QoS statistics table.
brcdNPQosStatIfIndex brcdIp.1.14.2.1.1.2.1.1 Syntax: InterfaceIndex	None	The ifindex of the interface. The table includes all the interfaces of the LP modules that are physically present and operationally up and it also includes all the deployed LAG interfaces.
brcdNPQosStatQosPriority brcdIp.1.14.2.1.1.2.1.2 Syntax: PriorityTC	None	The QoS priority associated with the entry. This is a 1-based index. The priority0 maps to 1, priority1 maps to 2, and so on. The priority value equal to the nonPriority(128) is not applicable.
brcdNPQosStatIngressPkts brcdIp.1.14.2.1.1.2.1.3 Syntax: Counter 64	Read-only	The number of packets that has arrived on the specified interface with a DSCP, EXP, or PCP value equal to the value of the brcdNPQosStatQosPriority object.
brcdNPQosStatIngressBytes brcdIp.1.14.2.1.1.2.1.4 Syntax: Counter 64	Read-only	The number of bytes that has arrived on the specified interface with a DSCP, EXP, or PCP value in the packet equal to the value of the brcdNPQosStatQosPriority object.
brcdNPQosStatEgressPkts brcdIp.1.14.2.1.1.2.1.5 Syntax: Counter 64	Read-only	The number of packets that has left the device on the specified interface with an internal priority value equal to the value of the brcdNPQosStatQosPriority object. The internal priority is dependent on the configuration, but in general it is a function of DSCP, EXP, or PCP.
brcdNPQosStatEgressBytes brcdIp.1.14.2.1.1.2.1.6 Syntax: Counter 64	Read-only	The number of bytes that has left the device on the specified interface with an internal priority value equal to the value of the brcdNPQosStatQosPriority object. The internal priority is dependent on the configuration, but in general it is a function of DSCP, EXP, or PCP.

NP buffer error table

The brcdNPBufferErrorTable contains information of Network Processor (NP) buffer memory-related error events on the CES 2000 Series and CER 2000 Series devices.

NOTE
The brcdNPBufferErrorTable is not supported on the MLX Series devices.

Name, OID, and syntax	Access	Description
brcdNPBufferErrorTable brcdIp.1.14.2.1.1.3	None	A list of brcdNPBufferError entries. The table contains information of various NP error event counters supported by the system. The objects

Name, OID, and syntax	Access	Description
		in this table are refreshed every second, based on request.
brcdNPBufferErrorSlotId brcdIp.1.14.2.1.1.3.1.1 Syntax: Unsigned32	None	The slot ID of the module. The module must be physically present and operationally up. This is an 1-based index.
brcdNPBufferErrorDeviceId brcdIp.1.14.2.1.1.3.1.2 Syntax: Unsigned32	None	The NP device ID. A number which uniquely identifies the NP within a module in the system. This is an 1-based index.
brcdNPBufferErrorDescription brcdIp.1.14.2.1.1.3.1.3 Syntax: DisplayString	Read-only	The range of ports serviced by the NP identified by the brcdNPBufferErrorSlotId and brcdNPBufferDeviceId objects.
brcdNPBufferErrorIngressCurrentEvents brcdIp.1.14.2.1.1.3.1.4 Syntax: Counter32	Read-only	The counter for NP ingress buffer error events recorded within a window.
brcdNPBufferErrorIngressCumulativeEvents brcdIp.1.14.2.1.1.3.1.5 Syntax: Counter32	Read-only	The counter for NP ingress total buffer error events recorded.
brcdNPBufferErrorEgressCurrentEvents brcdIp.1.14.2.1.1.3.1.6 Syntax: Counter32	Read-only	The counter for NP egress buffer error events recorded within a window.
brcdNPBufferErrorEgressCumulativeEvents brcdIp.1.14.2.1.1.3.1.7 Syntax: Counter32	Read-only	The counter for NP egress total buffer error events recorded.

NP CSRAM error table

The following table contains information of various Network Processor(NP) CSRAM error event counters supported only on the CES 2000 Series and CER 2000 Series devices.

Name, OID, and syntax	Access	Description
brcdNPCSRAMErrorTable brcdIp.1.14.2.1.1.4	None	The table contains information of various Network Processor(NP) CSRAM error event counters supported by the system. The objects in the table are refreshed every second based on the request.
brcdNPCSRAMErrorSlotId brcdIp.1.14.2.1.1.4.1.1 Syntax: Unsigned32	None	Slot-ID of the module that uniquely identifies it in the system. The module must be physically present and up. This is an 1-based index.
brcdNPCSRAMErrorDeviceId brcdIp.1.14.2.1.1.4.1.2 Syntax: Unsigned32	None	The NP device-ID, a number that uniquely identifies the Network Processor within a module in the system. This is an 1-based index.

Name, OID, and syntax	Access	Description
brcdNPCSRAMErrorDescription brcdIp.1.14.2.1.1.4.1.3 Syntax: DisplayString	Read-only	The object gives the range of ports serviced by the NP identified by brcdNPCSRAMErrorSlotId and brcdNPCSRAMErrorDeviceId objects.
brcdNPCSRAMErrorCurrentEvents brcdIp.1.14.2.1.1.4.1.4 Syntax: Counter32	Read-only	Counter for NP CSRAM errors recorded within the current counters in a configured window.
brcdNPCSRAMErrorCumulativeEvents brcdIp.1.14.2.1.1.4.1.5 Syntax: Counter32	Read-only	Counter for total NP CSRAM errors recorded within the cumulative counters in a configured window.

NP LPMRAM error table

The following table contains information of LPMRAM error event counters supported only on the CES 2000 Series and CER 2000 Series devices.

Name, OID, and syntax	Access	Description
brcdNPLPMRAMErrorTable brcdIp.1.14.2.1.1.5	None	The table contains information of various Network Processor(NP) LPMRAM error event counters supported by the system. The objects in the table are refreshed every second based on the request.
brcdNPLPMRAMErrorIndex brcdIp.1.14.2.1.1.5.1.1 Syntax: Unsigned32	None	This object uniquely identifies an LPM within a Network Processor. CER 2000 Series uses LPM-0, LPM-1, and LPM-2 memories, whereas CES 2000 Series uses LPM-3 memory alone. This is an 1-based index. Therefore, an index value of 1 maps to LPM-0, 2 maps to LPM-1, and so on.
brcdNPLPMRAMErrorSlotId brcdIp.1.14.2.1.1.5.1.2 Syntax: Unsigned32	None	Slot-ID of the module that uniquely identifies it in the system. The module must be physically present and up. This is an 1-based index.
brcdNPLPMRAMErrorDeviceId brcdIp.1.14.2.1.1.5.1.3 Syntax: Unsigned32	None	The NP device-ID, a number that uniquely identifies the Network Processor within a module in the system. This is an 1-based index.
brcdNPLPMRAMErrorName brcdIp.1.14.2.1.1.5.1.4 Syntax: DisplayString	Read-only	The object gives a string representing the LPM identified by brcdNPLPMRAMErrorIndex.
brcdNPLPMRAMErrorDescription brcdIp.1.14.2.1.1.5.1.5 Syntax: DisplayString	Read-only	The object gives the range of ports serviced by the NP identified by brcdNPLPMRAMErrorSlotId and brcdNPLPMRAMErrorDeviceId.
brcdNPLPMRAMErrorCurrentEvents brcdIp.1.14.2.1.1.5.1.6 Syntax: Counter32	Read-only	Counter for the error events recorded within the current counters in a configured window in the LPM identified by brcdNPLPMRAMErrorIndex,

Name, OID, and syntax	Access	Description
		brcdNPLPMRAMErrorSlotId, and brcdNPLPMRAMErrorDeviceId.
brcdNPLPMRAMErrorCumulativeEvents brcdIp.1.14.2.1.1.5.1.7 Syntax: Counter32	Read-only	Counter for the error events recorded within the cumulative counters in a configured window in the LPM identified by brcdNPLPMRAMErrorIndex, brcdNPLPMRAMErrorSlotId and brcdNPLPMRAMErrorDeviceId.

NP debug statistics table

The following table contains the debug statistics of Network Processors in the line cards that are supported only on the MLX Series, MLX Series, and XMR Series devices.

Name, OID, and syntax	Access	Description
brcdNPDebugStatTable brcdIp.1.14.2.1.1.6	None	The table contains the debug statistics of Network Processors in the line cards.
brcdNPDebugStatSlotId brcdIp.1.14.2.1.1.6.1.1 Syntax: Unsigned32	None	Slot ID of the LP module, which uniquely identifies a line card. The LP module must be physically present and operationally up.
brcdNPDebugStatNPDeviceId brcdIp.1.14.2.1.1.6.1.2 Syntax: Unsigned32	None	The NP device ID, a number which uniquely identifies the Network Processor within a line card in the system.
brcdNPDebugStatDescription brcdIp.1.14.2.1.1.6.1.3 Syntax: DisplayString	Read-only	The object gives the range of ports serviced by the brcdNPDebugStatNPDeviceId object.
brcdNPDebugStatL2SourceAddrLearnDrop brcdIp.1.14.2.1.1.6.1.4 Syntax: Counter64	Read-only	A count of all L2 source address learning drop packets.
brcdNPDebugStatRateLimitVPLSLocalLearnDrop brcdIp.1.14.2.1.1.6.1.5 Syntax: Counter64	Read-only	A count of all rate limit VPLS local learning drop packets.
brcdNPDebugStatUnkownMPLSDrop brcdIp.1.14.2.1.1.6.1.6 Syntax: Counter64	Read-only	A count of all unknown MPLS drop packets. It includes packets with Unknown Label to CPU (or) MPLS Label TTL is less than or equal to 1 (or) L2VPN Packet but the PRAM type is not equal to VLL or VPLS (or) MPLS transit label TTL is less than or equal to 1.
brcdNPDebugStatUnkownMPLSDrop brcdIp.1.14.2.1.1.6.1.7 Syntax: Counter64	Read-only	A count of all destination address VC lookup missed packets.
brcdNPDebugStatRateLimitVPLSRemoteLearnDrop brcdIp.1.14.2.1.1.6.1.8	Read-only	A count of all rate limit VPLS remote learn drop packets.

Name, OID, and syntax	Access	Description
Syntax: Counter64		
brcdNPDebugStatIPv4DestAddrVCMiss brcdIp.1.14.2.1.1.6.1.9 Syntax: Counter64	Read-only	A count of all IPv4 destination address VC lookup missed packets.
brcdNPDebugStatIPv6DestAddrVCMiss brcdIp.1.14.2.1.1.6.1.10 Syntax: Counter64	Read-only	A count of all IPv6 destination address VC lookup missed packets.
brcdNPDebugStatVPLSTx brcdIp.1.14.2.1.1.6.1.11 Syntax: Counter64	Read-only	A count of all VPLS destination address hit Tx processing packets.
brcdNPDebugStatVLLTx brcdIp.1.14.2.1.1.6.1.12 Syntax: Counter64	Read-only	A count of all VLL destination address hit Tx processing packets.
brcdNPDebugStatUnknowL3VPNIngressDrop brcdIp.1.14.2.1.1.6.1.13 Syntax: Counter64	Read-only	A count of all unknown Layer3 VPN ingress drop packets. It includes outer IP checksum fail (or) TTL equals to 0 (or) routing not enabled packets.
brcdNPDebugStatIPv6VPNTx brcdIp.1.14.2.1.1.6.1.14 Syntax: Counter64	Read-only	A count of all IPv6 VPN transmit processing packets.
brcdNPDebugStatIPv4VPNTx brcdIp.1.14.2.1.1.6.1.15 Syntax: Counter64	Read-only	A count of all IPv4 VPN transmit processing packets.
brcdNPDebugStatGREIPv4RxCount brcdIp.1.14.2.1.1.6.1.16 Syntax: Counter64	Read-only	A count of all GRE encapsulated IPv4 payload packets proceeded for IP DPA processing.
brcdNPDebugStatGREInvalidDrop brcdIp.1.14.2.1.1.6.1.17 Syntax: Counter64	Read-only	A count of all packets with invalid protocol type in the GRE header.
brcdNPDebugStat6to4RxCount brcdIp.1.14.2.1.1.6.1.18 Syntax: Counter64	Read-only	A count of all valid outer IPv4 header and source ingress check hit packets.
brcdNPDebugStatGREEnfSourceIngressChkMiss brcdIp.1.14.2.1.1.6.1.19 Syntax: Counter64	Read-only	A count of all GRE outer IPv4 source ingress check missed packets.
brcdNPDebugStat6to4EnfSourceIngressChkMiss brcdIp.1.14.2.1.1.6.1.20 Syntax: Counter64	Read-only	A count of all outer IPv4 source ingress check missed packets.

Name, OID, and syntax	Access	Description
brcdNPDebugStatGREMPLSRxCount brcdIp.1.14.2.1.1.6.1.21 Syntax: Counter64	Read-only	A count of all GRE encapsulated MPLS payload packets proceeded for MPLS receive processing.
brcdNPDebugStatGREIPv6RxCount brcdIp.1.14.2.1.1.6.1.22 Syntax: Counter64	Read-only	A count of all GRE encapsulated IPv6 payload packets proceeded for IP DPA processing.
brcdNPDebugStatPBBRxDropCount brcdIp.1.14.2.1.1.6.1.23 Syntax: Counter64	Read-only	A count of all PBB Rx drop packets. This counter is valid only for 2x100G, 8x10G, 4x40G, BR-MLX-10Gx20 20-port 1/10GbE module, BR-MLX-100Gx2-CFP2 2-port 100GbE module, and BR-MLX-10Gx4-M-IPSEC 4-port 10GbE module line cards.
brcdNPDebugStatPBBTxCount brcdIp.1.14.2.1.1.6.1.24 Syntax: Counter64	Read-only	A count of all PBB Tx packets.This counter is valid only for 2x100G, 8x10G, 4x40G, BR-MLX-10Gx20 20-port 1/10GbE module, and BR-MLX-10Gx4-M-IPSEC 4-port 10GbE module line cards.
brcdNPDebugStatIPv4DestAddrVCDrop brcdIp.1.14.2.1.1.6.1.25 Syntax: Counter64	Read-only	A count of all IPv4 destination address VC drop packets. This counter is valid only for 2x100G, 8x10G, 4x40G, BR-MLX-10Gx20 20-port 1/10GbE module, and BR-MLX-10Gx4-M-IPSEC 4-port 10GbE module line cards.
brcdNPDebugStatIPv6DestAddrVCDrop brcdIp.1.14.2.1.1.6.1.26 Syntax: Counter64	Read-only	A count of all IPv6 destination address VC drop packets. This counter is valid only for 2x100G, 8x10G, 4x40G, BR-MLX-10Gx20 20-port 1/10GbE module, and BR-MLX-10Gx4-M-IPSEC 4-port 10GbE module line cards.
brcdNPDebugStatSourceAddrPortVLANMiss brcdIp.1.14.2.1.1.6.1.27 Syntax: Counter64	Read-only	A count of all source address port VLAN missed packets.
brcdNPDebugStatVPLSSourceAddrPortVLAN Miss brcdIp.1.14.2.1.1.6.1.28 Syntax: Counter64	Read-only	A count of all VPLS source address port VLAN missed packets.
brcdNPDebugStatSourceAddrVCMiss brcdIp.1.14.2.1.1.6.1.29 Syntax: Counter64	Read-only	A count of all source address VC missed packets.
brcdNPDebugStatIPv4HWFwdCount brcdIp.1.14.2.1.1.6.1.30 Syntax: Counter64	Read-only	A count of all valid IPv4 hardware forwarded packets.
brcdNPDebugStatIPv6HWFwdCount brcdIp.1.14.2.1.1.6.1.31 Syntax: Counter64	Read-only	A count of all valid IPv6 hardware forwarded packets.
brcdNPDebugStatMulticastRPFDropCount brcdIp.1.14.2.1.1.6.1.32 Syntax: Counter64	Read-only	A count of all multicast RPF failed packets.

Name, OID, and syntax	Access	Description
brcdNPDebugStatMPLSLsrTxCount brcdIp.1.14.2.1.1.6.1.33 Syntax: Counter64	Read-only	A count of valid transit LSR cross-connect packets.
brcdNPDebugStatGREIPv4TxCount brcdIp.1.14.2.1.1.6.1.34 Syntax: Counter64	Read-only	A count of valid IPv4 payload with GRE encapsulation.
brcdNPDebugStat6to4TxCount brcdIp.1.14.2.1.1.6.1.35 Syntax: Counter64	Read-only	A count of all valid 6 to 4 transmit packets.
brcdNPDebugStatMPLSRSVPTxCount brcdIp.1.14.2.1.1.6.1.36 Syntax: Counter64	Read-only	A count of all valid MPLS RSVP transmit packets.
brcdNPDebugStatGREMPLSTxCount brcdIp.1.14.2.1.1.6.1.37 Syntax: Counter64	Read-only	A count of all valid GRE encapsulated MPLS transmit packets.
brcdNPDebugStatGREIPv6TxCount brcdIp.1.14.2.1.1.6.1.38 Syntax: Counter64	Read-only	A count of valid IPv6 payload with IPv4 GRE encapsulation.

Extreme NP notification support table

The following table is added to support the NP memory error notification objects.

NOTE

SNMP read-operations like SNMP-WALK, SNMP-GET, SNMP-GETNEXT or SNMP-GETBULK are not supported.

Name, OID, and syntax	Access	Description
brcdNPNotificationSupportTable brcdIp.1.14.2.0.5	None	The table objects are used by notifications defined in the brcdNPTMMIBNotification group.
brcdNPNotificationSupportSlotId brcdIp.1.14.2.0.5.1.1 Syntax: Unsigned32	None	Slot ID of the LP module, which uniquely identifies a line card. The LP module must be physically present and operationally up.
brcdNPNotificationSupportDeviceId brcdIp.1.14.2.0.5.1.2 Syntax: Unsigned32	None	The NP device ID, a number which uniquely identifies the Network Processor within a line card in the system.
brcdNPNotificationSupportDescription brcdIp.1.14.2.0.5.1.3 Syntax: DisplayString	Accessible-for-notify	This object is used by the notifications to represent the range of ports serviced by the NP device.
brcdNPNotificationSupportErrorType brcdIp.1.14.2.0.5.1.4 Syntax: DisplayString	Accessible-for-notify	This object is used by the traps to represent type or location of the error in the NP device.

System Logging Group

Global system logging group objects

The following objects are for global system logging processes for all devices.

Name, OID, and syntax	Access	Description
snAgSysLogGblEnable brcdIp.1.1.2.6.1.1 Syntax: Integer	Read-write	Enables or disables system logging. Set this object to one of the following values: • disable(0) • enable(1) Default: enable(1)
snAgSysLogGblBufferSize brcdIp.1.1.2.6.1.2 Syntax: Integer32	Read-write	Sets the number of dynamic system logging entries. Valid values: Up to 100 entries Default: 50 entries
snAgSysLogGblClear brcdIp.1.1.2.6.1.3 Syntax: Integer	Read-write	Clears the dynamic and static system log buffers. Set this object to one of the following values: • normal(0) - System logs will not be cleared. • clearAll(1) - Clears both dynamic and static system log buffers. • clearDynamic(2) - Clears only the dynamic system log. • clearStatic(3) - Clears only the static system log.
snAgSysLogGblCriticalLevel brcdIp.1.1.2.6.1.4 Syntax: Integer32	Read-write	Filters and identifies the events that will be logged in the logging buffer. This object consists of 32 bits. The following shows the meaning of each bit: **Bit Meaning** 8- 31 Reserved 7 Warning (warning conditions) 6 Notification (normal but significant conditions) 5 Informational (informational messages) 4 Error (error conditions) 2 Debugging (debugging messages) 1 Critical (critical conditions). Setting this bit to 1 tells the logging buffer to accept the corresponding event. 0 Alert (immediate action needed). Setting this bit to 0 makes the logging buffer reject the corresponding event. Default: 255
snAgSysLogGblLoggedCount	Read-write	Shows the number events logged in the system logging buffer.

Name, OID, and syntax	Access	Description
brcdIp.1.1.2.6.1.5 Syntax: Counter32		
snAgSysLogGblDroppedCount brcdIp.1.1.2.6.1.6 Syntax: Counter32	Read-only	Shows the number of events dropped from the system logging buffer.
snAgSysLogGblFlushedCount brcdIp.1.1.2.6.1.7 Syntax: Counter32	Read-only	Shows the number of times that the system logging buffer was cleared.
snAgSysLogGblOverrunCount brcdIp.1.1.2.6.1.8 Syntax: Counter32	Read-only	Shows the number of times that the system logging buffer has wrapped around.
snAgSysLogGblServer brcdIp.1.1.2.6.1.9 Syntax: IpAddress **NOTE** This object is not supported on the MLX Series, MLX Series, XMR Series, CES 2000 Series, and CER 2000 Series devices.	Read-only	IP address of syslog server.
snAgSysLogGblFacility brcdIp.1.1.2.6.1.10 Syntax: Integer	Read-write	Shows the facility code: • kern(1) • user(2) • mail(3) • daemon(4) • auth(5) • syslog(6) • lpr(7) • news(8) • uucp(9) • sys9(10) • sys10(11) • sys11(12) • sys12(13) • sys13(14) • sys14(15) • cron(16) • local0(17) • local1(18) • local2(19) • local3(20) • local4(21) • local5(22) • local6(23) • local7(24) Default: user(2)
snAgSysLogGblPersistenceEnable	Read-write	Enables or disables system logging persistence.

Name, OID, and syntax	Access	Description
brcdIp.1.1.2.6.1.11 Syntax: Integer **NOTE** This object is not supported on the MLX Series, MLX Series, XMR Series, CES 2000 Series, and CER 2000 Series devices.		

Dynamic system logging buffer table

The following table applies to all devices. It contains the events logged in the dynamic system log. Events that are not logged in the static system log are logged in the dynamic system log.

Name, OID, and syntax	Access	Description
snAgSysLogBufferTable brcdIp.1.1.2.6.2	None	Dynamic system logging buffer table.
snAgSysLogBufferIndex brcdIp.1.1.2.6.2.1.1 Syntax: Integer32	Read-only	Shows the index to the dynamic system logging buffer table.
snAgSysLogBufferTimeStamp brcdIp.1.1.2.6.2.1.2 Syntax: Time ticks	Read-only	Shows the time stamp for when the event is logged.
snAgSysLogBufferCriticalLevel brcdIp.1.1.2.6.2.1.3 Syntax: Integer	Read-only	The critical level of this event: • other(1) • alert(2) • critical(3) • debugging(4) • emergency(5) • error(6) • informational(7) • notification(8) • warning(9)
snAgSysLogBufferMessage brcdIp.1.1.2.6.2.1.4 Syntax: DisplayString	Read-only	Displays the system logging message.
snAgSysLogBufferCalTimeStamp brcdIp.1.1.2.6.2.1.5 Syntax: DisplayString	Read-only	Shows the time stamp when the event is logged. This object is used only if an external time source, such as an SNTP server, is configured. Otherwise, the value of this object is 0. This object returns a NULL terminated time stamp string if the system calendar time was set. It returns a blank if the system calendar time was not set.

Static system logging buffer table

The following table applies to all devices. It contains the events logged in the static system log. The static system log receives power failures, fan failures, temperature warnings, or shutdown messages.

Name, OID, and syntax	Access	Description
snAgStaticSysLogBufferTable brcdIp.1.1.2.6.3	None	Static system logging buffer table.
snAgStaticSysLogBufferIndex brcdIp.1.1.2.6.3.1.1 Syntax: Integer	Read-only	The index to the static system logging buffer table.
snAgStaticSysLogBufferTimeStamp brcdIp.1.1.2.6.3.1.2 Syntax: Time ticks	Read-only	A time stamp, in number of time ticks, when the event is logged.
snAgStaticSysLogBufferCriticalLevel brcdIp.1.1.2.6.3.1.3 Syntax: Integer	Read-only	The critical level of this event: • other(1) • alert(2) • critical(3) • debugging(4) • emergency(5) • error(6) • informational(7) • notification(8) • warning(9)
snAgStaticSysLogBufferMessage brcdIp.1.1.2.6.3.1.4 Syntax: DisplayString	Read-only	The system logging message.
snAgStaticSysLogBufferCalTimeStamp brcdIp.1.1.2.6.3.1.5 Syntax: DisplayString	Read-only	A time stamp when the event is logged. This object is used only if an external time source, such as an SNTP server, is configured. Otherwise, the value of this object is 0. If an SNTP server is used to maintain time, then this object adds the value of the snAgStaticSysLogBufferTimeStamp object to the SNTP base to calculate the absolute time. This object returns a NULL terminated time stamp string if the system calendar time was set. It returns a blank if the system calendar time was not set.

System log server table

The system log (syslog) server table shows which server receives syslog messages. Every server in the table receives all syslog messages.

Name, OID, and syntax	Access	Description
snAgSysLogServerTable brcdIp.1.1.2.6.4	None	System log server table.

Name, OID, and syntax	Access	Description
snAgSysLogServerIP brcdIp.1.1.2.6.4.1.1 Syntax: IpAddress	Read-write	IP address of system log server.
snAgSysLogServerUDPPort brcdIp.1.1.2.6.4.1.2 Syntax: Integer	Read-write	UDP port number of the syslog server. Valid values: 0 - 65535
snAgSysLogServerRowStatus brcdIp.1.1.2.6.4.1.3 Syntax: Integer	Read-write	Controls the management of the table rows. The following values can be written: • delete(3) - Deletes the row. • create(4) - Creates a new row. If the row exists, then a SET with a value of create(4) returns a "bad value" error. Deleted rows are removed from the table immediately. The following values can be returned on reads: • other(1) - Other. • valid(2) - Row exists and is valid.

NetFlow and sFlow MIB

sFlow

This section presents the sFlow objects that are proprietary to products.

sFlow collector table

Currently, RFC 3176 allows only one sFlow destination to be configured. To configure two or more destinations, use the following table.

Name, OID, and syntax	Access	Description
snSflowCollectorTable brcdIp.1.1.3.19.2	None	Table of sFlow collectors, beginning with the second collector. Configure the first sFlow collector using the sFlowCollectorAddress and sFlowCollectorPort objects in the RFC 3176 sFlowTable.
snSflowCollectorIndex brcdIp.1.1.3.19.2.1.1 Syntax: Integer32	Read-only	The index to the sFlow collector table.
snSflowCollectorIP brcdIp.1.1.3.19.2.1.2 Syntax: IpAddress	Read-write	The IP address of the sFlow collector.
snSflowCollectorUDPPort brcdIp.1.1.3.19.2.1.3 Syntax: Integer32	Read-write	The number of the UDP port used by the sFlow collector.
snSflowCollectorRowStatus brcdIp.1.1.3.19. 2.1.4 Syntax: Integer	Read-write	Controls the management of the table rows. The following values can be written: • delete(3) - Deletes the row. • create(4) - Creates a new row. • modify(5) - Modifies an existing row. If the row exists, then a SET with a value of create(4) returns a "bad value" error. Deleted rows are removed from the table immediately. The following values can be returned on reads: • noSuch(0) - No such row. • other(1) - Some other case. • valid(2) - Row exists and is valid.

VLAN Layer 2 Switch MIB Definition

VLAN by port information table

The following table applies to a Layer 2 device if the object snSwGroupOperMode is configured with a value of vlanByPort(2), allowing switch ports to be configured with a VLAN ID. Each VLAN switch port could have a number of VLAN IDs.

NOTE
The following table is not supported on the MLX Series, MLX Series, XMR Series, CES 2000 Series, and CER 2000 Series devices.

Name, OID, and syntax	Access	Description
snVLanByPortTable brcdIp.1.1.3.2.1	None	The VLAN by port information table for Layer 2 Switches.
snVLanByPortEntry brcdIp.1.1.3.2.1.1	None	An entry in the VLAN by port information table.
snVLanByPortVLanIndex brcdIp.1.1.3.2.1.1.1 Syntax: Integer	Read-only	Shows the index to this table. The VLAN ID number must not be greater than the value of the object. Each VLAN identifier can be a member of multiple ports.
snVLanByPortVLanId brcdIp.1.1.3.2.1.1.2 Syntax: Integer	Read-write	The VLAN ID index to the table. Each VLAN identifier can be a member of multiple ports. Valid values: 1 - 4095
snVLanByPortPortMask brcdIp.1.1.3.2.1.1.3 Syntax: PortMask	Read-write	Shows the standalone switch VLAN port membership. This object was obsoleted for Chassis devices.
snVLanByPortQos brcdIp.1.1.3.2.1.1.4 Syntax: Integer	Read-write	Shows the QoS settings for the following devices: Standalone: • level0(0) - Low priority • level1(1) - High priority BigIron • level0(0) • level1(1) • level2(2) • level3(3) • level4(4)

Name, OID, and syntax	Access	Description
		• level5(5) • level6(6) • level7(7)
snVLanByPortStpMode brcdIp.1.1.3.2.1.1.5 Syntax: Integer	Read-write	Indicates whether or not the Spanning Tree mode in the switch group is enabled: • disable(0) - No Spanning Tree • enableStp(1) - Activate Spanning Tree • enableRstp(2) - Activate Rapid Spanning Tree
snVLanByPortStpPriority brcdIp.1.1.3.2.1.1.6 Syntax: Integer	Read-write	Shows the value of the dot1dStpPriority, which is the first two octets of the STP bridge ID. The STP bridge ID is eight octets long. This object contains the writable portion of the bridge ID. The last six octets are contained in the dot1dBaseBridgeAddress of the snVLanByPortBaseBridgeAddress object. Valid values: 1 - 65535
snVLanByPortStpGroupMaxAge brcdIp.1.1.3.2.1.1.7 Syntax: Integer	Read-write	Shows the value of dot1dStpBridgeMaxAge, which is the last six octets of the STP bridge ID. All bridges use this object for MaxAge when this bridge is acting as the root. **NOTE** 802.1D-1990 specifies that the range for this parameter is related to the value of dot1dStpBridgeHelloTime in the VLAN by port information table object.The granularity of this timer is specified by 802.1D-1990 to be one second. An agent may return a bad value error if a set is attempted to a value which is not a whole number of seconds. (Refer to RFC 1493 Bridge MIB.) Valid values: 6 - 40
snVLanByPortStpGroupHelloTime brcdIp.1.1.3.2.1.1.8 Syntax: Integer	Read-write	Shows the value of the dot1dStpBridgeHelloTime, which is the value used by all bridges when this bridge is acting as the root. **NOTE** The granularity of this timer is specified by 802.1D-1990 to be one second. An agent may return a bad Value error if a set is attempted to a value which is not a whole number of seconds. (Refer to RFC 1493 Bridge MIB.) Valid values: 1 - 10
snVLanByPortStpGroupForwardDelay brcdIp.1.1.3.2.1.1.9 Syntax: Integer	Read-write	Shows the value of dot1dStpBridgeForwardDelay, which is the value used by all bridges for ForwardDelay when this bridge is acting as the root.

Name, OID, and syntax	Access	Description
		NOTE 802.1D-1990 specifies that the range for this parameter is related to the value of dot1dStpBridgeMaxAge, which is in the VLAN by port information tableobject.The granularity of this timer is specified by 802.1D-1990 to be one second. An agent may return a bad value error if a set is attempted to a value which is not a whole number of seconds. (Refer to RFC 1493 Bridge MIB.) Valid values: 2 -30
snVLanByPortRowStatus brcdIp.1.1.3.2.1.1.10 Syntax: Integer	Read-write	Controls the management of the table rows. The following values can be written: • delete(3) - Deletes the row. • create(4) - Creates a new row. • modify(5) - Modifies an existing row. If the row exists, then a SET with a value of create(4) returns a bad value error. Deleted rows are removed from the table immediately. The following values can be returned on reads: • noSuch(0) - No such row. • invalid(1) - Row is inoperative. • valid(2) - Row exists and is valid.
snVLanByPortOperState brcdIp.1.1.3.2.1.1.11 Syntax: Integer	Read-only	Activates the VLAN entry and sets it to running mode: • notActivated(0) - The VLAN entry is not activated and not in running mode. • activated(1) - The VLAN entry is activated and in running mode. Default: notActivated(0)
snVLanByPortBaseNumPorts brcdIp.1.1.3.2.1.1.12 Syntax: Integer32	Read-only	Indicates the number of ports controlled by this bridging entity.
snVLanByPortBaseType brcdIp.1.1.3.2.1.1.13 Syntax: Integer	Read-only	Indicates what type of bridging this bridge can perform. If a bridge is actually performing a certain type of bridging, this will be indicated by entries in the port table for the given type: • unknown(1) • transparent-only(2) • sourceroute-only(3) • srt(4)
snVLanByPortStpProtocolSpecification brcdIp.1.1.3.2.1.1.14 Syntax: Integer	Read-only	Shows what version of STP is being run: • unknown(1) • decLb100(2) - Indicates the DEC LANbridge 100 Spanning Tree Protocol.

Name, OID, and syntax	Access	Description
		• ieee8021d(3) - Returns "ieee8021d(3)". If future versions of the IEEE Spanning Tree Protocol are released that are incompatible with the current version, a new value will be defined.
snVLanByPortStpMaxAge brcdIp.1.1.3.2.1.1.15 Syntax: Integer	Read-only	Shows the value of dot1dStpMaxAge, which is the maximum age that the STP information can exist before it is discarded. The STP information is the information learned from the network. The value of this object is in hundredths of a second, and is the actual value that this bridge is currently using. (Refer to RFC 1493 Bridge MIB.)
snVLanByPortStpHelloTime brcdIp.1.1.3.2.1.1.16 Syntax: Timeout	Read-only	Shows the value of dot1dStpHelloTime, which is the interval between the transmission of configuration bridge PDUs by this node. This value applies to any port when it is the root of the spanning tree or is trying to become the root. This is the actual value that this bridge is currently using. This value is in hundredths of a second. (Refer to RFC 1493 Bridge MIB.)
snVLanByPortStpHoldTime brcdIp.1.1.3.2.1.1.17 Syntax: Integer32	Read-only	Shows the value of dot1dStpHoldTime, which is the interval when no more than two configuration bridge PDUs can be transmitted by this node. The interval is in units of hundredths of a second. (Refer to RFC 1493 Bridge MIB.)
snVLanByPortStpForwardDelay brcdIp.1.1.3.2.1.1.18 Syntax: Timeout	Read-only	Shows the value of dot1dStpForwardDelay, which is the time that controls how long a port stays in the listening and learning states as its spanning state moves towards the forwarding state. This value is also used when a topology change has been detected and is under way. The value is used to age all dynamic entries in the Forwarding Database. This value is the one that this bridge is currently using, in contrast to dot1dStpBridgeForwardDelay in the VLAN by port information table object, which is the value that this bridge and all others would start using when this bridge becomes the root. This time value is in hundredths of a second, (Refer to RFC 1493 Bridge MIB.)
snVLanByPortStpTimeSinceTopologyChange brcdIp.1.1.3.2.1.1.19 Syntax: Time ticks	Read-only	Shows the time since the last time the bridge detected a topology change. This time is in hundredths of a second.
snVLanByPortStpTopChanges brcdIp.1.1.3.2.1.1.20 Syntax: Counter32	Read-only	Shows the total number of topology changes detected by this bridge since the management entity was last reset or initialized.

Name, OID, and syntax	Access	Description
snVLanByPortStpRootCost brcdIp.1.1.3.2.1.1.21 Syntax: Integer32	Read-only	Shows the value of dot1dStpRootCost, which is the cost of the path to the root as seen from this bridge. (Refer to RFC 1493 Bridge MIB.)
snVLanByPortStpRootPort brcdIp.1.1.3.2.1.1.22 Syntax: Integer32	Read-only	Shows the value of dot1dStpRootPort, which is the number of the port that offers the lowest cost path from this bridge to the root bridge. (Refer to RFC 1493 Bridge MIB.)
snVLanByPortStpDesignatedRoot brcdIp.1.1.3.2.1.1.23 Syntax: BridgeId	Read-only	Shows the value of dot1dStpDesignatedRoot, which is the bridge ID of the root of the spanning tree as determined by STP as executed by this node. This value is used as the Root Identifier parameter in all configuration bridge PDUs originated by this node. (Refer to RFC 1493 Bridge MIB.)
snVLanByPortBaseBridgeAddress brcdIp.1.1.3.2.1.1.24 Syntax: BridgeId	Read-only	Indicates the value of the dot1dBaseBridgeAddress, which is the MAC address used by this bridge when it must be referred to in a unique fashion. It is recommended that this is the smallest MAC address of all ports that belong to this bridge; however, it must be unique. When concatenated with dot1dStpPriority, a unique Bridge Identifier is formed, which is used in the STP.
snVLanByPortVLanName brcdIp.1.1.3.2.1.1.25 Syntax: DisplayString	Read-write	Indicates the name of the community string that is allowed to access the VLAN. Valid values: Up to 32 characters
snVLanByPortRouterIntf brcdIp.1.1.3.2.1.1.26 Syntax: Integer32	Read-write	This object is optional and applies only to routers. It shows the ID of the virtual interface of a router to the VLAN. If an SNMP-Get value is zero, then this object was not configured. Valid values: 1 - 60
snVLanByPortChassisPortMask brcdIp.1.1.3.2.1.1.27 Syntax: Octet String	Read-write	The object is replaced by VLAN by port information table. It shows the VLAN switch port membership. This object has 32 octets.
snVLanByPortPortList brcdIp.1.1.3.2.1.1.28 Syntax: Octet String	Read-write	Applies to all devices.

VLAN by port membership table

The following table is the Port VLAN (Layer 2 VLAN) port membership table.

Name, OID, and syntax	Access	Description
snVLanByPortMemberTable brcdIp.1.1.3.2.6	None	This table is used to create or delete a port VLAN (Layer 2 VLAN) entry.
snVLanByPortMemberEntry brcdIp.1.1.3.2.6.1	None	An entry in the Port VLAN port membership table.
snVLanByPortMemberVLanId brcdIp.1.1.3.2.6.1.1 Syntax: Integer	Read-only	The VLAN identifier (VLAN ID). Valid values: 1 - 4095 VLAN IDs
snVLanByPortMemberPortId brcdIp.1.1.3.2.6.1.2 Syntax: Integer	Read-only	The ifIndex that is a member of the port VLAN.
snVLanByPortMemberRowStatus brcdIp.1.1.3.2.6.1.3 Syntax: Integer	Read-write	Controls the management of the table rows. The following values can be written: • delete(3) - Delete the row. • create(4) - Create a new row. If the row exists, then a SET with a value of create(4) returns a bad value error. Deleted rows are removed from the table immediately. The following values can be returned on reads: • noSuch(0) - No such row. • other(1) - Some other case. • valid(2) - Row exists and is valid.
snVLanByPortMemberTagMode brcdIp.1.1.3.2.6.1.4 Syntax: Integer	Read-write	For a tagged or dual-mode port, there can be multiple VLANs per port. For an untagged port, there is only one VLAN ID per port. The values are: • tagged(1) • untagged(2)

Port VLAN configuration table

Name, OID, and syntax	Access	Description
snVLanByPortCfgTable brcdIp.1.1.3.2.7	None	The Port VLAN (Layer 2 VLAN) configuration table.
snVLanByPortCfgEntry brcdIp.1.1.3.2.7.1	None	An entry of the port VLAN configuration table.
snVLanByPortCfgVLanId brcdIp.1.1.3.2.7.1.1 Syntax: Integer	Read-write	The VLAN ID index to this table. Each VLAN identifier can be a member of multiple ports. Valid values: 1 - 4095
snVLanByPortCfgQos brcdIp.1.1.3.2.7.1.2 Syntax: PortQosTC	Read-write	Shows the Quality of Service (QoS) settings for the devices. For Stackable devices, the values can be one of the following: • level0(0) - Low priority • level1(1) - High priority

Name, OID, and syntax	Access	Description
		For Chassis devices, the value can be one of the following: • level0(0) • level1(1) • level2(2) • level3(3) • level4(4) • level5(5) • level6(6) • level7(7) • invalid(127) - This value is used by CES 2000 Series or CER 2000 Series devices to signify that no Quality of Service was specified for this VLAN.
snVLanByPortCfgStpMode brcdIp.1.1.3.2.7.1.3 Syntax: Integer	Read-write	Indicates whether or not Spanning Tree Protocol (STP) is enabled: • disabled(0) • enabled(1)
snVLanByPortCfgStpPriority brcdIp.1.1.3.2.7.1.4 Syntax: Integer	Read-write	Shows the value of the dot1dStpPriority, which is the first two octets of the STP or RSTP bridge ID. The STP and RSTP bridge IDs are eight octets long. This object contains the writable portion of the bridge ID. The last six octets are contained in the dot1dBaseBridgeAddress of the VLAN by port information table on page 293 object. Valid values: 1 - 65535
snVLanByPortCfgStpGroupMaxAge brcdIp.1.1.3.2.7.1.5 Syntax: Integer32	Read-write	Shows the value of dot1dStpBridgeMaxAge, which is the last six octets or the STP or RSTP bridge ID. All bridges use this object for MaxAge when this bridge is acting as the root. **NOTE** 802.1D-1990 specifies that the range for this parameter is related to the value of dot1dStpBridgeHelloTime in the VLAN by port information table on page 293 object. The granularity of this timer is specified by 802.1D-1990 to be one second. An agent may return a bad value error if a set is attempted to a value which is not a whole number of seconds. (Refer to RFC 1493 Bridge MIB.) Valid values: 6 - 40
snVLanByPortCfgStpGroupHelloTime brcdIp.1.1.3.2.7.1.6 Syntax: Integer	Read-write	Shows the value of dot1dStpBridgeHelloTime, which is the value used by all bridges when this bridge is acting as the root.

Name, OID, and syntax	Access	Description
		NOTE The granularity of this timer is specified by 802.1D-1990 to be one second. An agent may return a bad Value error if a set is attempted to a value which is not a whole number of seconds. (Refer to RFC 1493 Bridge MIB.) Valid values: 1 - 10
snVLanByPortCfgStpGroupForwardDelay brcdIp.1.1.3.2.7.1.7 Syntax: Integer32	Read-write	Shows the value of dot1dStpBridgeForwardDelay, which is the value used by all bridges for ForwardDelay when this bridge is acting as the root. **NOTE** 802.1D-1990 specifies that the range for this parameter is related to the value of dot1dStpBridgeMaxAge, which is in the VLAN by port information table on page 293 object. The granularity of this timer is specified by 802.1D-1990 to be one second. An agent may return a bad value error if a set is attempted to a value which is not a whole number of seconds. (Refer to RFC 1493 Bridge MIB.) Valid values: 2 - 30
snVLanByPortCfgBaseNumPorts brcdIp.1.1.3.2.7.1.8 Syntax: Integer32	Read-only	The number of ports controlled by this bridging entity.
snVLanByPortCfgBaseType brcdIp.1.1.3.2.7.1.9 Syntax: Integer	Read-only	Indicates what type of bridging this bridge can perform. If a bridge is actually performing a certain type of bridging, this will be indicated by entries in the port table for the given type: • unknown(1) • transparentOnly(2) • sourcerouteOnly(3) • srt(4)
snVLanByPortCfgStpProtocolSpecification brcdIp.1.1.3.2.7.1.10 Syntax: Integer	Read-only	Shows what version of STP is being run: • unknown(1) • decLb100(2) - Indicates the DEC LANbridge 100 Spanning Tree Protocol. • ieee8021d(3) - IEEE 802.1d implementations will return this value. If future versions of the IEEE Spanning Tree Protocol are released that are incompatible with the current version, a new value will be defined.
snVLanByPortCfgStpMaxAge brcdIp.1.1.3.2.7.1.11	Read-only	Shows the value of dot1dStpMaxAge, which is the maximum age that the STP information can exist before it is discarded. The STP information

Name, OID, and syntax	Access	Description
Syntax: Integer		is learned from the network. The value of this object is in hundredths of a second, and is the actual value that this bridge is currently using. (Refer to RFC 1493 Bridge MIB.)
snVLanByPortCfgStpHelloTime brcdIp.1.1.3.2.7.1.12 Syntax: Timeout	Read-only	Shows the value of dot1dStpHelloTime, which is the interval between the transmission of configuration bridge PDUs by this node. This value applies to any port when it is the root of the spanning tree or is trying to become the root. This is the actual value that this bridge is currently using. This value is in hundredths of a second. (Refer to RFC 1493 Bridge MIB.)
snVLanByPortCfgStpHoldTime brcdIp.1.1.3.2.7.1.13 Syntax: Integer32	Read-only	Shows the value of dot1dStpHoldTime, which is the interval when no more than two configuration bridge PDUs can be transmitted by this node. The interval is in units of hundredths of a second. (Refer to RFC 1493 Bridge MIB.)
snVLanByPortCfgStpForwardDelay brcdIp.1.1.3.2.7.1.14 Syntax: Timeout	Read-only	Shows the value of dot1dStpForwardDelay, which controls how fast a port changes its spanning state when moving towards the forwarding state. The value determines how long the port stays in each of the listening and learning states, which precede the forwarding state. This value is also used, when a topology change has been detected and is under way, to age all dynamic entries in the forwarding database. NOTE This value is the one that this bridge is currently using in contrast to dot1dStpBridgeForwardDelay, which is the value that this bridge and all others would start using should this bridge become the root.This value is measured in hundredths of a second. (Refer to RFC 1493 Bridge MIB.)
snVLanByPortCfgStpTimeSinceTopologyChang e brcdIp.1.1.3.2.7.1.15 Syntax: Time ticks	Read-only	Shows the time since the last topology change was detected by the bridge entity. This time is in hundredths of a second.
snVLanByPortCfgStpTopChanges brcdIp.1.1.3.2.7.1.16 Syntax: Counter32	Read-only	Shows the total number of topology changes detected by this bridge since the management entity was last reset or initialized.
snVLanByPortCfgStpRootCost brcdIp.1.1.3.2.7.1.17 Syntax: Integer32	Read-only	Shows the value of dot1dStpRootCost, which is the cost of the path to the root as seen from this bridge. (Refer to RFC 1493 Bridge MIB.)
snVLanByPortCfgStpRootPort brcdIp.1.1.3.2.7.1.18	Read-only	Shows the value of dot1dStpRootPort, which is the port number of the port which offers the

Name, OID, and syntax	Access	Description
Syntax: Integer32		lowest cost path from this bridge to the root bridge. (Refer to RFC 1493 Bridge MIB.)
snVLanByPortCfgStpDesignatedRoot brcdIp.1.1.3.2.7.1.19 Syntax: BridgeId	Read-only	Shows the value of dot1dStpDesignatedRoot, which is the bridge identifier of the root of the spanning tree as determined by the Spanning Tree Protocol as executed by this node. This value is used as the root identifier parameter in all configuration bridge PDUs originated by this node. (Refer to RFC 1493 Bridge MIB.)
snVLanByPortCfgBaseBridgeAddress brcdIp.1.1.3.2.7.1.20 Syntax: MAC address	Read-only	Shows the MAC address used by this bridge when it must be referred to in a unique fashion. It is recommended that this be the numerically smallest MAC address of all ports that belong to this bridge; however, it is only required to be unique. When concatenated with dot1dStpPriority, a unique bridge identifier is formed, which is used in the Spanning Tree Protocol.
snVLanByPortCfgVLanName brcdIp.1.1.3.2.7.1.21 Syntax: DisplayString	Read-write	Shows the name of the VLAN community string. Valid values: Up to 32 characters
snVLanByPortCfgRouterIntf brcdIp.1.1.3.2.7.1.22 Syntax: Integer32	Read-write	This object is optional. It identifies the virtual interface for the router to the VLAN, and applies only to the router. If an SNMP-Get value is zero, that means this object was not configured.
snVLanByPortCfgRowStatus brcdIp.1.1.3.2.7.1.23 Syntax: Integer	Read-write	Deletes a VLAN entry.
snVLanByPortCfgInOctets brcdIp.1.1.3.2.7.1.25 Syntax: Counter64	Read-only	The number of bytes received on this VLAN. This can be used as the per-VE counter, if there is one-to-one mapping for VLAN-VE.
snVLanByPortCfgTransparentHwFlooding brcdIp.1.1.3.2.7.1.26 Syntax: Integer	Read-write	Enables or disables transparent VLAN flooding on a VLAN: • disabled(0) • enabled(1) Default: disabled(0)

VLAN by protocol configuration table

The following table applies to protocol VLANs.

NOTE

The following table is not supported on the MLX Series, MLX Series, XMR Series, CES 2000 Series, and CER 2000 Series devices.

Name, OID, and syntax	Access	Description
snVLanByProtocolTable	None	The VLAN by protocol configuration table.

Name, OID, and syntax	Access	Description
brcdIp.1.1.3.2.2		
snVLanByProtocolEntry brcdIp.1.1.3.2.2.1	None	An entry in the VLAN by protocol configuration table.
snVLanByProtocolVLanId brcdIp.1.1.3.2.2.1.1	Read-only	Shows the VLAN ID index to both the VLAN by port information table and this table.
snVLanByProtocolIndex brcdIp.1.1.3.2.2.1.2 Syntax: Integer	Read-only	Shows the protocol used by this VLAN. The following IP/IPX protocols are used by VLANs in Layer 3 VLAN: • IP(1) • IPX(2) The following protocols are used in Layer 2 bridging: • appleTalk(3) • decNet(4) • netBios(5) • others(6) - Other protocols that are defined here.
snVLanByProtocolDynamic brcdIp.1.1.3.2.2.1.3 Syntax: Integer	Read-write	Applies only to switches. Indicates whether or not dynamic port inclusion is enabled: • disabled(0) • enabled(1)
snVLanByProtocolStaticMask brcdIp.1.1.3.2.2.1.4 Syntax: PortMask	Read-write	Indicates the standalone switch Protocol VLAN port membership (portmask) applied in static mode. This object was obsoleted for Chassis devices.
snVLanByProtocolExcludeMask brcdIp.1.1.3.2.2.1.5 Syntax: PortMask	Read-write	Indicates the standalone switch Protocol VLAN port membership (portmask) applied in exclusive mode. This object was obsoleted for Chassis devices.
snVLanByProtocolRouterIntf brcdIp.1.1.3.2.2.1.6 Syntax: Integer	Read-write	Applies to routers only and is optional. It shows the virtual interface of a router to the VLAN. This object is not configured if an SNMP-Get is equal to zero.
snVLanByProtocolRowStatus brcdIp.1.1.3.2.2.1.7 Syntax: Integer	Read-write	Controls the management of the table rows. The following values can be written: • delete(3) - Deletes the row. • create(4) - Creates a new row. • modify(5) - Modifies an existing row. If the row exists, then a SET with a value of create(4) returns a "bad value" error. Deleted rows are removed from the table immediately. The following values can be returned on reads: • noSuch(0) - No such row. • invalid(1) - Row is inoperative. • valid(2) - Row exists and is valid.
snVLanByProtocolDynamicMask brcdIp.1.1.3.2.2.1.8	Read-only	Shows the portmask, which is the standalone switch Protocol VLAN active port membership.

Name, OID, and syntax	Access	Description
Syntax: PortMask		This object was obsoleted.
snVLanByProtocolChassisStaticMask brcdIp.1.1.3.2.2.1.9 Syntax: Octet String	Read-write	This object has 32 octets. It has been obsoleted and replaced by the VLAN by protocol configuration table object.
snVLanByProtocolChassisExcludeMask brcdIp.1.1.3.2.2.1.10 Syntax: Octet String	Read-write	This object has 32 octets. It has been obsoleted and replaced by the VLAN by protocol configuration table object.
snVLanByProtocolChassisDynamicMask brcdIp.1.1.3.2.2.1.11 Syntax: Octet String	Read-write	This object has 32 octets. It has been obsoleted and replaced by the VLAN by protocol configuration table object.
snVLanByProtocolVLanName brcdIp.1.1.3.2.2.1.12 Syntax: DisplayString	Read-write	Shows the name of the community string that is allowed to access the VLAN. Valid values: Up to 32 characters
snVLanByProtocolStaticPortList brcdIp.1.1.3.2.2.1.13 Syntax: Octet String	Read-write	This object is an index of ports that are configured to be members of the Protocol VLAN. Each port index is a 16-bit integer in big-endian order. The first 8 bits are the slot number; the other 8 bits are the port number.
snVLanByProtocolExcludePortList brcdIp.1.1.3.2.2.1.14 Syntax: Octet String	Read-write	This object is an index of ports that are excluded from port membership of the Protocol VLAN. Each port index is a 16-bit integer in big-endian order. The first 8 bits are the slot number; the other 8 bits are the port number.
snVLanByProtocolDynamicPortList brcdIp.1.1.3.2.2.1.15 Syntax: Octet String	Read-only	This object is an index of ports that can dynamically join the port membership of the Protocol VLAN. Each port index is a 16-bit integer in big-endian order. The first 8 its are the slot number; the other 8 bits are the port number.

VLAN by IP subnet configuration table

The following table applies to protocol VLANs that use the IP routing protocol.

NOTE

The following table is not supported on the MLX Series, MLX Series, XMR Series, CES 2000 Series, and CER 2000 Series devices.

Name, OID, and syntax	Access	Description
snVLanByIpSubnetTable brcdIp.1.1.3.2.3	None	The VLAN by IP subnet configuration table.
snVLanByIpSubnetEntry brcdIp.1.1.3.2.3.1	None	An entry in the VLAN by IP subnet configuration table.
snVLanByIpSubnetVLanId brcdIp.1.1.3.2.3.1.1 Syntax: Integer	Read-only	Shows the VLAN ID index to both the VLAN by port information table and this table. Valid values: 1 - 4095
snVLanByIpSubnetIpAddress brcdIp.1.1.3.2.3.1.2	Read-only	Shows the IP address for the subnet of the protocol-based IP VLAN.

Name, OID, and syntax	Access	Description
Syntax: IpAddress		
snVLanByIpSubnetSubnetMask brcdIp.1.1.3.2.3.1.3 Syntax: IpAddress	Read-only	Subnet mask associated with the subnet IP address.
snVLanByIpSubnetDynamic brcdIp.1.1.3.2.3.1.4 Syntax: Integer	Read-write	Applies only to switches. Indicates whether or not dynamic port inclusion is enabled: • disabled(0) • enabled(1)
snVLanByIpSubnetStaticMask brcdIp.1.1.3.2.3.1.5 Syntax: PortMask	Read-write	Shows the port membership of the standalone switch VLAN by Subnet in static mode. This object was obsoleted.
snVLanByIpSubnetExcludeMask brcdIp.1.1.3.2.3.1.6 Syntax: PortMask	Read-write	Shows the port membership of the standalone switch VLAN by Subnet in exclusive mode. This object was obsoleted.
snVLanByIpSubnetRouterIntf brcdIp.1.1.3.2.3.1.7 Syntax: Integer	Read-write	Applies only to routers and is optional. It shows the virtual interface of a router to the VLAN. Valid values: 0 - 60. It is not configured if an SNMP-Get is equal to zero.
snVLanByIpSubnetRowStatus brcdIp.1.1.3.2.3.1.8 Syntax: Integer	Read-write	Controls the management of the table rows. The following values can be written: • delete(3) - Deletes the row. • create(4) - Creates a new row. • modify(5) - Modifies an existing row. If the row exists, then a SET with a value of create(4) returns a "bad value" error. Deleted rows are removed from the table immediately. The following values can be returned on reads: • noSuch(0) - No such row. • invalid(1) - Row is inoperative. • valid(2) - Row exists and is valid.
snVLanByIpSubnetDynamicMask brcdIp.1.1.3.2.3.1.9 Syntax: PortMask	Read-only	Shows the standalone switch VLAN by subnet active port membership.
snVLanByIpSubnetChassisStaticMask brcdIp.1.1.3.2.3.1.10 Syntax: Octet string	Read-write	This object has 32 octets. It is replaced by the VLAN by IP subnet configuration table object. It shows the chassis VLAN by Subnet port membership applied in static mode.
snVLanByIpSubnetChassisExcludeMask brcdIp.1.1.3.2.3.1.11 Syntax: Octet string	Read-write	This object has 32 octets. It is replaced by the VLAN by IP subnet configuration table object. It shows the chassis VLAN by Subnet port membership applied in exclusive mode.
snVLanByIpSubnetChassisDynamicMask brcdIp.1.1.3.2.3.1.12 Syntax: Octet string	Read-write	This object has 32 octets .It is replaced by the VLAN by IP subnet configuration table object. It shows the chassis VLAN by Subnet port membership applied in exclusive mode.
snVLanByIpSubnetVLanName brcdIp.1.1.3.2.3.1.13 Syntax: Display string	Read-write	Shows the name of the community string that is allowed to access the VLAN. Valid values: Up to 32 characters

Name, OID, and syntax	Access	Description
snVLanByIpSubnetStaticPortList brcdIp.1.1.3.2.3.1.14 Syntax: Octet string	Read-write	This object is an index of ports that are configured to be members of the VLAN by IP Subnet. Each port index is a 16-bit integer in big-endian order. The first 8 bits are the slot number; the other 8 bits are the port number.
snVLanByIpSubnetExcludePortList brcdIp.1.1.3.2.3.1.15 Syntax: Octet string	Read-write	This object is an index of ports that are excluded from port membership of the VLAN by IP Subnet. Each port index is a 16-bit integer in big-endian order. The first 8 bits are the slot number; the other 8 bits are the port number.
snVLanByIpSubnetDynamicPortList brcdIp.1.1.3.2.3.1.16 Syntax: Octet string	Read-only	This object is an index of ports that can dynamically join the port membership of the VLAN by IP Subnet. Each port index is a 16-bit integer in big-endian order. The first 8 bits are the slot number; the other 8 bits are the port number.

VLAN by IPX network configuration table

NOTE
The following table is not supported on the MLX Series, MLX Series, XMR Series, CES 2000 Series, and CER 2000 Series devices.

The following table applies to protocol VLANs that use the IPX routing protocol. Unless otherwise stated in the object description, all objects in this table apply to all devices.

Name, OID, and syntax	Access	Description
snVLanByIpxNetTable brcdIp.1.1.3.2.4	None	The VLAN by IPX network number table.
snVLanByIpxNetVLanId brcdIp.1.1.3.2.4.1.1 Syntax: Integer	Read-only	The VLAN ID index to both the VLAN by port information table and this table. Valid values: 1 - 4095
snVLanByIpxNetNetworkNum brcdIp.1.1.3.2.4.1.2 Syntax: Octet String	Read-only	Shows the IPX Network Number. This object has four octets.
snVLanByIpxNetFrameType brcdIp.1.1.3.2.4.1.3 Syntax: Integer	Read-only	Shows the frame type for the Layer 3 VLAN: • notApplicable(0) - If none of the following options is selected • ipxEthernet8022(1) • ipxEthernet8023(2) • ipxEthernetII(3) • ipxEthernetSnap(4) Each IPX Network Number must be assigned with one unique Frame type; otherwise, an SNMP-SET error will be returned.
snVLanByIpxNetDynamic brcdIp.1.1.3.2.4.1.4 Syntax: Integer	Read-write	Applies only to switches. Indicates whether or not dynamic port inclusion is enabled: • disabled(0) • enabled(1)

Name, OID, and syntax	Access	Description
snVLanByIpxNetStaticMask brcdIp.1.1.3.2.4.1.5 Syntax: PortMask	Read-write	Shows the VLAN by IPX network port membership applied in static mode.
snVLanByIpxNetExcludeMask brcdIp.1.1.3.2.4.1.6 Syntax: PortMask	Read-write	Shows the VLAN by IPX network port membership applied in exclusive mode.
snVLanByIpxNetRouterIntf brcdIp.1.1.3.2.4.1.7 Syntax: Integer	Read-write	Applies only to routers and is optional. It shows the virtual interface of a router to the VLAN. Valid values: 0 - 60; however, this object is not configured if an SNMP-Get is equal to zero.
snVLanByIpxNetRowStatus brcdIp.1.1.3.2.4.1.8 Syntax: Integer	Read-write	Controls the management of the table rows. The following values can be written: • delete(3) - Deletes the row. • create(4) - Creates a new row. • modify(5) - Modifies an existing row. If the row exists, then a SET with a value of create(4) returns a "bad value" error. Deleted rows are removed from the table immediately. The following values can be returned on reads: • noSuch(0) - No such row. • invalid(1) - Row is inoperative. • valid(2) - Row exists and is valid.
snVLanByIpxNetDynamicMask brcdIp.1.1.3.2.4.1.9 Syntax: PortMask	Read-only	Shows the VLAN by IPX network active port membership.
snVLanByIpxNetChassisStaticMask brcdIp.1.1.3.2.4.1.10 Syntax: Octet String	Read-write	This object has 32 octets and it is replaced by VLAN by IPX network configuration table. Shows the chassis VLAN by IPX network port membership applied in static mode.
snVLanByIpxNetChassisExcludeMask brcdIp.1.1.3.2.4.1.11 Syntax: Octet String	Read-write	This object has 32 octets and it is replaced by VLAN by IPX network configuration table. Shows the chassis VLAN by IPX network port membership applied in exclusive mode.
snVLanByIpxNetChassisDynamicMask brcdIp.1.1.3.2.4.1.12 Syntax: Octet String	Read-only	This object has 32 octets and it is replaced by VLAN by IPX network configuration table. Shows the chassis VLAN by IPX network port membership.
snVLanByIpxNetVLanName brcdIp.1.1.3.2.4.1.13 Syntax: DisplayString	Read-write	Shows the name of the community string that can access this VLAN. Valid values: Up to 32 characters
snVLanByIpxNetStaticPortList brcdIp.1.1.3.2.4.1.14 Syntax: Octet String	Read-write	Lists the membership of a VLAN by IPX network. Each port index is a 16-bit integer in big-endian order. The first 8 bits are the slot number; the other 8 bits are the port number.
snVLanByIpxNetExcludePortList brcdIp.1.1.3.2.4.1.15 Syntax: Octet String	Read-write	Lists the ports that are excluded from the VLAN by IPX network membership. Each port index is a 16-bit integer in big-endian order. The first 8 bits are the slot number; the other 8 bits are the port number.

Name, OID, and syntax	Access	Description
snVLanByIpxNetDynamicPortList brcdIp.1.1.3.2.4.1.16 Syntax: Octet String	Read-only	Lists the ports that can dynamically join the membership of the VLAN by IPX network. Each port index is a 16-bit integer in big-endian order. The first 8 bits are the slot number; the other 8 bits are the port number.

VLAN by AppleTalk cable configuration table

The following table applies to protocol VLANs that use the AppleTalk routing protocol.

NOTE

The following table is not supported on the MLX Series, MLX Series, XMR Series, CES 2000 Series, and CER 2000 Series devices.

Name, OID, and syntax	Access	Description
snVLanByATCableTable brcdIp.1.1.3.2.5	None	A table of VLAN by AppleTalk network number.
snVLanByATCableVLanId brcdIp.1.1.3.2.5.1.1 Syntax: Integer	Read-only	The VLAN ID of a port VLAN to which the AppleTalk cable VLAN attaches. Valid values: 1 - 4095
snVLanByATCableIndex brcdIp.1.1.3.2.5.1.2 Syntax: Integer	Read-only	The AppleTalk cable VLAN index number.
snVLanByATCableRouterIntf brcdIp.1.1.3.2.5.1.3 Syntax: Integer	Read-write	Shows the virtual interface of a router to the AppleTalk Cable VLAN. Valid values: 0 - 60; however, an SNMP-Get will equal zero if this object is not configured. Only router products accept the SNMP-SET operation.
snVLanByATCableRowStatus brcdIp.1.1.3.2.5.1.4 Syntax: Integer	Read-write	Controls the management of the table rows. The following values can be written: • delete(3) - Deletesthe row. • create(4) - Creates a new row. • modify(5) - Modifies an existing row. If the row exists, then a SET with a value of create(4) returns a "bad value" error. Deleted rows are removed from the table immediately. The following values can be returned on reads: • noSuch(0) - No such row. • invalid(1) - Row is inoperative. • valid(2) - Row exists and is valid.
snVLanByATCableChassisStaticMask brcdIp.1.1.3.2.5.1.5 Syntax: Octet String	Read-write	This object is replaced by the VLAN by AppleTalk cable configuration table object. Shows a list of ports that are statically configured to become port members of a VLAN. It has 32 octets.
snVLanByATCableVLanName brcdIp.1.1.3.2.5.1.6	Read-write	Shows the community string that can access this VLAN.

Name, OID, and syntax	Access	Description
Syntax: DisplayString		Valid values: Up to 32 characters
snVLanByATCableStaticPortList brcdIp.1.1.3.2.5.1.7 Syntax: Octet String	Read-write	Shows a list of port indices that are configured to join membership of the AppleTalk Cable VLAN. Each port index is a 16-bit integer in big-endian order. The first 8 bits are the slot number; the other 8 bits are the port number.

VLAN extended statistics

This section describes the MIB objects for the Virtual Local Area Network (VLAN) extended statistics supported on G2 products of MLX Series and XMR Series devices.

Use the **extended-counters priority** command to configure a module to enable per-VLAN or per-port, or priority accounting (or extended counters) that applies to both ingress and egress counters. Use the **extended-counters routed-switched** command to configure the system to count switched and routed packets separately. The default value or the **no form of the** command configures the system to count switched and routed packets combined. All the counters reset to "0" when the state is changed. Also, the current counters that reset to "0" maintain an aggregate count.

NOTE
The Layer 2 VPN counters apply only to switched packets.

The following table lists the objects of extended statistics for VLAN.

Name, OID, and syntax	Access	Description
brcdVlanExtStatsTable brcdIp.1.1.3.2.8	None	Table contains the extended statistics for VLAN ports of G2 and later modules. It is not applicable for G1 cards. These statistics apply to Layer 2 VLANs as well as port VLANs that are associated to IP interfaces (physical or VE).
brcdVlanExtStatsVlanId brcdIp.1.1.3.2.8.1.1 Syntax: BrcdVlanIdTC	None	The VLAN identifier (VLAN ID).
brcdVlanExtStatsIfIndex brcdIp.1.1.3.2.8.1.2 Syntax: InterfaceIndex	None	The ifIndex of the port belonging to this VLAN.
brcdVlanExtStatsPriorityId brcdIp.1.1.3.2.8.1.3 Syntax: PortPriorityTC	None	Identifies the port QoS priority. The values 1 through 8 internally map to priorities 0 through 7. The value 128 refers to the aggregate count bucket.
brcdVlanExtStatsInSwitchedPkts brcdIp.1.1.3.2.8.1.4 Syntax: Counter64	Read-only	The number of packets received by this port classified as belonging to this VLAN for switched packets. The value is applicable only if the system is configured to separately count the two types of packets. Otherwise, it returns "0".
brcdVlanExtStatsInRoutedPkts brcdIp.1.1.3.2.8.1.5 Syntax: Counter64	Read-only	The number of packets received by this port classified as belonging to this VLAN for routed packets. The value is applicable only if the system is

Name, OID, and syntax	Access	Description
		configured to separately count the two types of packets. Otherwise, it returns "0".
brcdVlanExtStatsInPkts brcdIp.1.1.3.2.8.1.6 Syntax: Counter64	Read-only	The number of packets received by this port classified as belonging to this VLAN for both switched and routed packets.
brcdVlanExtStatsOutSwitchedPkts brcdIp.1.1.3.2.8.1.7 Syntax: Counter64	Read-only	The number of packets transmitted by this port classified as belonging to this VLAN for switched packets. The value is applicable only if the system is configured to separately count the two types of packets. Otherwise, it returns "0".
brcdVlanExtStatsOutRoutedPkts brcdIp.1.1.3.2.8.1.8 Syntax: Counter64	Read-only	The number of packets transmitted by this port classified as belonging to this VLAN for routed packets. The value is applicable only if the system is configured to separately count the two types of packets. Otherwise, it returns "0".
brcdVlanExtStatsOutPkts brcdIp.1.1.3.2.8.1.9 Syntax: Counter64	Read-only	The number of packets transmitted by this port classified as belonging to this VLAN for both switched and routed packets.
brcdVlanExtStatsInSwitchedOctets brcdIp.1.1.3.2.8.1.10 Syntax: Counter64	Read-only	The bytes count received by this port classified as belonging to this VLAN for switched packets. The value is applicable only if the system is configured to separately count the two types of packets. Otherwise, it returns "0".
brcdVlanExtStatsInRoutedOctets brcdIp.1.1.3.2.8.1.11 Syntax: Counter64	Read-only	The bytes count received by this port classified as belonging to this VLAN for routed packets. The value is applicable only if the system is configured to separately count the two types of packets. Otherwise, it returns "0".
brcdVlanExtStatsInOctets brcdIp.1.1.3.2.8.1.12 Syntax: Counter64	Read-only	The bytes count received by this port classified as belonging to this VLAN for both switched and routed packets.
brcdVlanExtStatsOutSwitchedOctets brcdIp.1.1.3.2.8.1.13 Syntax: Counter64	Read-only	The bytes count transmitted by this port classified as belonging to this VLAN for switched packets. The value is applicable only if the system is configured to separately count the two types of packets. Otherwise, it returns "0".
brcdVlanExtStatsOutRoutedOctets brcdIp.1.1.3.2.8.1.14 Syntax: Counter64	Read-only	The bytes count transmitted by this port classified as belonging to this VLAN for routed packets. The value is applicable only if the system is configured to separately count the two types of packets. Otherwise, it returns "0".
brcdVlanExtStatsOutOctets brcdIp.1.1.3.2.8.1.15 Syntax: Counter64	Read-only	The bytes count transmitted by this port classified as belonging to this VLAN for both switched and routed packets.

VLAN extended statistics for VPLS

The following table contains information for the extended VLAN accounting that applies to the Virtual Private LAN Service (VPLS) endpoint attached to the Customer Edge (CE) device.

NOTE

Use the **snmp-server disable mibmib-table-keyword** command to disable the SNMP support for the table and use the **no** form of the command to re-enable the support. The overall SNMP-WALK performance is increased when the SNMP support is disabled for the table.

Name, OID, and syntax	Access	Description
brcdVplsEndptVlanExtStatsTable brcdlp.1.2.15.2.2.4	None	This table contains the VLAN extended statistics for VPLS endpoints. For more information, refer to VLAN extended statistics on page 309.
brcdVplsEndptVlanExtStatsPriorityId brcdlp.1.2.15.2.2.4.1.1 Syntax: PortPriorityTC	None	Identifies the port QoS priority. The values 1 through 8 internally map to priorities 0 through 7. The value 128 indicates that priority-level accounting is not enabled.
brcdVplsEndptVlanExtStatsInPkts brcdlp.1.2.15.2.2.4.1.2 Syntax: Counter64	Read-only	The number of valid switched and routed frames received by the endpoint from the Customer Edge (CE).
brcdVplsEndptVlanExtStatsOutPkts brcdlp.1.2.15.2.2.4.1.3 Syntax: Counter64	Read-only	The number of valid switched and routed frames transmitted by the endpoint to the CE.
brcdVplsEndptVlanExtStatsInOctets brcdlp.1.2.15.2.2.4.1.4 Syntax: Counter64	Read-only	The switched and routed bytes count received by the endpoint from the CE.
brcdVplsEndptVlanExtStatsOutOctets brcdlp.1.2.15.2.2.4.1.5 Syntax: Counter64	Read-only	The switched and routed bytes count transmitted by the endpoint to the CE.
brcdVplsEndptVlanExtStatsRoutedInPkts brcdlp.1.2.15.2.2.4.1.6 Syntax: Counter64	Read-only	The number of valid routed frames received by the endpoint from the CE.
brcdVplsEndptVlanExtStatsRoutedOutPkts brcdlp.1.2.15.2.2.4.1.7 Syntax: Counter64	Read-only	The number of valid routed frames transmitted by the endpoint to the CE.
brcdVplsEndptVlanExtStatsRoutedInOctets brcdlp.1.2.15.2.2.4.1.8 Syntax: Counter64	Read-only	The routed bytes count received by the endpoint from the CE.
brcdVplsEndptVlanExtStatsRoutedOutOctets brcdlp.1.2.15.2.2.4.1.9 Syntax: Counter64	Read-only	The routed bytes count transmitted by the endpoint to the CE.
brcdVplsEndptVlanExtStatsSwitchedInPkts brcdlp.1.2.15.2.2.4.1.10 Syntax: Counter64	Read-only	The number of valid switched frames received by the endpoint from the CE.
brcdVplsEndptVlanExtStatsSwitchedOutPkts brcdlp.1.2.15.2.2.4.1.11 Syntax: Counter64	Read-only	The number of valid switched frames transmitted by the endpoint to the CE.
brcdVplsEndptVlanExtStatsSwitchedInOctets brcdlp.1.2.15.2.2.4.1.12 Syntax: Counter64	Read-only	The switched bytes count received by the endpoint from the CE.
brcdVplsEndptVlanExtStatsSwitchedOutOctets brcdlp.1.2.15.2.2.4.1.13 Syntax: Counter64	Read-only	The switched bytes count transmitted by the endpoint to the CE.

VLAN extended statistics for VLL and VLL-local endpoints

The following table contains information for the extended VLAN accounting that applies to the Virtual Leased Line (VLL) and VLL-local endpoints attached to the Customer Edge (CE) device.

Name, OID, and syntax	Access	Description
brcdVllEndptVlanExtStatsTable brcdlp.1.2.15.2.1.2	None	This table contains the VLAN extended statistics for VLL endpoints. For more infromation, refer to VLAN extended statistics for VLL and VLL-local endpoints.
brcdVllEndptVlanExtStatsPriorityId brcdlp.1.2.15.2.1.2.1.1 Syntax: PortPriorityTC	None	Identifies the port QoS priority. The values 1 through 8 internally map to priorities 0 through 7. The value 128 indicates that the priority-level accounting is not enabled.
brcdVllEndptVlanExtStatsInPkts brcdlp.1.2.15.2.1.2.1.2 Syntax: Counter64	Read-only	The number of valid frames received by this endpoint from the Customer Edge (CE).
brcdVllEndptVlanExtStatsOutPkts brcdlp.1.2.15.2.1.2.1.3 Syntax: Counter64	Read-only	The number of valid frames transmitted by this endpoint to the Customer Edge (CE).
brcdVllEndptVlanExtStatsInOctets brcdlp.1.2.15.2.1.2.1.4 Syntax: Counter64	Read-only	The bytes count received by this endpoint from the Customer Edge (CE).
brcdVllEndptVlanExtStatsOutOctets brcdlp.1.2.15.2.1.2.1.5 Syntax: Counter64	Read-only	The bytes count transmitted by this endpoint to the Customer Edge (CE).

Forwarding Database Group

Forwarding database static table information

The following table contains the forwarding database information for each station known to the system. There is one entry per station.

Name, OID, and syntax	Access	Description
snFdbTable brcdIp.1.1.3.4.1	None	The forwarding database static table.
snFdbStationIndex brcdIp.1.1.3.4.1.1.1 Syntax: Integer	Read-only	Shows the FDB Station index to the FDB Station table.
snFdbStationAddr brcdIp.1.1.3.4.1.1.2 Syntax: Integer	Read-write	Shows the snFdbs physical address. The physical address represents a MAC Station.
snFdbStationPort brcdIp.1.1.3.4.1.1.3 Syntax: Integer32 **NOTE** This object is not supported on the MLX Series, MLX Series, XMR Series, CES 2000 Series, and CER 2000 Series devices.	Read-write	Indicates the station slot or port number: • Bit 0 to bit 7 - Port number. • Bit 8 to bit 11 - Slot number (slot for chassis only).
snFdbVLanId brcdIp.1.1.3.4.1.1.4 Syntax: Integer	Read-write	Indicates the Station VLAN ID.
snFdbStationQos brcdIp.1.1.3.4.1.1.5 Syntax: Integer	Read-write	Shows the Quality of Service (QoS) values for the station: For stackable stations, the values can be: • low(0) - Low priority • high(1) - High priority For chassis stations, the values can be: • level0(0) • level1(1) • level2(2) • level3(3) • level4(4) • level5(5) • level6(6) • level7(7)

Name, OID, and syntax	Access	Description
snFdbStationType brcdIp.1.1.3.4.1.1.6 Syntax: Integer **NOTE** This object is not supported on the MLX Series, MLX Series, XMR Series, CES 2000 Series, and CER 2000 Series devices.	Read-write	Shows the station type: • notSupported(0) - A read-only value: this product does not support multilayer switching. • host(1) - Any MAC station. • router(2) - A router-typed station.
snFdbRowStatus brcdIp.1.1.3.4.1.1.7 Syntax: Integer	Read-write	Controls the management of the table rows. The following values can be written: • delete(3) - Deletes the row. • create(4) - Creates a new row. If the row exists, then a SET with a value of create(4) returns a "bad value" error. Deleted rows are removed from the table immediately. The following values can be returned on reads: • noSuch(0) - No such row. • invalid(1) - Row is inoperative. • valid(2) - Row exists and is valid.
snFdbStationIfindex brcdIp.1.1.3.4.1.1.8 Syntax: InterfaceIndex	Read-write	Station interface index number.

MRP MIB Definition

MRP table

The following table contains information about Metro Ring Protocol (MRP) MIB objects.

Name, OID, and syntax	Access	Description
snMetroRingTable brcdIp.1.1.3.29.2.1	None	The MRP table.
snMetroRingVlanId brcdIp.1.1.3.29.2.1.1.1 Syntax: Integer32	None	Identifies a VLAN that controls the metro ring.
snMetroRingId brcdIp.1.1.3.29.2.1.1.2 Syntax: Integer32	None	The metro ring identifier.
snMetroRingConfigState brcdIp.1.1.3.29.2.1.1.3 Syntax: Integer	Read-write	The state of the metro ring.
snMetroRingRole brcdIp.1.1.3.29.2.1.1.4 Syntax: Integer	Read-write	Shows the metro ring role: • other(1) - None of the cases below. • master(2) - Device which originates RHP packets. • member(3) - Device which forwards RHP packets.
snMetroRingHelloTime brcdIp.1.1.3.29.2.1.1.5 Syntax: Integer32	Read-write	The time interval to periodically transmit Ring Health Protocol (RHP) in milliseconds.
snMetroRingPreforwardingTime brcdIp.1.1.3.29.2.1.1.6 Syntax: Integer32	Read-write	The time interval that a metro ring stays in the preforwarding state before changing to the forwarding state (in milliseconds).
snMetroRingPort1 brcdIp.1.1.3.29.2.1.1.7 Syntax: InterfaceIndex	Read-write	The ifIndex value of port 1 to configure into the metro ring.
snMetroRingPort2 brcdIp.1.1.3.29.2.1.1.8 Syntax: InterfaceIndex	Read-write	The ifIndex value of port 2 to configure into the metro ring.
snMetroRingName brcdIp.1.1.3.29.2.1.1.9 Syntax: DisplayString	Read-write	The description of the metro ring.
snMetroRingRowStatus brcdIp.1.1.3.29.2.1.1.10 Syntax: Integer	Read-write	Creates and deletes rows in the table, and controls whether they are used. Values are: • delete(3) - Deletes a row. • create(4) - Creates a new row.

Name, OID, and syntax	Access	Description
		If the row exists, then a SET with a value of create(4) returns a "bad value" error. Deleted rows disappear immediately. The following values can be returned on reads: • noSuchName - No such row • other(1) - Some other cases. • valid(2) - The row exists and is valid.
snMetroRingOperState brcdIp.1.1.3.29.2.1.1.11 Syntax: Integer	Read-only	Shows the metro ring operational state. Valid values:other(1), enabled(2), disabled(3)
snMetroRingTopoGroupId brcdIp.1.1.3.29.2.1.1.12 Syntax: Integer32	Read-only	The ID of the topology group that controls the metro ring.
snMetroRingRHPTransmitted brcdIp.1.1.3.29.2.1.1.13 Syntax: Counter32	Read-only	The Ring Health Protocol (RHP) transmitted counter.
snMetroRingRHPReceived brcdIp.1.1.3.29.2.1.1.14 Syntax: Counter32	Read-only	The Ring Health Protocol (RHP) received counter.
snMetroRingStateChanged brcdIp.1.1.3.29.2.1.1.15 Syntax: Counter32	Read-only	The counter for the number of times the ring state has changed.
snMetroRingTCRBPDUReceived brcdIp.1.1.3.29.2.1.1.16 Syntax: Counter32	Read-only	The topology change protocol received counter.
snMetroRingPriPort brcdIp.1.1.3.29.2.1.1.17 Syntax: InterfaceIndex	Read-only	The ifIndex value of the primary port.
snMetroRingSecPort brcdIp.1.1.3.29.2.1.1.18 Syntax: InterfaceIndex	Read-only	The ifIndex value of the secondary port.
snMetroRingPriPortState brcdIp.1.1.3.29.2.1.1.19 Syntax: Integer	Read-only	The state of the metro ring primary port: • other(1) - None of the cases below. • preforwarding(2) - Port transmits RHP packets; port does not transmit data packets. • forwarding(3) - Port transmits RHP and data packets. • blocking(4) - Port receives RHP packets; does not receive data packets. • disabled(5) - Port is disabled from the metro ring.
snMetroRingSecPortState brcdIp.1.1.3.29.2.1.1.20 Syntax: Integer	Read-only	The state of the metro ring secondary port: • other(1) - None of the cases below. • preforwarding(2) - Port transmits RHP packets; port does not transmit data packets.

Name, OID, and syntax	Access	Description
		• forwarding(3) - Port transmits RHP and data packets. • blocking(4) - Port receives RHP packets; does not receive data packets. • disabled(5) - Port is disabled from the metro ring.
snMetroRingPriPortType brcdIp.1.1.3.29.2.1.1.21 Syntax: Integer	Read-only	The metro ring primary port type: • other(1) - None of the cases below. • regular(2) - Port is configured to operate on a single ring. • tunnel(3) - Port is configured to operate on multiple rings.
snMetroRingSecPortType brcdIp.1.1.3.29.2.1.1.22 Syntax: Integer	Read-only	The metro ring secondary port type: • other(1) - None of the cases below. • regular(2) - Port is configured to operate on a single ring. • tunnel(3) - Port is configured to operate on multiple rings.
snMetroRingPriPortActivePort brcdIp.1.1.3.29.2.1.1.23 Syntax: InterfaceIndex	Read-only	The ifIndex value of the active primary port.
snMetroRingSecPortActivePort brcdIp.1.1.3.29.2.1.1.24 Syntax: InterfaceIndex	Read-only	The ifIndex value of the active secondary port.

RADIUS Group

RADIUS general group

You can use a Remote Authentication Dial In User Service (RADIUS) server to secure the following types of access to the switch or router:

- Telnet access
- SSH access
- Web management access
- Access to the Privileged EXEC level and CONFIG level of the CLI

The following objects provide information on RADIUS authentication and apply to all devices.

Name, OID, and syntax	Access	Description
snRadiusSNMPAccess brcdIp.1.1.3.12.1.1 Syntax: Integer	Read-only	Indicates if the RADIUS group MIB objects can be accessed by an SNMP manager: • disabled(0) - All RADIUS group MIB objects return a "general error". • enabled(1) Default: disabled(0)
snRadiusEnableTelnetAuth brcdIp.1.1.3.12.1.2 Syntax: Integer	Read-write	Indicates if Telnet authentication as specified by the RADIUS general group object is enabled: • disabled(0) • enabled(1) Default: disabled(0)
snRadiusRetransmit brcdIp.1.1.3.12.1.3 Syntax: Integer	Read-write	Indicates the number of authentication query retransmissions that can be sent to the RADIUS server. Valid values: 1 - 5 Default: 3
snRadiusTimeOut brcdIp.1.1.3.12.1.4 Syntax: Integer	Read-write	Specifies the number of seconds to wait for an authentication reply from the RADIUS server. Each unit is one second. Valid values: 1 - 60 Default: 3
snRadiusDeadTime brcdIp.1.1.3.12.1.5 Syntax: Integer	Read-write	Specifies the RADIUS server dead time. Each unit is one minute. Valid values: 0 - 5 Default: 3
snRadiusKey brcdIp.1.1.3.12.1.6 Syntax: DisplayString	Read-write	Shows the authentication key as encrypted text. This object can have up to 64 characters. A write operation can only be done if the SET request

Name, OID, and syntax	Access	Description
		uses SNMPv3 with data encrypted using a privacy key.
snRadiusLoginMethod brcdIp.1.1.3.12.1.7 Syntax: Octet String	Read-write	Shows the sequence of authentication methods for the RADIUS server. Each octet represents a method for authenticating the user at login. Each octet can have one of the following values: • enable(1) - Authenticate by the "Enable" password for the command line interface. • radius(2) - Authenticate by requesting the RADIUS server. • local(3) - Authenticate by local user account table. • line(4) - Authenticate by the Telnet password. • tacplus(5) - Authenticate by requesting the TACACS Plus server. • none(6) - Do not authenticate. • tacacs(7) - Authenticate by requesting the TACACS server. Setting a zero length octet string invalidates all previous authentication methods.
snRadiusEnableMethod brcdIp.1.1.3.12.1.8 Syntax: Octet String	Read-write	Shows the sequence of authentication methods for the RADIUS server. Each octet represents a method for authenticating the user after login, as the user enters the privilege mode of the command line interface. Each octet can have one of the following values: • enable(1) - Authenticate by the "Enable" password for the command line interface. • radius(2) - Authenticate by requesting the RADIUS server. • local(3) - Authenticate by local user account table. • line(4) - Authenticate by the Telnet password. • tacplus(5) - Authenticate by requesting the TACACS Plus server. • none(6) - Do not authenticate. • tacacs(7) - Authenticate by requesting the TACACS server. Setting a zero length octet string invalidates all previous authentication methods.
snRadiusWebServerMethod brcdIp.1.1.3.12.1.9 Syntax: Octet String	Read-write	Shows the sequence of authentication methods. Each octet represents a method for authenticating the user who is accessing the Web server. Each octet can have one of the following values: • enable(1) - Authenticate by the "Enable" password for the command line interface.

Name, OID, and syntax	Access	Description
		• radius(2) - Authenticate by requesting the RADIUS server. • local(3) - Authenticate by local user account table. • line(4) - Authenticate by the Telnet password. • tacplus(5) - Authenticate by requesting the TACACS Plus server. • none(6) - Do not authenticate. • tacacs(7) - Authenticate by requesting the TACACS server. Setting a zero length octet string invalidates all previous authentication methods.
snRadiusSNMPServerMethod brcdIp.1.1.3.12.1.10 Syntax: Octet String	Read-write	Shows the sequence of authentication methods. Each octet represents a method to authenticate the user who is accessing the SNMP server. Each octet can have one of the following values: • enable(1) - Authenticate by the "Enable" password for the command line interface. • radius(2) - Authenticate by requesting the RADIUS server. • local(3) - Authenticate by local user account table. • line(4) - Authenticate by the Telnet password. • tacplus(5) - Authenticate by requesting the TACACS Plus server. • none(6) - Do not authenticate. • tacacs(7) - Authenticate by requesting the TACACS server. Setting a zero length octet string invalidates all previous authentication methods.

RADIUS server table (IPv4)

The following objects provide information on the RADIUS server and they apply to all IPv4 devices. Configure **enablesnmp config-radius** command along with other RADIUS configurations to populate the objects of RADIUS server table (IPv4).

Name, OID, and syntax	Access	Description
snRadiusServerTable brcdIp.1.1.3.12.2	None	RADIUS server table.
snRadiusServerIp brcdIp.1.1.3.12.2.1.1 Syntax: IpAddress	Read-only	Shows the RADIUS server IP address.
snRadiusServerAuthPort brcdIp.1.1.3.12.2.1.2 Syntax: Integer32	Read-write	Shows the UDP port number for authentication. Displays the default when the value is set to zero. Default: 1812

Name, OID, and syntax	Access	Description
snRadiusServerAcctPort brcdIp.1.1.3.12.2.1.3 Syntax: Integer32	Read-write	Shows the UDP port number used for accounting. Displays the default when the value is set to zero. Default: 1813
snRadiusServerRowStatus brcdIp.1.1.3.12.2.1.4 Syntax: Integer	Read-write	Creates or deletes a RADIUS server table entry: • other(1) • valid(2) • delete(3) • create(4)
snRadiusServerRowKey brcdIp.1.1.3.12.2.1.5 Syntax: DisplayString	Read-write	Shows the authentication key, displayed as encrypted text. Valid values: Up to 64 characters
snRadiusServerUsage brcdIp.1.1.3.12.2.1.6 Syntax: Integer	Read-write	Allows this server to be dedicated for a particular AAA activity: • default(1) • authenticationOnly(2) • authorizationOnly(3) • accountingOnly(4)

TACACS Group

TACACS general MIBs

The Terminal Access Controller Access Control System (TACACS) or security protocols can be used to authenticate the following types of access to devices:

- Telnet access
- SSH access
- Access to management functions
- Web management access
- Access to the Privileged EXEC level and CONFIG level of the CLI

The TACACS and protocols define how authentication, authorization, and accounting (AAA) information is sent between a device and an authentication database on a TACACS server.

The following objects provide information on TACACS authentication and apply to all devices.

Name, OID, and syntax	Access	Description
snTacacsRetransmit brcdIp.1.1.3.13.1.1 Syntax: Integer	Read-write	Shows the number of authentication query retransmissions to the TACACS server. Valid values: 1 - 5 Default: 3
snTacacsTimeOut brcdIp.1.1.3.13.1.2 Syntax: Integer	Read-write	Specifies how many seconds to wait for an authentication reply from the TACACS server. Valid values: 0 - 15 Default: 3 seconds
snTacacsDeadTime brcdIp.1.1.3.13.1.3 Syntax: Integer	Read-write	Specifies the TACACS server dead time in minutes. Valid values: 0 - 5 Default: 3 minutes
snTacacsKey brcdIp.1.1.3.13.1.4 Syntax: DisplayString	Read-write	Authentication key displayed as encrypted text. Valid values: Up to 64 characters A write operation can only be done if the SET request uses SNMPv3 with data encrypted using a privacy key.
snTacacsSNMPAccess brcdIp.1.1.3.13.1.5 Syntax: Integer	Read-only	Indicates whether the TACACS group MIB objects can be accessed by an SNMP manager: • disabled(0) - All TACACS group MIB objects return "general error". • enabled(1) Default: disabled(0)

TACACS server table (IPv4)

The following objects provide information on the TACACS server. They apply to all IPv4 devices. Configure **enablesnmp config-tacacs** command along with other TACACS configurations to populate the objects of TACACS server table (IPv4).

Name, OID, and syntax	Access	Description
snTacacsServerTable brcdIp.1.1.3.13.2	None	TACACS server table.
snTacacsServerIp brcdIp.1.1.3.13.2.1.1 Syntax: IpAddress	Read-only	Shows the TACACS server IP address.
snTacacsServerAuthPort brcdIp.1.1.3.13.2.1.2 Syntax: Integer32	Read-write	Specifies the UDP port used for authentication. Default: 49
snTacacsServerRowStatus brcdIp.1.1.3.13.2.1.3 Syntax: Integer	Read-write	Creates or deletes a TACACS server table entry: • other(1) • valid(2) • delete(3) • create(4)
snTacacsServerRowKey brcdIp.1.1.3.13.2.1.4 Syntax: DisplayString	Read-write	Authentication key displayed as encrypted text. Valid values: Up to 64 characters
snTacacsServerUsage brcdIp.1.1.3.13.2.1.5 Syntax: Integer	Read-write	Allows this server to be dedicated to a particular AAA activity: • default(1) • authenticationOnly(2) • authorizationOnly(3) • accountingOnly(4)

DHCP Gateway List

DHCP gateway list table

The following objects provide information on Dynamic Host Configuration Protocol (DHCP) gateways.

Name, OID, and syntax	Access	Description
snDhcpGatewayListTable brcdIp.1.1.3.8.1	None	A table of DHCP gateway addresses.
snDhcpGatewayListId brcdIp.1.1.3.8.1.1.1 Syntax: Integer	Read-only	Shows the ID for a DHCP gateway. Valid values: 1 - 32
snDhcpGatewayListAddrList brcdIp.1.1.3.8.1.1.2 Syntax: Octet String	Read-write	Lists the DHCP gateway addresses in each DHCP gateway list. This list contains 1 to 8 IP addresses represented by octet strings. This object can have 4 to 32 octets.
snDhcpGatewayListRowStatus brcdIp.1.1.3.8.1.1.3 Syntax: Integer	Read-write	Controls the management of the table rows. The following values can be written: • delete(3) - Delete the row. • create(4) - Create a new row. • modify(5) - Modify an existing row. If the row exists, then a SET with a value of create(4) returns a "bad value" error. Deleted rows are removed from the table immediately. The following values can be returned on reads: • noSuch(0) - No such row. • invalid(1) - Row is inoperative. • valid(2) - Row exists and is valid.

DNS group (IPv4)

The Domain Name System (DNS) resolver feature allows you to use a host name to perform Telnet, ping, and traceroute. You can also define a DNS domain on a Layer 2 Switch or Layer 3 Switch and thereby recognize all hosts within that domain.

The following objects provide information on DNS. They apply to all IPv4 devices.

Name, OID, and syntax	Access	Description
snDnsDomainName brcdIp.1.1.3.9.1 Syntax: DisplayString	Read-write	Shows the DNS domain name. This object can have up to 80 characters.
snDnsGatewayIpAddrList brcdIp.1.1.3.9.2 Syntax: Octet String	Read-write	Shows the DNS gateway IP addresses. This list contains up to four IP addresses, represented by octet strings. This object has 16 octets.

MAC Filters

MAC filters

MAC layer filtering enables you to build access lists based on MAC layer headers in the Ethernet or IEEE 802.3 frame. You can filter on the source and destination MAC addresses as well as other information, such as the EtherType, LLC1 DSAP or SSAP numbers, and a SNAP EtherType. The filters apply to incoming traffic only.

NOTE
MAC filter MIB objects are not supported on the MLX Series, XMR Series, CES 2000 Series, and CER 2000 Seriesdevices.

MAC filter table

The objects in the following table provide information on MAC filters.

Name, OID, and syntax	Access	Description
snMacFilterTable brcdIp.1.1.3.10.1	None	The MAC filter table.
snMacFilterIndex brcdIp.1.1.3.10.1.1.1 Syntax: Integer32	Read-only	The table index for a filter entry.
snMacFilterAction brcdIp.1.1.3.10.1.1.2 Syntax: Integer	Read-write	Indicates what action is to be taken if the MAC packet matches this filter: • deny(0) • permit(1)
snMacFilterSourceMac brcdIp.1.1.3.10.1.1.3 Syntax: MAC address	Read-write	Shows the source MAC address.
snMacFilterSourceMask brcdIp.1.1.3.10.1.1.4 Syntax: MAC address	Read-write	Shows the source MAC subnet mask.
snMacFilterDestMac brcdIp.1.1.3.10.1.1.5 Syntax: MAC address	Read-write	Shows the destination MAC address.
snMacFilterDestMask brcdIp.1.1.3.10.1.1.6 Syntax: MAC address	Read-write	Shows the destination MAC subnet mask.
snMacFilterOperator brcdIp.1.1.3.10.1.1.7 Syntax: Integer	Read-write	Indicates the type of comparison to perform: • equal(0) • notEqual(1)

Name, OID, and syntax	Access	Description
		• less(2) • greater(3)
snMacFilterFrameType brcdIp.1.1.3.10.1.1.8 Syntax: Integer	Read-write	Indicates the frame type: • notUsed(0) • ethernet(1) • LLC(2) • snap(3)
snMacFilterFrameTypeNum brcdIp.1.1.3.10.1.1.9 Syntax: Integer	Read-write	Shows the frame type number. Valid values: 0 - 65535 0 means that this object is not applicable.
snMacFilterRowStatus brcdIp.1.1.3.10.1.1.10 Syntax: Integer	Read-write	Controls the management of the table rows. The following values can be written: • delete(3) - Delete the row. • create(4) - Create a new row. • modify(5) - Modify an existing row. If the row exists, then a SET with a value of create(4) returns a "bad value" error. Deleted rows are removed from the table immediately. The following values can be returned on reads: • noSuch(0) - No such row. • invalid(1) - Row is inoperative. • valid(2) - Row exists and is valid.

MAC filter port access table

The following table shows information about the MAC filter port access.

NOTE
The snMacFilterPortAccessTable is deprecated and it has been replaced by MAC filter ifaccess table on page 329.

Name, OID, and syntax	Access	Description
snMacFilterPortAccessTable brcdIp.1.1.3.10.2 **NOTE** This object is not supported on the MLX Series, MLX Series, XMR Series, CES 2000 Series, and CER 2000 Series devices.	None	MAC filter port access table.
snMacFilterPortAccessPortIndex brcdIp.1.1.3.10.2.1.1 Syntax: Integer	Read-only	The port index. For NetIron products, the port index value is from 1 through 42. For virtual router interfaces: • 15 - Slot number • 1 through 60 - Virtual router port, which is the port number.

Name, OID, and syntax	Access	Description
snMacFilterPortAccessFilters brcdIp.1.1.3.10.2.1.2 Syntax: Octet String	Read-write	Shows the filter numbers of the ports. The first octet corresponds to the first filter number, the second octet to the second filter number, and so on.
snMacFilterPortAccessRowStatus brcdIp.1.1.3.10.2.1.3 Syntax: Integer	Read-write	Controls the management of the table rows. The following values can be written: • delete(3) - Delete the row. • create(4) - Create a new row. • modify(5) - Modify an existing row. If the row exists, then a SET with a value of create(4) returns a "bad value" error. Deleted rows are removed from the table immediately. The following values can be returned on reads: • noSuch(0) - No such row. • invalid(1) - Row is inoperative. • valid(2) - Row exists and is valid.

MAC filter ifaccess table

Name, OID, and syntax	Access	Description
snMacFilterIfAccessTable brcdIp.1.1.3.10.3	None	MAC filter port access table.
snMacFilterIfAccessPortIndex brcdIp.1.1.3.10.3.1.1 Syntax: InterfaceIndex	Read-only	The port or interface index.
snMacFilterIfAccessFilters brcdIp.1.1.3.10.3.1.2 Syntax: Octet String	Read-write	Shows the filter numbers of the ports. The first octet corresponds to the first filter number, the second octet to the second filter number, and so on.
snMacFilterIfAccessRowStatus brcdIp.1.1.3.10.3.1.3 Syntax: Integer	Read-write	Controls the management of the table rows. The following values can be written: • delete(3) - Delete the row. • create(4) - Create a new row. If the row exists, then a SET with a value of create(4) returns a "bad value" error. Deleted rows are removed from the table immediately. The following values can be returned on reads: • noSuch(0) - No such row. • invalid(1) - Row is inoperative. • valid(2) - Row exists and is valid.

Port MAC Security

Port MAC security table

The following table shows the same information as the **show port security mac** command.

Name, OID, and syntax	Access	Description
snPortMacSecurityTable brcdIp.1.1.3.24.1.1.1	None	The port MAC security table.
snPortMacSecurityIfIndex brcdIp.1.1.3.24.1.1.1.1.1 Syntax: Unsigned32	Read-only	The ifIndex value (ID) of the Ethernet interface on which Port MAC security is enabled.
snPortMacSecurityResource brcdIp.1.1.3.24.1.1.1.1.2 Syntax: Integer	Read-only	Indicates how the MAC addresses on an interface are secured: • local(1) - Local resource was used. The interface secures at least one secure MAC address entry. Each interface can store up to 64 local resources. • shared(2) - Shared resource was used. When an interface has secured enough MAC addresses to reach its limit for local resources, it can secure additional MAC addresses by using global or shared resources.
snPortMacSecurityQueryIndex brcdIp.1.1.3.24.1.1.1.1.3 Syntax: Unsigned32	Read-only	An index for a MAC address entry that was secured for this interface.
snPortMacSecurityMAC brcdIp.1.1.3.24.1.1.1.1.4 Syntax: Integer	Read-only	The secured MAC address.
snPortMacSecurityAgeLeft brcdIp.1.1.3.24.1.1.1.1.5 Syntax: Unsigned32	Read-only	The number of minutes the MAC address will remain secure. A value of 0 indicates no aging is in effect.
snPortMacSecurityShutdownStatus brcdIp.1.1.3.24.1.1.1.1.6 Syntax: Integer	Read-only	Indicates if the interface has been shut down due to a security violation: • up(1) - The port is up. • down(2) - The port has been shut down.

Name, OID, and syntax	Access	Description
snPortMacSecurityShutdownTimeLeft brcdIp.1.1.3.24.1.1.1.1.7 Syntax: Unsigned32	Read-only	If the value of Port MAC security table is down(2), this object shows the number of seconds before it is enabled again. If the value is up(1), this object shows 0.
snPortMacSecurityVlanId brcdIp.1.1.3.24.1.1.1.1.8 Syntax: Unsigned32	Read-only	Shows the VLAN membership of this interface. This object shows a value from 1 through 65535.

Port MAC security module statistics table

The following table shows the same information as the **show port security statistics** *module* command.

Name, OID, and syntax	Access	Description
snPortMacSecurityModuleStatTable brcdIp.1.1.3.24.1.1.2	None	The port MAC security module statistics table that shows the port MAC security statistics for each module.
snPortMacSecurityModuleStatSlotNum brcdIp.1.1.3.24.1.1.2.1.1 Syntax: Integer	Read-only	The slot number of the port MAC security module.
snPortMacSecurityModuleStatTotalSecurityPorts brcdIp.1.1.3.24.1.1.2.1.2 Syntax: Unsigned32	Read-only	The total number of Ethernet interfaces on which MAC security is configured in this module.
snPortMacSecurityModuleStatTotalMACs brcdIp.1.1.3.24.1.1.2.1.3 Syntax: Unsigned32	Read-only	The total number of secure MAC addresses learned or configured in this module.
snPortMacSecurityModuleStatViolationCounts brcdIp.1.1.3.24.1.1.2.1.4 Syntax: Unsigned32	Read-only	The number of security violations that occurred in this module.
snPortMacSecurityModuleStatTotalShutdownPorts brcdIp.1.1.3.24.1.1.2.1.5 Syntax: Unsigned32	Read-only	The number of Ethernet interfaces in this module that were shut down due to security violations.

Port MAC security interface table

The following table shows the same information as the **show port security ethernet** *slot/port* command.

Name, OID, and syntax	Access	Description
snPortMacSecurityIntfContentTable brcdIp.1.1.3.24.1.1.3	None	The port MAC security interface table that shows the port MAC security statistics for an Ethernet interface.
snPortMacSecurityIntfContentIfIndex brcdIp.1.1.3.24.1.1.3.1.1 Syntax: InterfaceIndex	None	Shows the ifIndex value of the local interface.

Name, OID, and syntax	Access	Description
snPortMacSecurityIntfContentSecurity brcdIp.1.1.3.24.1.1.3.1.2 Syntax: Integer	Read- write	Indicates whether MAC port security is enabled or disabled on this interface: • disabled(0) • enabled(1)
snPortMacSecurityIntfContentViolationType brcdIp.1.1.3.24.1.1.3.1.3 Syntax: Integer	Read-write	The port security violation type for this interface: • shutdown(0) • restricted(1)
snPortMacSecurityIntfContentShutdownTime brcdIp.1.1.3.24.1.1.3.1.4 Syntax: Unsigned32	Read-write	If snPortMacSecurityIntfContentViolationType is 0 (shutdown), this value indicates the number of seconds the interface shuts down when the violation occurs. If snPortMacSecurityIntfContentViolationType is 1 (restrict), this value will always be 0.
snPortMacSecurityIntfContentShutdownTimeLeft brcdIp.1.1.3.24.1.1.3.1.5 Syntax: Unsigned32	Read-only	If snPortMacSecurityIntfContentViolationType is 0 (shutdown), this value indicates the number of seconds before this interface will be re-enabled. If snPortMacSecurityIntfContentViolationType is 1 (restrict), this value will always be 0.
snPortMacSecurityIntfContentAgeOutTime brcdIp.1.1.3.24.1.1.3.1.6 Syntax: Unsigned32	Read-write	The amount of time, in minutes, the MAC addresses learned on this interface will remain secure. A value of 0 indicates no aging is in effect.
snPortMacSecurityIntfContentMaxLockedMacAllowed brcdIp.1.1.3.24.1.1.3.1.7 Syntax: Unsigned32	Read-write	The maximum number of secure MAC addresses that can be locked to this interface.
snPortMacSecurityIntfContentTotalMACs brcdIp.1.1.3.24.1.1.3.1.8 Syntax: Unsigned32	Read-only	The total number of secure MAC addresses that are locked to this interface.
snPortMacSecurityIntfContentViolationCounts brcdIp.1.1.3.24.1.1.3.1.9 Syntax: Unsigned32	Read-only	The total number of security violations that occurred on this interface.

Port MAC security interface MAC table

The following table shows the same information as the **show port security mac ethernet** *slot/port* command.

Name, OID, and syntax	Access	Description
snPortMacSecurityIntfMacTable brcdIp.1.1.3.24.1.1.4	None	The port MAC security interface MAC table that shows the port MAC security status for each Ethernet interface.
snPortMacSecurityIntfMacIfIndex brcdIp.1.1.3.24.1.1.4.1.1 Syntax: Integer	Read-only	Shows the ifIndex value of the local interface.
snPortMacSecurityIntfMacAddress brcdIp.1.1.3.24.1.1.4.1.2 Syntax: MAC Address	Read-only	The secure MAC addresses for this local Ethernet interface on which the secure MAC address is configured and learned. The maximum number of the secure MAC

Name, OID, and syntax	Access	Description
		addresses is restricted by the object snPortMacSecurityIntfContentMaxLockedMacAllowed.
snPortMacSecurityIntfMacVlanId brcdIp.1.1.3.24.1.1.4.1.3 Syntax: Unsigned32	Read-write	The VLAN membership of this interface. A value of zero indicates it is not applicable.
snPortMacSecurityIntfMacRowStatus brcdIp.1.1.3.24.1.1.4.1.4 Syntax: Integer	Read-write	Controls the management of the table rows. The following values can be written: • delete(3) - Delete the row. • create(4) - Create a new row. If the row exists, then a SET with a value of create(4) returns a "bad value" error. Deleted rows are removed from the table immediately. The following values can be returned on reads: • noSuch(0) - No such row. • invalid(1) - Row is inoperative. • valid(2) - Row exists and is valid.

Port MAC security autosave MAC table

The following table shows the same information as the **show port security autosave** command.

Name, OID, and syntax	Access	Description
snPortMacSecurityAutosaveMacTable brcdIp.1.1.3.24.1.1.5	None	The port MAC security autosave MAC table that shows the secure MAC addresses that were saved automatically.
snPortMacSecurityAutosaveMacIfIndex brcdIp.1.1.3.24.1.1.5.1.1 Syntax: Integer32	Read-only	Shows the ifIndex value of the local interface.
snPortMacSecurityAutosaveMacResource brcdIp.1.1.3.24.1.1.5.1.2 Syntax: Integer32	Read-only	Indicates the resource used to autosave secure MAC addresses: • 1 - Local • 2 - Shared
snPortMacSecurityAutosaveMacQueryIndex brcdIp.1.1.3.24.1.1.5.1.3 Syntax: Unsigned32	Read-only	The index entry within the given resource of the local interface on which MAC port security is autosaved.
snPortMacSecurityAutosaveMacAddress brcdIp.1.1.3.24.1.1.5.1.4 Syntax: MAC Address	Read-only	The secure MAC addresses for this local Ethernet interface on which the secure MAC address is autosaved.

Port MAC security global MIB group

The following table shows the global MIBs for MAC port security.

Name, OID, and syntax	Access	Description
snPortMacGlobalSecurityFeature brcdIp.1.1.3.24.1.2.1 Syntax: Integer	Read-write	Indicates whether port security for this device is disabled or enabled: • 0 - Disabled • 1 - Enabled
snPortMacGlobalSecurityAgeOutTime brcdIp.1.1.3.24.1.2.2 Syntax: Unsigned32	Read-write	The amount of time, in minutes, the MAC addresses learned on this device will remain secure. A value of 0 indicates no aging is in effect.
snPortMacGlobalSecurityAutosave brcdIp.1.1.3.24.1.2.3 Syntax: Unsigned32	Read-write	The port security autosave value for this device.

Port monitor table

The following table shows the status of port monitoring on an interface.

Name, OID, and syntax	Access	Description
snPortMonitorTable brcdIp.1.1.3.25.1	None	The port monitor table.
snPortMonitorIfIndex brcdIp.1.1.3.25.1.1.1	None	Shows the ifIndex value of the local interface.
snPortMonitorMirrorList brcdIp.1.1.3.25.1.1.2 Syntax: DisplayString	Read-write	Lists the monitoring status of each port. The values in this object are space delimited. They consist of a sequence of a port's ifIndex followed by the port's monitoring mode. Port monitoring mode can be one of the following: • 0 - Monitoring is off. • 1 - The port will monitor input traffic. • 2 - The port will monitor output traffic. • 3 - The port will monitor both input and output traffic. For example, you may see the following values: 65 2 66 1 "65" may represent port 2/1 and "66" port 2/2. The entry means that port 2/1 is monitoring output traffic. Port 2/2 is monitoring input traffic.

MAC Authentication MIB Definition

Multi-device port authentication

Multi-device port authentication is also known as MAC authentication. The following tables describe the multi-device port authentication MIB objects.

The following global objects are available for multi-device port authentication.

Name, OID, and syntax	Access	Description
snMacAuthClearGlobalCmd brcdIp.1.1.3.28.1.1 Syntax: Integer	Read-write	Clears MAC authentication on a global level: • valid(0) - An SNMP-GET of this MIB shows that it is a valid command. • clear(1) - Represents a clear MAC authentication table for all ports.
snMacAuthGlobalConfigState brcdIp.1.1.3.28.1.2 Syntax: Integer	Read-write	Enables or disables MAC authentication on a global level.

MAC clear interface multi-device port authentication objects

The following clear interface objects are available for multi-device port authentication.

Name, OID, and syntax	Access	Description
snMacAuthClearIFCmdTable brcdIp.1.1.3.28.2	None	The status of clearing a MAC authentication entry for an interface.
snMacAuthClearIfCmdIndex brcdIp.1.1.3.28.2.1.1 Syntax: InterfaceIndex	None	The ifIndex value of the local interface on which a clear command is issued and monitored.
snMacAuthClearIfCmdAction brcdIp.1.1.3.28.2.1.2 Syntax: InterfaceIndex	Read-write	The action value of the local interface: • valid(0) - An SNMP-GET of this command shows that it is valid. • clear(1) - Represents clearing a MAC authentication entry for an interface.

Multi-device port authentication objects

The following objects are available for multi-device port authentication.

Name, OID, and syntax	Access	Description
snMacAuthTable brcdIp.1.1.3.28.3	None	Displays the MAC authentication table.
snMacAuthIfIndex brcdIp.1.1.3.28.3.1.1 Syntax: InterfaceIndex	None	In order to identify a particular interface, this object identifies the instance of the ifIndex object, defined in RFC 2863.
snMacAuthVlanId brcdIp.1.1.3.28.3.1.2 Syntax: Integer	None	The ID of a VLAN of which the port is a member. The port must be untagged. For a tagged port that belongs to multiple VLANs, this object returns 0, which is an invalid VLAN ID value.
snMacAuthMac brcdIp.1.1.3.28.3.1.3 Syntax: MacAddress	None	MAC address to be authenticated.
snMacAuthState brcdIp.1.1.3.28.3.1.4 Syntax: Integer	Read-only	The state of MAC authentication.
snMacAuthTimeStamp brcdIp.1.1.3.28.3.1.5 Syntax:Object-Type	Read-only	Time stamp at which the MAC address was authenticated or failed to be authenticated.
snMacAuthAge brcdIp.1.1.3.28.3.1.6 Syntax: Integer	Read-only	Age of the MAC session in which the MAC address is authenticated.
snMacAuthDot1x brcdIp.1.1.3.28.3.1.7 Syntax: Integer	Read-only	Indicates whether dot1x is enabled or not.

Multi-device port authentication clear sessions

The following clear sessions objects are available for multi-device port authentication.

Name, OID, and syntax	Access	Description
snMacAuthClearMacSessionTable brcdIp.1.1.3.28.4	None	The status of clearing a MAC session entry indexed by a MAC address.
snMacAuthClearMacSessionEntry brcdIp.1.1.3.28.4.1	None	An entry of clearing a MAC session entry indexed by a MAC address.
snMacAuthClearMacSessionIfIndex brcdIp.1.1.3.28.4.1.1 Syntax: InterfaceIndex	None	The ifIndex value of the local interface on which a clear command is issued and monitored.
snMacAuthClearMacSessionMac brcdIp.1.1.3.28.4.1.2 Syntax: MacAddress	None	A MAC session entry indexed by a MAC address.
snMacAuthClearMacSessionAction brcdIp.1.1.3.28.4.1.3 Syntax: Integer	Read-write	The action value of the clear MAC session: • valid(0) - An SNMP-GET of this MIB shows that it is a valid command. • clear(1) - Represents clearing a MAC session entry indexed by a MAC address.

MAC VLAN MIB Definition

MAC-based VLAN global scalar objects

The following global scalar objects are available for MAC-based VLAN.

Name, OID, and syntax	Access	Description
fdryMacVlanGlobalClearOper brcdIp.1.1.3.32.1.1 Syntax: Integer	Read-write	The action value of the clear MAC session: • valid(0) - This value is always returned when the variable is read. • clear(1) - Setting the variable to this value clears the operational MAC-based VLAN information for all ports.
fdryMacVlanGlobalDynConfigState brcdIp.1.1.3.32.1.2 Syntax: Integer	Read-write	Enables or disables MAC-based VLAN dynamic activation on the global level.

MAC-based VLAN port table objects

The following objects are available for MAC-based VLAN port.

Name, OID, and syntax	Access	Description
fdryMacVlanPortMemberTable brcdIp.1.1.3.32.2.1	None	MAC-based VLAN port membership table.
fdryMacVlanPortMemberVLanId brcdIp.1.1.3.32.2.1.1.1 Syntax: InterfaceIndex	None	The VLAN identifier.
fdryMacVlanPortMemberPortId brcdIp.1.1.3.32.2.1.1.2 Syntax: Integer	None	The ifIndex of the port which is a member of the MAC-based VLAN.
fdryMacVlanPortMemberRowStatus brcdIp.1.1.3.32.2.1.1.3 Syntax: RowStatus	Read-write	This object is used to create and delete rows in the table.

MAC-based VLAN interface table objects

The following objects are available for MAC-based VLAN interface.

Name, OID, and syntax	Access	Description
fdryMacVlanIfTable brcdIp.1.1.3.32.2.2	None	MAC-based VLAN interface table.
fdryMacVlanIfIndex brcdIp.1.1.3.32.2.2.1.1 Syntax: InterfaceIndex	None	The ifIndex of the interface which is a member of the MAC-based VLAN.
fdryMacVlanIfEnable brcdIp.1.1.3.32.2.2.1.2 Syntax: Integer	Read-write	The administrative status requested by management for MAC-based VLANs on this interface. The enabled(1) value indicates that MAC-based VLANs should be enabled on this interface. The disabled(2) value indicates that MAC-based VLANs are disabled on this interface.
fdryMacVlanIfMaxEntry brcdIp.1.1.3.32.2.2.1.3 Syntax: Integer32	Read-write	The maximum number of allowed and denied MAC addresses (static and dynamic) that can be learned on this interface. The value can be from 2 through 32. The default value is 2.
fdryMacVlanIfClearOper brcdIp.1.1.3.32.2.2.1.4 Syntax: Integer	Read-write	• valid(0) - This value is always returned when the variable is read. • clear(1) - Setting the variable to this value clears the operational MAC-based VLAN information for a port.
fdryMacVlanIfClearConfig brcdIp.1.1.3.32.2.2.1.5 Syntax: Integer	Read-write	• valid(0) - This value is always returned when the variable is read. • clear(1) - Setting the variable to this value clears the configured MAC-based VLAN information for a port.

MAC-based VLAN table objects

The following objects are available for MAC-based VLAN.

Name, OID, and syntax	Access	Description
fdryMacBasedVlanTable brcdIp.1.1.3.32.2.3	None	MAC-based VLAN table.
fdryMacBasedVlanId brcdIp.1.1.3.32.2.3.1.1 Syntax: Integer	None	The VLAN ID for this entry.
fdryMacBasedVlanMac brcdIp.1.1.3.32.2.3.1.2 Syntax: MAC address	None	A host source MAC address to be authenticated.
fdryMacBasedVlanPriority brcdIp.1.1.3.32.2.3.1.3 Syntax: Integer32	Read-write	The priority of the source MAC address.
fdryMacBasedVlanRowStatus brcdIp.1.1.3.32.2.3.1.4 Syntax: RowStatus	Read-write	This object is used to create and delete rows in the table.

DHCP Snooping MIB Definition

DHCP Snooping global scalar object

One scalar object can clear all entries in the DHCP binding database.

Name, OID, and syntax	Access	Description
fdryDhcpSnoopGlobalClearOper brcdIp.1.1.3.36.1.1. Syntax: ClearAction	Read-write	Determines if all entries in the DHCP database are cleared: • valid(0) - This value is always returned when the variable is read. • clear(1) - Clears all entries in the DHCP binding database.

DHCP Snooping VLAN configuration table

The following table controls DHCP snooping per-VLAN configuration.

Name, OID, and syntax	Access	Description
fdryDhcpSnoopVlanConfigTable brcdIp.1.1.3.36.2.1	None	A table controls DHCP Snooping per VLAN. When a VLAN is created in a device supporting this table, a corresponding entry of this table is added.
fdryDhcpSnoopVlanVLanId brcdIp.1.1.3.36.2.1.1.1 Syntax: VlanIndex	None	This object indicates the VLAN number on which DHCP Snooping is configured.
fdryDhcpSnoopVlanDhcpSnoopEnable brcdIp.1.1.3.36.2.1.1.2 Syntax: TruthValue	Read-write	This object indicates whether DHCP Snooping is enabled in this VLAN. If set to "true", DHCP snooping is enabled. If set to "false" it is disabled.

DHCP Snooping interface configuration table

The following objects is used to configure interface level DHCP Snooping.

Name, OID, and syntax	Access	Description
fdryDhcpSnoopIfConfigTable brcdIp.1.1.3.36.3.1	None	This table allows you to configure the trust state for DHCP Snooping at each physical interface.
fdryDhcpSnoopIfTrustValue brcdIp.1.1.3.36.3.1.1.1 Syntax: TruthValue	Read-write	DHCP packets received on this interface will be subjected to DHCP checks. This object indicates whether the interface is trusted for DHCP

Name, OID, and syntax	Access	Description
		Snooping. If this object is set to “true”, the interface is trusted. DHCP packets coming to this interface will be forwarded without checking. If this object is set to “false”, the interface is not trusted.

DHCP Snooping binding database table

The following table displays DHCP Snooping entries.

Name, OID, and syntax	Access	Description
fdryDhcpSnoopBindTable brcdIp.1.1.3.36.4.1	None	This table provides the information about the DHCP Snooping binding database learned by the device.
fdryDhcpSnoopBindIpAddr brcdIp.1.1.3.36.4.1.1.1 Syntax: IpAddress	None	The device IP address.
fdryDhcpSnoopBindMacAddr brcdIp.1.1.3.36.4.1.1.2 Syntax: MacAddress	Read-only	The device MAC address.
fdryDhcpSnoopBindType brcdIp.1.1.3.36.4.1.1.3 Syntax: ArpType	Read-only	The type of the ARP entry: • other(1) • static(2) • dynamic(3) • inspect(4) • dhcp(5) • dynamicDhcp(6) • staticDhcp(7) • host(8)
fdryDhcpSnoopBindState brcdIp.1.1.3.36.4.1.1.4 Syntax: ArpState	Read-only	The state of the ARP entry: • other(1) • valid(2) • pending(3)
fdryDhcpSnoopBindPort brcdIp.1.1.3.36.4.1.1.5 Syntax: DisplayString	Read-only	The port of the ARP entry.
fdryDhcpSnoopBindVlanId brcdIp.1.1.3.36.4.1.1.6 Syntax: VlanIndex	Read-only	This object indicates the VLAN number on which DHCP Snooping is configured.
fdryDhcpSnoopBindClearOper brcdIp.1.1.3.36.4.1.1.7 Syntax: ClearAction	Read-write	This object allows you to clear the entry from the DHCP binding database: • valid(0) - Always returned when the variable is read. • clear(1) - Clears this entry in the DHCP binding database.

IP Source Guard MIB Definition

IP source guard interface configuration table

The following objects are used to configure IP source guard on each interface.

Name, OID, and syntax	Access	Description
fdryIpSrcGuardIfConfigTable brcdIp.1.1.3.37.1.1	None	This table enables or disables IP source guard on each physical interface.
fdryIpSrcGuardIfEnable brcdIp.1.1.3.37.1.1.1.1 Syntax: TruthValue	Read-write	This object indicates whether IP source guard is enabled on this interface. If this object is set to "true", IP source guard is enabled. Traffic coming to this interface will be forwarding the traffic from the list of IP addresses obtained from DHCP Snooping. Otherwise, it is denied. If this object is set to "false", IP source guard is disabled.

IP source guard per port per VLAN configuration table

The following objects are used to configure IP source guard on per port per VLAN.

Name, OID, and syntax	Access	Description
fdryIpSrcGuardPortVlanConfigTable brcdIp.1.1.3.37.2.1	None	This table enables or disables IP source guard per port per VLAN.
fdryIpSrcGuardPortVlanPortId brcdIp.1.1.3.37.2.1.1.1 Syntax: InterfaceIndex	None	The ifIndex of the port for IP source guard per port per VLAN.
fdryIpSrcGuardPortVlanVlanId brcdIp.1.1.3.37.2.1.1.2 Syntax: VlanIndex	None	The number of VLANs for IP source guard per port per VLAN.
fdryIpSrcGuardPortVlanEnable brcdIp.1.1.3.37.2.1.1.3 Syntax: TruthValue	Read-write	This object indicates whether IP source guard is enabled at this interface and this VLAN number. If this object is set to "true", IP source guard per port per VLAN is enabled. If this object is set to "false", IP source guard per port per VLAN is disabled.

IP source guard binding table

The following table is used to configure IP source entries.

Name, OID, and syntax	Access	Description
fdryIpSrcGuardBindTable brcdIp.1.1.3.37.3.1	None	This table provides the IP addresses used for IP source guard on each physical interface with or without specific VLAN memberships.
fdryIpSrcGuardBindIpAddr brcdIp.1.1.3.37.3.1.1.1 Syntax: IpAddress	None	The IP address of the device.
fdryIpSrcGuardBindVlanId brcdIp.1.1.3.37.3.1.1.2 Syntax: VlanIndex	Read-create	This object indicates the specific VLAN memberships on this interface. The VLAN number is optional. If you configure a VLAN number, the binding applies only to that VLAN. If you do not configure a VLAN number, the static applies to all VLANs associated with the port. In this case, the VLAN number will be displayed as “0”.
fdryIpSrcGuardBindRowStatus brcdIp.1.1.3.37.3.1.1.3 Syntax: RowStatus	Read-create	This variable is used to create or delete a row in this table. When a row in this table is in active(1) state, no objects in that row can be modified except this object.
fdryIpSrcGuardBindMode brcdIp.1.1.3.37.3.1.1.4 Syntax: BindMode	Read-only	The mode of the IP source guard entry: • other(1) • active(2) • inactive(3)
fdryIpSrcGuardBindType brcdIp.1.1.3.37.3.1.1.5 Syntax: BindType	Read-only	The type of the IP source guard entry: • other(1) • ip(2)

DAI MIB Definition

DAI VLAN configuration table

The following objects are used to configure Dynamic ARP Inspection (DAI) VLAN.

Name, OID, and syntax	Access	Description
fdryDaiVlanConfigTable brcdIp.1.1.3.35.1.1	None	This table provides the mechanism to control DAI per VLAN.
fdryDaiVlanVLanId brcdIp.1.1.3.35.1.1.1.1 Syntax: VlanIndex	None	This object indicates the VLAN number on which DAI is configured.
fdryDaiVlanDynArpInspEnable brcdIp.1.1.3.35.1.1.1.2 Syntax: TruthValue	Read-write	This object indicates whether DAI is enabled in this VLAN. If this object is set to “true”, DAI is enabled. If this object is set to “false”, DAI is disabled.

DAI interface configuration table

The following objects are used to configure DAI on each interface.

Name, OID, and syntax	Access	Description
fdryDaiIfConfigTable brcdIp.1.1.3.35.2.1	None	This table allows you to configure the trust state for DAI purposes on each physical interface.
fdryDaiIfTrustValue brcdIp.1.1.3.35.2.1.1.1 Syntax: TruthValue	Read-write	This object indicates whether the interface is trusted for DAI. If this object is set to “true”, the interface is trusted. ARP packets coming to this interface will be forwarded without being checked. If this object is set to “false”, the interface is not trusted. ARP packets received on this interface will be subjected to ARP inspection.

DAI entry table

The following table is used to display the DAI entries.

Name, OID, and syntax	Access	Description
fdryDaiArpInspectTable brcd.Ip.1.1.3.35.3.1	None	This table controls DAI entries. When an IP address to MAC address mapping entry is created on a device supporting this table, a corresponding entry of this table will be added.

Name, OID, and syntax	Access	Description
fdryDaiArpInspectIpAddr brcd.lp.1.1.3.35.3.1.1.1 Syntax: IpAddress	None	The IP address of the device.
fdryDaiArpInspectMacAddr brcd.lp.1.1.3.35.3.1.1.2 Syntax: MacAddress	Read-create	The MAC address of the device.
fdryDaiArpInspectRowStatus brcd.lp.1.1.3.35.3.1.1.3 Syntax: RowStatus	Read-create	This variable is used to create or delete a row in this table. When a row in this table is in active(1) state, no objects in that row can be modified except this object.
fdryDaiArpInspectType brcd.lp.1.1.3.35.3.1.1.4 Syntax: ArpType	Read-only	The type of the ARP entry: • other(1) • static(2) • dynamic(3) • inspect(4) • dhcp(5) • dynamicDhcp(6) • staticDhcp(7) • host(8)
fdryDaiArpInspectState brcd.lp.1.1.3.35.3.1.1.5 Syntax: ArpState	Read-only	The state of the ARP entry: • other(1) • valid(2) • pending(3)
fdryDaiArpInspectAge brcd.lp.1.1.3.35.3.1.1.6 Syntax: Unsigned32	Read-only	The timer of the ARP entry.
fdryDaiArpInspectPort brcd.lp.1.1.3.35.3.1.1.7 Syntax: DisplayString	Read-only	The port of the ARP entry.

Traffic Manager MIB Definition

Traffic Manager statistics information group

NOTE

This chapter describes the objects for the Traffic Manager statistics supported on the MLX Series, MLX Series, and XMR Series devices.

Use the **clear tm statistics** CLI command to clear both the CLI and SNMP statistics counters for the Traffic Manager. Use the **clear tm-voq-stats** command to clear the VOQ statistics. The **snmp-server preserve-statistics** CLI command does not preserve the Traffic Manager statistics.

This table contains information about the Traffic Manager statistics information group on the NI-MLX-1Gx48-T, NI-MLX-1Gx24, NI-MLX-10Gx8, BR-MLX-100Gx2, BR-MLX-40Gx4-M 4-port 40GbE module, BR-MLX-10Gx20 20-port 1/10GbE module, BR-MLX-100Gx2-CFP2 2-port 100GbE module, BR-MLX-10Gx4-M-IPSEC 4-port 10GbE module, and all the POS modules.

The **show tm port-mapping** command displays information about the Traffic Manager statistics information group.

Name, OID, and syntax	Access	Description
brcdTMPortMappingMaxPorts brcdIp.1.14.2.2.1.1 Syntax: Unsigned32	Read-only	Shows the maximum number of ports that are supported by the Traffic Manager on the system.
brcdTMPortMappingUsedPorts brcdIp.1.14.2.2.1.2 Syntax: Unsigned32	Read-only	Shows the currently used ports for this system
brcdTMPortMappingAvailablePorts brcdIp.1.14.2.2.1.3 Syntax: Unsigned32	Read-only	Shows the available ports on the system.

Traffic Manager statistics table

The following table contains the Traffic Manager-related statistics. Use the **show tm statistics** CLI command to display information about the Traffic Manager-related statistics.

This table contains information for the Traffic Manager statistics on all the POS and the Ethernet 10/100/1000M/10G/40G/100G cards.

Name, OID, and syntax	Access	Description
brcdTMStatsTable brcdIp.1.14.2.1.2.2	None	The Traffic Manager statistics table.
brcdTMStatsSlotId brcdIp.1.14.2.1.2.2.1.1 Syntax: Unsigned32	None	Shows the slot ID of the LP module that uniquely identifies a line card. The LP module must be physically present and operationally up.
brcdTMStatsTMDeviceId brcdIp.1.14.2.1.2.2.1.2 Syntax: Unsigned32	None	Shows the Traffic Manager device ID that uniquely identifies the Network Processor Traffic Manager within a line card in the system.
brcdTMStatsDescription brcdIp.1.14.2.1.2.2.1.3 Syntax: DisplayString	Read-only	Shows the range of ports serviced by brcdTMStatsTMDeviceId.
brcdTMStatsTotalIngressPktsCnt brcdIp.1.14.2.1.2.2.1.4 Syntax: Counter64	Read-only	Shows the count of all packets entering into the Traffic Manager.
brcdTMStatsIngressEnqueuePkts brcdIp.1.14.2.1.2.2.1.5 Syntax: Counter64	Read-only	Shows the count of all packets entering ingress queues on the Traffic Manager.
brcdTMStatsEgressEnqueuePkts brcdIp.1.14.2.1.2.2.1.6 Syntax: Counter64	Read-only	Shows the count of all packets entering egress queues and forwarded out of the Traffic Manager.
brcdTMStatsIngressEnqueueBytes brcdIp.1.14.2.1.2.2.1.7 Syntax: Counter64	Read-only	Shows the count of all bytes entering ingress queues on the Traffic Manager. **NOTE** This object is not supported on the NI-MLX-10Gx8-D 8-port 10GbE (D) module, NI-MLX-10Gx8-M 8-port 10GbE (M) module, NI-MLX-10Gx8-X 8-port 10GbE (X) module, BR-MLX-10Gx24-DM 24-port-10GbE module, BR-MLX-40Gx4-M 4-port 40GbE module, BR-MLX-10Gx20 20-port 1/10GbE module, BR-MLX-100Gx2-CFP2 2-port 100GbE module, and BR-MLX-10Gx4-M-IPSEC 4-port 10GbE module. Zero is returned for these cards.
brcdTMStatsEgressEnqueueBytes brcdIp.1.14.2.1.2.2.1.8 Syntax: Counter64	Read-only	Shows the count of all bytes entering egress queues and forwarded out of the Traffic Manager.

Name, OID, and syntax	Access	Description
		NOTE This object is not supported on the NI-MLX-10Gx8-D 8-port 10GbE module, NI-MLX-10Gx8-M 8-port 10GbE (M) module, NI-MLX-10Gx8-X 8-port 10GbE (X) module, BR-MLX-10Gx24-DM 24-port-10GbE module, BR-MLX-40Gx4-M 4-port 40GbE module, BR-MLX-10Gx20 20-port 1/10GbE module, BR-MLX-100Gx2-CFP2 2-port 100GbE module, and BR-MLX-10Gx4-M-IPSEC 4-port 10GbE module. Zero is returned for these cards.
brcdTMStatsIngressDequeuePkts brcdIp.1.14.2.1.2.2.1.9 Syntax: Counter64	Read-only	Shows the count of all packets dequeued from ingress queues and forwarded to the Traffic Manager.
brcdTMStatsIngressDequeueBytes brcdIp.1.14.2.1.2.2.1.10 Syntax: Counter64	Read-only	Shows the count of all bytes dequeued from ingress queues and forwarded to the Traffic Manager. NOTE This object is not supported on the NI-MLX-10Gx8-D 8-port 10GbE (D) module, NI-MLX-10Gx8-M 8-port 10GbE (M) module, NI-MLX-10Gx8-X 8-port 10GbE (X) module, BR-MLX-10Gx24-DM 24-port-10GbE module, BR-MLX-40Gx4-M 4-port 40GbE module, BR-MLX-10Gx20 20-port 1/10GbE module, BR-MLX-100Gx2-CFP2 2-port 100GbE module, and BR-MLX-10Gx4-M-IPSEC 4-port 10GbE module. Zero is returned for these cards.
brcdTMStatsIngressTotalQDiscardPkts brcdIp.1.14.2.1.2.2.1.11 Syntax: Counter64	Read-only	SbrcdTMStatsIngressTotalQDiscardByteshows the count of all packets failing to enter ingress queues on the Traffic Manager. This may be due to the following reasons: • The queue reaches its maximum depth, WRED, or other reasons. • The Network Processor drops the packets due to an unknown Layer 3 route, RPF, or segment filtering.
brcdTMStatsIngressTotalQDiscardBytes brcdIp.1.14.2.1.2.2.1.12 Syntax: Counter64	Read-only	Shows the count of all bytes failing to enter ingress queues on the Traffic Manager. This may be due to the following reasons: • The queue reaches its maximum depth, WRED, or other reasons.

Name, OID, and syntax	Access	Description
		• The Network Processor drops the packets due to an unknown Layer 3 route, RPF, or segment filtering. NOTE This object is not supported on the NI-MLX-10Gx8-D 8-port 10GbE (X) module, NI-MLX-10Gx8-D 8-port 10GbE(D) module, NI-MLX-10Gx8-M 8-port 10GbE (M) module, BR-MLX-10Gx24-DM 24-port-10GbE module, BR-MLX-40Gx4-M 4-port 40GbE module, BR-MLX-10Gx20 20-port 1/10GbE module, BR-MLX-100Gx2-CFP2 2-port 100GbE module, and BR-MLX-10Gx4-M-IPSEC 4-port 10GbE module. Zero is returned for these cards.
brcdTMStatsIngressOldestDiscardPkts brcdIp.1.14.2.1.2.2.1.13 Syntax: Counter64	Read-only	Shows the count of all packets entering ingress queues on the Traffic Manager, but deleted later due to the buffer being full.
brcdTMStatsIngressOldestDiscardBytes brcdIp.1.14.2.1.2.2.1.14 Syntax: Counter64	Read-only	Shows the count of all bytes entering ingress queues on the Traffic Manager, but deleted later due to the buffer being full. NOTE This object is not supported on the NI-MLX-10Gx8-D 8-port 10GbE (D) module, NI-MLX-10Gx8-M 8-port 10GbE (M) module, NI-MLX-10Gx8-X 8-port 10GbE (X) module, BR-MLX-10Gx24-DM 24-port-10GbE module, BR-MLX-40Gx4-M 4-port 40GbE module, BR-MLX-10Gx20 20-port 1/10GbE module, BR-MLX-100Gx2-CFP2 2-port 100GbE module, and BR-MLX-10Gx4-M-IPSEC 4-port 10GbE module. Zero is returned for these cards.
brcdTMStatsEgressDiscardPkts brcdIp.1.14.2.1.2.2.1.15 Syntax: Counter64	Read-only	Shows the count of all packets failing to enter egress queues on the Traffic Manager.
brcdTMStatsEgressDiscardBytes brcdIp.1.14.2.1.2.2.1.16 Syntax: Counter64	Read-only	Shows the count of all bytes failing to enter egress queues on the Traffic Manager.

Name, OID, and syntax	Access	Description
		NOTE This object is not supported on the NI-MLX-10Gx8-D 8-port 10GbE (D) module, NI-MLX-10Gx8-M 8-port 10GbE (M) module, NI-MLX-10Gx8-X 8-port 10GbE (X) module, BR-MLX-10Gx24-DM 24-port-10GbE module, BR-MLX-40Gx4-M 4-port 40GbE module, BR-MLX-10Gx20 20-port 1/10GbE module, BR-MLX-100Gx2-CFP2 2-port 100GbE module, and BR-MLX-10Gx4-M-IPSEC 4-port 10GbE module. Zero is returned for these cards.
brcdTMStatsEgressReassemDiscardPkts brcdIp.1.14.2.1.2.2.1.17 Syntax: Counter64	Read-only	A count of all packets failing to be reassembled at Egress TM due to missing packet fragments (Cells).
brcdTMStatsEgressPrunDiscardPkts brcdIp.1.14.2.1.2.2.1.18 Syntax: Counter64	Read-only	A count of all multicast packets discarded at Egress TM due to non-existent or incorrect. (For example, identical Source and Destination system port IDs)

Traffic Manager VOQ statistics table

The brcdTMDestUcastQStatTable contains information of the unicast queue counters aggregated across all the Traffic Managers (TMs) per destination interface. The following MIB objects are supported on the XMR Series and MLX Series devices and the table is not supported on the CES 2000 Series and CER 2000 Series devices.

By default, the SNMP support for brcdTMDestUcastQStatTable is disabled. Use **tm-voq-collection** [**intervalseconds**] command to enable Traffic Manager Virtual Output Queue (VOQ) statistics and **snmp-server enable mib tm-dest-qstat** command to enable the SNMP support.

Use **clear tm-voq-stats dst_port** [**ethernet** | **all**] **slot/port** command to clear all the CLI and SNMP statistics counters for the Traffic Manager VOQ statistics.

NOTE
Expect a delay or latency of 25 seconds in the reported statistics values because of internal cacheing of the statistics.

The Extreme NetIron devices can support the Traffic Manager statistics aggregation only for traffic coming from the following card types:

- BR-MLX-10Gx8-X 8-port 10GbE Module
- NI-MLX-10Gx8-D 8-port 10GbE Module
- NI-MLX-10Gx8-M 8-port 10GbE (M) Module
- BR-MLX-100Gx2-X 2-port 100GbE Module
- NI-X-OC192x1 1-port OC192 STM64 Module
- NI-X-OC192x2 2-port OC192 STM64 Module
- NI-X-OC48x2 2-port OC48/12 STM16/STM4 Module

- NI-X-OC48x4 4-port OC48/12 STM16/STM4 Module
- NI-X-OC48x8 8-port OC48/12 STM16/STM4 Module
- NI-MLX-1Gx48-T 48-port 10/100/1000Base-T MRJ21 Module
- BR-MLX-1GCx24-X 24-port 10/100/1000Base-T Copper Module
- BR-MLX-1GFx24-X 24-port 1GbE SFP Module
- BR-MLX-40Gx4-M 4-port 40GbE Module
- BR-MLX-10Gx20 20-port 1/10GbE Module
- BR-MLX-100Gx2-CFP2 2-port 100GbE Module
- and BR-MLX-10Gx4-M-IPSEC 4-port 10GbE Module

NOTE
The MIB objects in the following table are read-only and support only SNMP GET, GET-NEXT, WALK, and GET-BULK requests.

Name, OID, and syntax	Access	Description
brcdTMDestUcastQStatTable brcdIp.1.14.2.1.2.8	NA	The Traffic Manager unicast queue counters aggregated across all the TMs per destination interface per priority table.
brcdTMDestUcastQStatDestIfIndex brcdIp.1.14.2.1.2.8.1.1 Syntax: InterfaceIndex	NA	The ifindex of the destination interface. The table includes all the interfaces of the LP modules that are physically present and operationally up and it also includes all the deployed LAG interfaces.
brcdTMDestUcastQStatPriority brcdIp.1.14.2.1.2.8.1.2 Syntax: PriorityTC	NA	The priority of the packets that are stored in the queue. This is a 1-based value. The priority0 maps to 1, priority1 maps to 2, and so on. The priority value equal to nonPriority(128) indicates the aggregated counters for the given destination port. When tm-max-queues is set to 4, the two consecutive priorities are stored in one unicast queue. Valid values: 1, 3, 5, 7, and 128
brcdTMDestUcastQStatEnquePkts brcdIp.1.14.2.1.2.8.1.3 Syntax: Counter64	Read-only	The total aggregated count of the packets entering an ingress queue across the TMs.
brcdTMDestUcastQStatEnqueBytes brcdIp.1.14.2.1.2.8.1.4 Syntax: Counter64	Read-only	The total aggregated count of the bytes entering an ingress queue across the TMs.
brcdTMDestUcastQStatDequePkts brcdIp.1.14.2.1.2.8.1.5 Syntax: Counter64	Read-only	The total aggregated count of the packets that are dequeued or transmitted from an ingress queue across the TMs.
brcdTMDestUcastQStatDequeBytes brcdIp.1.14.2.1.2.8.1.6 Syntax: Counter64	Read-only	The total aggregated count of the bytes that are dequeued or transmitted from an ingress queue across the TMs.
brcdTMDestUcastQStatTotalQDiscardPkts brcdIp.1.14.2.1.2.8.1.7 Syntax: Counter64	Read-only	For a VOQ, the total aggregated count across all the packets of TMs is discarded due to one of the following reasons: • Before enqueuing, caused by WRED • When the maximum queue depth is reached

Name, OID, and syntax	Access	Description
		• After enqueuing but before dequeuing, caused by aging
brcdTMDestUcastQStatTotalQDiscardBytes brcdIp.1.14.2.1.2.8.1.8 Syntax: Counter64	Read-only	For a VOQ, the total aggregated count across all the bytes of TMs is discarded due to one of the following reasons: • Before enqueuing, caused by WRED • When the maximum queue depth is reached • After enqueuing but before dequeuing, caused by aging

Traffic Manager unicast VOQ statistics table

The Traffic Manager unicast Virtual Output Queue (VOQ) statistics table contains information about the Traffic Manager unicast VOQ-related statistics. Use the **show tm-voq-stat src_port** [**ethernet** | **pos**] **slot** /**portdst_port** [**ethernet** | **pos**] **slot** /**port** [**priority** | **all**] command for information about the Traffic Manager unicast queue-related statistics.

NOTE

The following table contains information about the Traffic Manager unicast queue-related statistics on the NI-MLX-1Gx48-T, NI-MLX-1Gx24, NI-MLX-10Gx8, BR-MLX-100Gx2, BR-MLX-40Gx4-M 4-port 40GbE module, BR-MLX-10Gx20 20-port 1/10GbE module, BR-MLX-100Gx2-CFP2 2-port 100GbE module, BR-MLX-10Gx4-M-IPSEC 4-port 10GbE, and all the POS modules.

Name, OID, and syntax	Access	Description
brcdTMUcastQStatsTable brcdIp.1.14.2.1.2.3	None	The Traffic Manager unicast VOQ statistics table.
brcdTMUcastQStatsSlotId brcdIp.1.14.2.1.2.3.1.1 Syntax: Unsigned32	None	Shows the slot ID of the LP module that uniquely identifies a line card. The LP module must be physically present and operationally up.
brcdTMUcastQStatsTMDeviceId brcdIp.1.14.2.1.2.3.1.2 Syntax: Unsigned32	None	Shows the Traffic Manager device ID that uniquely identifies the Network Processor Traffic Manager within a line card in the system.
brcdTMUcastQStatsDstIfIndex brcdIp.1.14.2.1.2.3.1.3 Syntax: InterfaceIndex	None	Shows the destination interface index. This is applicable only for the interface on the LP module that is physically present and operationally up.
brcdTMUcastQStatsPriority brcdIp.1.14.2.1.2.3.1.4 Syntax: PriorityTC	None	Shows the priority of the packets that will be stored in this queue. This is a 1-based index. When the tm-max-queues is set to 4, two consecutive priorities are stored in one unicast queue. In this case, the valid values for this index are 1, 3, 5, and 7.
brcdTMUcastQStatsDescription brcdIp.1.14.2.1.2.3.1.5 Syntax: DisplayString	Read-only	This object gives the range of ports serviced by brcdTMUcastQStatsTMDeviceId and priorities serviced by this queue.
brcdTMUcastQStatsEnquePkts brcdIp.1.14.2.1.2.3.1.6 Syntax: Counter64	Read-only	Shows the count of all packets entering ingress queues on the Traffic Manager.

Name, OID, and syntax	Access	Description
brcdTMUcastQStatsEnqueBytes brcdIp.1.14.2.1.2.3.1.7 Syntax: Counter64	Read-only	Shows the count of all bytes entering ingress queues on the Traffic Manager.
brcdTMUcastQStatsDequePkts brcdIp.1.14.2.1.2.3.1.8 Syntax: Counter64	Read-only	Shows the count of all packets dequeued from ingress queues and forwarded to the Traffic Manager.
brcdTMUcastQStatsDequeBytes brcdIp.1.14.2.1.2.3.1.9 Syntax: Counter64	Read-only	Shows the count of all bytes dequeued from ingress queues and forwarded to the Traffic Manager.
brcdTMUcastQStatsTotalQDiscardPkts brcdIp.1.14.2.1.2.3.1.10 Syntax: Counter64	Read-only	Shows the count of all packets failing to enter ingress queues on the Traffic Manager. This may be due to the following reasons: • The queue reaches its maximum depth, WRED, or other reasons. • The Network Processor drops the packets due to an unknown Layer 3 route, RPF, or segment filtering.
brcdTMUcastQStatsTotalQDiscardBytes brcdIp.1.14.2.1.2.3.1.11 Syntax: Counter64	Read-only	Shows the count of all bytes failing to enter ingress queues on the Traffic Manager. This may be due to the following reasons: • The queue reaches its maximum depth, WRED, or other reasons. • The Network Processor drops the packets due to an unknown Layer 3 route, RPF, or segment filtering.
brcdTMUcastQStatsTotalQOldestDiscardPkts brcdIp.1.14.2.1.2.3.1.12 Syntax: Counter64	Read-only	Shows the count of all packets entering ingress queues on the Traffic Manager, but deleted later due to the buffer being full.
brcdTMUcastQStatsOldestDiscardBytes brcdIp.1.14.2.1.2.3.1.13 Syntax: Counter64	Read-only	Shows the count of all bytes entering ingress queues on the Traffic Manager, but deleted later due to the buffer being full.
brcdTMUcastQStatsWREDDroppedPkts brcdIp.1.14.2.1.2.3.1.14 Syntax: Counter64	Read-only	Shows the count of all packets entering ingress queues on the Traffic Manager but dropped due to WRED.
brcdTMUcastQStatsWREDDroppedBytes brcdIp.1.14.2.1.2.3.1.15 Syntax: Counter64	Read-only	Shows the count of all bytes entering ingress queues on the Traffic Manager but dropped due to WRED.
brcdTMUcastQStatsMaxQDepthSinceLastRead brcdIp.1.14.2.1.2.3.1.16 Syntax: Counter64	Read-only	Indicates the maximum queue depth since last access to read.
brcdTMUcastQStatsQSize brcdIp.1.14.2.1.2.3.1.17 Syntax: Unsigned32	Read-only	Shows the current size of the queue.
brcdTMUcastQStatsCreditCount brcdIp.1.14.2.1.2.3.1.18 Syntax: Unsigned32	Read-only	Shows the current credit count of the queue.

Traffic Manager multicast VOQ statistics table

The Traffic Manager multicast VOQ statistics table contains information about the queue-related statistics. Use the **show tm-voq-stat src_port** [**ethernet** | **pos**] *slot /port***multicast** [**priority** | **all**] CLI command for information about the Traffic Manager multicast queue-related statistics.

NOTE

The following table contains information about the Traffic Manager unicast queue-related statistics on the NI-MLX-1Gx48-T, NI-MLX-1Gx24, NI-MLX-10Gx8, BR-MLX-100Gx2, BR-MLX-40Gx4-M 4-port 40GbE module, BR-MLX-10Gx20 20-port 1/10GbE module, BR-MLX-100Gx2-CFP2 2-port 100GbE module, BR-MLX-10Gx4-M-IPSEC 4-port 10GbE, and all the POS modules.

Name, OID, and syntax	Access	Description
brcdTMMcastQStatsTable brcdIp.1.14.2.1.2.4	None	The Traffic Manager multicast VOQ statistics table.
brcdTMMcastQStatsSlotId brcdIp.1.14.2.1.2.4.1.1 Syntax: Unsigned32	None	Shows the slot ID of the LP module that uniquely identifies a line card. The LP module must be physically present and operationally up.
brcdTMMcastQStatsTMDeviceId brcdIp.1.14.2.1.2.4.1.2 Syntax: Unsigned32	None	Shows the Traffic Manager device ID that uniquely identifies the Network Processor Traffic Manager within a line card in the system.
brcdTMMcastQStatsPriority brcdIp.1.14.2.1.2.4.1.3 Syntax: Integer	None	Shows the priority of the packets that will be stored in the queue. Two consecutive priorities are stored in one multicast queue. There are 4 multicast queues per Traffic Manager for 8 priorities: • Priority1And2 (1) • Priority3And4 (3) • Priority5And6 (5) • Priority7And8 (7)
brcdTMMcastQStatsDescription brcdIp.1.14.2.1.2.4.1.4 Syntax: DisplayString	Read-only	This object gives the range of ports serviced by brcdTMMcastQStatsTMDeviceId and priorities serviced by the queue.
brcdTMMcastQStatsEnquePkts brcdIp.1.14.2.1.2.4.1.5 Syntax: Counter64	Read-only	Shows the count of all packets entering ingress queues on the Traffic Manager.
brcdTMMcastQStatsEnqueBytes brcdIp.1.14.2.1.2.4.1.6 Syntax: Counter64	Read-only	Shows the count of all bytes entering ingress queues on the Traffic Manager.
brcdTMMcastQStatsDequePkts brcdIp.1.14.2.1.2.4.1.7 Syntax: Counter64	Read-only	Shows the count of all packets dequeued from ingress queues and forwarded to the Traffic Manager.
brcdTMMcastQStatsDequeBytes brcdIp.1.14.2.1.2.4.1.8 Syntax: Counter64	Read-only	Shows the count of all bytes dequeued from ingress queues and forwarded to the Traffic Manager.

Name, OID, and syntax	Access	Description
brcdTMMcastQStatsTotalQDiscardPkts brcdIp.1.14.2.1.2.4.1.9 Syntax: Counter64	Read-only	Shows the count of all packets failing to enter ingress queues on the Traffic Manager. This may be due to the following reasons: • The queue reaches its maximum depth, WRED, or other reasons. • The Network Processor drops the packets due to an unknown Layer 3 route, RPF, or segment filtering.
brcdTMMcastQStatsTotalQDiscardBytes brcdIp.1.14.2.1.2.4.1.10 Syntax: Counter64	Read-only	Shows the count of all bytes failing to enter ingress queues on the Traffic Manager. This may be due to the following reasons: • The queue reaches its maximum depth, WRED, or other reasons. • The Network Processor drops the packets due to an unknown Layer 3 route, RPF, or segment filtering.
brcdTMMcastQStatsOldestDiscardPkts brcdIp.1.14.2.1.2.4.1.11 Syntax: Counter64	Read-only	Shows the count of all packets entering ingress queues on the Traffic Manager, but deleted later due to the buffer being full.
brcdTMMcastQStatsOldestDiscardBytes brcdIp.1.14.2.1.2.4.1.12 Syntax: Counter64	Read-only	Shows the count of all bytes entering ingress queues on the Traffic Manager, but deleted later due to the buffer being full.
brcdTMMcastQStatsWREDDroppedPkts brcdIp.1.14.2.1.2.4.1.13 Syntax: Counter64	Read-only	Shows the count of all packets entering ingress queues on the Traffic Manager, but dropped due to WRED.
brcdTMMcastQStatsWREDDroppedBytes brcdIp.1.14.2.1.2.4.1.14 Syntax: Counter64	Read-only	Shows the count of all bytes entering ingress queues on the Traffic Manager, but dropped due to WRED.
brcdTMMcastQStatsMaxQDepthSinceLastRead brcdIp.1.14.2.1.2.4.1.15 Syntax: Counter64	Read-only	Indicates the maximum queue depth since last access to read.
brcdTMMcastQStatsQSize brcdIp.1.14.2.1.2.4.1.16 Syntax: Unsigned32	Read-only	Shows the current size of the queue.
brcdTMMcastQStatsCreditCount brcdIp.1.14.2.1.2.4.1.17 Syntax: Unsigned32	Read-only	Shows the current credit count of the queue.

Traffic Manager multicast stream VOQ statistics table

The Traffic Manager multicast stream VOQ statistics table contains the multicast stream queue-related statistics.

NOTE

The following table contains information of the Traffic Manager multicast stream queue-related statistics on the NI-MLX-1Gx48-T, NI-MLX-1Gx24, NI-MLX-10Gx8, BR-MLX-100Gx2, and all the POS modules.

NOTE

The following table is not supported on the Extreme NetIron devices.

Name, OID, and syntax	Access	Description
brcdTMMcastStreamQStatsTable brcdIp.1.14.2.2.5	None	The Traffic Manager multicast stream VOQ statistics table.
brcdTMMcastStreamQStatsAddressType brcdIp.1.14.2.2.5.1.1 Syntax: InetAddressType	None	Shows the value indicating the address family of the address contained in brcdTMMcastStreamQStatsSource and brcdTMMcastStreamQStatsGroup.
brcdTMMcastStreamQStatsSource brcdIp.1.14.2.2.5.1.2 Syntax: InetAddress	None	Shows the source IP address of the multicast stream.
brcdTMMcastStreamQStatsGroup brcdIp.1.14.2.2.5.1.3 Syntax: InetAddress	None	Shows the group IP address of the multicast stream.
brcdTMMcastStreamQStatsGroupPrefixLength brcdIp.1.14.2.2.5.1.4 Syntax: InetAddressPrefixLength	None	Shows the length in bits of the mask which, when combined with the corresponding value of brcdTMMcastStreamQStatsGroup, identifies the groups for which this entry contains queue statistics.
brcdTMMcastStreamQStatsPriority brcdIp.1.14.2.2.5.1.5 Syntax: Integer	Read-only	Shows the priority of the packets that will be stored in the queue. Two consecutive priorities are stored in one multicast stream queue: • Priority1And2 (1) • Priority3And4 (3) • Priority5And6 (5) • Priority7And8 (7)
brcdTMMcastStreamQStatsEnquePkts brcdIp.1.14.2.2.5.1.6 Syntax: Counter64	Read-only	Shows the count of all packets entering ingress queues on the Traffic Manager.
brcdTMMcastStreamQStatsEnqueBytes brcdIp.1.14.2.2.5.1.7 Syntax: Counter64	Read-only	Shows the count of all bytes entering ingress queues on the Traffic Manager.
brcdTMMcastStreamQStatsDequePkts brcdIp.1.14.2.2.5.1.8 Syntax: Counter64	Read-only	Shows the count of all packets dequeued from ingress queues and forwarded to the Traffic Manager.
brcdTMMcastStreamQStatsDequeBytes brcdIp.1.14.2.2.5.1.9 Syntax: Counter64	Read-only	Shows the count of all bytes dequeued from ingress queues and forwarded to the Traffic Manager.
brcdTMMcastStreamQStatsDiscardPkts brcdIp.1.14.2.2.5.1.10 Syntax: Counter64	Read-only	Shows the count of all packets failing to enter ingress queues on the Traffic Manager. This may be due to the following reasons: • The queue reaches its maximum depth, WRED, or other reasons. • The Network Processor drops the packets due to an unknown Layer 3 route, RPF, or segment filtering.

Name, OID, and syntax	Access	Description
brcdTMMcastStreamQStatsTotalQDiscardBytes brcdIp.1.14.2.2.5.1.11 Syntax: Counter64	Read-only	Shows the count of all bytes failing to enter ingress queues on the Traffic Manager. This may be due to the following reasons: • The queue reaches its maximum depth, WRED, or other reasons. • The Network Processor drops the packets due to an unknown Layer 3 route, RPF, or segment filtering.
brcdTMMcastStreamQStatsTotalQOldestDiscardPkts brcdIp.1.14.2.2.5.1.12 Syntax: Counter64	Read-only	Shows the count of all packets entering ingress queues on the Traffic Manager, but deleted later due to the buffer being full.
brcdTMMcastStreamQStatsOldestDiscardBytes brcdIp.1.14.2.2.5.1.13 Syntax: Counter64	Read-only	Shows the count of all bytes entering ingress queues on the Traffic Manager, but deleted later due to the buffer being full.
brcdTMMcastStreamQStatsWREDDroppedPkts brcdIp.1.14.2.2.5.1.14 Syntax: Counter64	Read-only	Shows the count of all packets entering ingress queues on the Traffic Manager, but dropped due to WRED.
brcdTMMcastStreamQStatsWREDDroppedBytes brcdIp.1.14.2.2.5.1.15 Syntax: Counter64	Read-only	Shows the count of all bytes entering ingress queues on the Traffic Manager, but dropped due to WRED.
brcdTMMcastStreamQStatsMaxQDepthSinceLastRead brcdIp.1.14.2.2.5.1.16 Syntax: Counter64	Read-only	Shows the maximum queue depth since last access to read.
brcdTMMcastStreamQStatsQSize brcdIp.1.14.2.2.5.1.17 Syntax: Counter64	Read-only	Shows the current size of the queue.
brcdTMMcastStreamQStatsCreditCount brcdIp.1.14.2.2.5.1.18 Syntax: Counter64	Read-only	Shows the current credit count of the queue.

Traffic Manager CPU VOQ statistics table

The Traffic Manager CPU VOQ statistics table contains the CPU queue-related statistics. Use the **show tm-voq-stat src_port** [**ethernet** | **pos**] **slot/portcpu-queue** | **cpu-copy-q** [**priority** | **all**] **CLI command for information about the Traffic Manager CPU queue-related statistics.**

NOTE

The following table contains information about the Traffic Manager CPU queue-related statistics on the NI-MLX-1Gx48-T, NI-MLX-1Gx24, NI-MLX-10Gx8, BR-MLX-100Gx2, BR-MLX-40Gx4-M 4-port 40GbE module, BR-MLX-10Gx20 20-port 1/10GbE module, BR-MLX-100Gx2-CFP2 2-port 100GbE module, BR-MLX-10Gx4-M-IPSEC 4-port 10GbE, and all the POS modules.

Name, OID, and syntax	Access	Description
brcdTMCpuQStatsTable brcdIp.1.14.2.1.2.5	None	The Traffic Manager CPU VOQ statistics table.

Name, OID, and syntax	Access	Description
brcdTMCpuQStatsSlotId brcdIp.1.14.2.1.2.5.1.1 Syntax: Unsigned32	None	Shows the slot ID of the LP module that uniquely identifies a line card. The LP module must be physically present and operationally up.
brcdTMCpuQStatsTMDeviceId brcdIp.1.14.2.1.2.5.1.2 Syntax: Unsigned32	None	Shows the Traffic Manager device ID that uniquely identifies the Network Processor Traffic Manager within a line card in the system.
brcdTMCpuQStatsType brcdIp.1.14.2.1.2.5.1.3 Syntax: Integer	None	Shows the type of the CPU queue: • CpuQ(1) - This queue contains the packets that do not fall under any of the following categories. • CpuCopyQ(2) - This queue contains the packets related to SA learning, sFlow, RPF Log, ACL Log, and so on. • CpuManagementQ(3) - This queue contains the CPU management packets. • CpuProtocolQ(4) - This queue contains the CPU protocol packets.
brcdTMCpuQStatsPriority brcdIp.1.14.2.1.2.5.1.4 Syntax: PriorityTC	None	Shows the priority of the packets that is stored in the queue. This is a 1-based index. The priority0 maps to 1, priority1 maps to 2, and so on.
brcdTMCpuQStatsDescription brcdIp.1.14.2.1.2.5.1.5 Syntax: DisplayString	Read-only	Shows the range of ports serviced by brcdTMCpuQStatsTMDeviceId.
brcdTMCpuQStatsEnquePkts brcdIp.1.14.2.1.2.5.1.6 Syntax: Counter64	Read-only	Shows the count of all packets entering ingress queues on the Traffic Manager.
brcdTMCpuQStatsEnqueBytes brcdIp.1.14.2.1.2.5.1.7 Syntax: Counter64	Read-only	Shows the count of all bytes entering ingress queues on the Traffic Manager.
brcdTMCpuQStatsDequePkts brcdIp.1.14.2.1.2.5.1.8 Syntax: Counter64	Read-only	Shows the count of all packets dequeued from ingress queues and forwarded to the Traffic Manager.
brcdTMCpuQStatsDequeBytes brcdIp.1.14.2.1.2.5.1.9 Syntax: Counter64	Read-only	Shows the count of all bytes dequeued from ingress queues and forwarded to the Traffic Manager.
brcdTMCpuQStatsTotalQDiscardPkts brcdIp.1.14.2.1.2.5.1.10 Syntax: Counter64	Read-only	Shows the count of all packets failing to enter ingress queues on the Traffic Manager. This may be due to the following reasons: • The queue reaches its maximum depth, WRED, or other reasons. • The Network Processor drops the packets due to an unknown Layer 3 route, RPF, or segment filtering.
brcdTMCpuQStatsTotalQDiscardBytes brcdIp.1.14.2.1.2.5.1.11 Syntax: Counter64	Read-only	Shows the count of all bytes failing to enter ingress queues on the Traffic Manager. This may be due to the following reasons: • The queue reaches its maximum depth, WRED, or other reasons.

Name, OID, and syntax	Access	Description
		• The Network Processor drops the packets due to an unknown Layer 3 route, RPF, or segment filtering.
brcdTMCpuQStatsOldestDiscardPkts brcdIp.1.14.2.1.2.5.1.12 Syntax: Counter64	Read-only	Shows the count of all packets entering ingress queues on the Traffic Manager, but deleted later due to the buffer being full.
brcdTMCpuQStatsOldestDiscardBytes brcdIp.1.14.2.1.2.5.1.13 Syntax: Counter64	Read-only	Shows the count of all bytes entering ingress queues on the Traffic Manager, but deleted later due to the buffer being full.
brcdTMCpuQStatsWREDDroppedPkts brcdIp.1.14.2.1.2.5.1.14 Syntax: Counter64	Read-only	Shows the count of all packets entering ingress queues on the Traffic Manager, but dropped due to WRED.
brcdTMCpuQStatsWREDDroppedBytes brcdIp.1.14.2.1.2.5.1.15 Syntax: Counter64	Read-only	Shows the count of all bytes entering ingress queues on the Traffic Manager, but dropped due to WRED.
brcdTMCpuQStatsMaxQDepthSinceLastRead brcdIp.1.14.2.1.2.5.1.16 Syntax: Counter64	Read-only	Shows the maximum queue depth since last access to read.
brcdTMCpuQStatsQSize brcdIp.1.14.2.1.2.5.1.17 Syntax: Counter64	Read-only	Shows the current size of the queue.
brcdTMCpuQStatsCreditCount brcdIp.1.14.2.1.2.5.1.18 Syntax: Counter64	Read-only	Shows the current credit count of the queue.

Traffic Manager CPU VOQ information table

The Traffic Manager CPU VOQ information table is used for profiling the CPU queue size and credit count at regular intervals. It is advised for the SNMP manager to request the complete row in a single GET or GET-NEXT request for profiling.

NOTE

The following table displays information about the Traffic Manager CPU queue on the NI-MLX-1Gx48-T, NI-MLX-1Gx24, NI-MLX-10Gx8, BR-MLX-100Gx2, BR-MLX-40Gx4-M 4-port 40GbE module, BR-MLX-10Gx20 20-port 1/10GbE module, BR-MLX-100Gx2-CFP2 2-port 100GbE module, BR-MLX-10Gx4-M-IPSEC 4-port 10GbE, and all the POS modules.

Name, OID, and syntax	Access	Description
brcdTMCpuQInfoTable brcdIp.1.14.2.1.2.7	None	The Traffic Manager CPU VOQ information table.
brcdTMCpuQInfoSlotId brcdIp.1.14.2.1.2.7.1.1 Syntax: Unsigned32	None	Shows the slot ID of the LP module that uniquely identifies a line card. The LP module must be physically present and operationally up.
brcdTMCpuQInfoTMDeviceId brcdIp.1.14.2.1.2.7.1.2 Syntax: Unsigned32	None	Shows the Traffic Manager device ID that uniquely identifies the Network Processor Traffic Manager within a line card in the system.
brcdTMCpuQInfoPriority0QSize brcdIp.1.14.2.1.2.7.1.3	Read-only	Shows the size of the CPU queue for the priority 0.

Name, OID, and syntax	Access	Description
Syntax: Unsigned32		
brcdTMCpuQInfoPriority0CreditCount brcdIp.1.14.2.1.2.7.1.4 Syntax: Unsigned32	Read-only	Shows the credit count of the CPU queue for the priority 0.
brcdTMCpuQInfoPriority1QSize brcdIp.1.14.2.1.2.7.1.5 Syntax: Unsigned32	Read-only	Shows the size of the CPU queue for the priority1.
brcdTMCpuQInfoPriority1CreditCount brcdIp.1.14.2.1.2.7.1.6 Syntax: Unsigned32	Read-only	Shows the credit count of the CPU queue for the priority1.
brcdTMCpuQInfoPriority2QSize brcdIp.1.14.2.1.2.7.1.7 Syntax: Unsigned32	Read-only	Shows the size of the CPU queue for the priority2.
brcdTMCpuQInfoPriority2CreditCount brcdIp.1.14.2.1.2.7.1.8 Syntax: Unsigned32	Read-only	Shows the credit count of the CPU queue for the priority2.
brcdTMCpuQInfoPriority3QSize brcdIp.1.14.2.1.2.7.1.9 Syntax: Unsigned32	Read-only	Shows the size of the CPU queue for the priority3.
brcdTMCpuQInfoPriority3CreditCount brcdIp.1.14.2.1.2.7.1.10 Syntax: Unsigned32	Read-only	Shows the credit count of the CPU queue for the priority3.
brcdTMCpuQInfoPriority4QSize brcdIp.1.14.2.1.2.7.1.11 Syntax: Unsigned32	Read-only	Shows the size of the CPU queue for the priority4.
brcdTMCpuQInfoPriority4CreditCount brcdIp.1.14.2.1.2.7.1.12 Syntax: Unsigned32	Read-only	Shows the credit count of the CPU queue for the priority4.
brcdTMCpuQInfoPriority5QSize brcdIp.1.14.2.1.2.7.1.13 Syntax: Unsigned32	Read-only	Shows the size of the CPU queue for the priority5.
brcdTMCpuQInfoPriority5CreditCount brcdIp.1.14.2.1.2.7.1.14 Syntax: Unsigned32	Read-only	Shows the credit count of the CPU queue for the priority5.
brcdTMCpuQInfoPriority6QSize brcdIp.1.14.2.1.2.7.1.15 Syntax: Unsigned32	Read-only	Shows the size of the CPU queue for the priority6.
brcdTMCpuQInfoPriority6CreditCount brcdIp.1.14.2.1.2.7.1.16 Syntax: Unsigned32	Read-only	Shows the credit count of the CPU queue for the priority6.
brcdTMCpuQInfoPriority7QSize brcdIp.1.14.2.1.2.7.1.17 Syntax: Unsigned32	Read-only	Shows the size of the CPU queue for the priority7.
brcdTMCpuQInfoPriority7CreditCount brcdIp.1.14.2.1.2.7.1.18	Read-only	Shows the credit count of the CPU queue for the priority7.

Name, OID, and syntax	Access	Description
Syntax: Unsigned32		

Traffic Manager CPU aggregation queue statistics table

The control packets are transmitted to the LP-CPU through Traffic Manager using four different queues based on the type of the packets. The queues are cpu-copy-queue, cpu-mgmt-queue, cpu-proto-queue, and cpu-queue. From the respective queue the packets are transmitted to the Management CPU.

The Traffic Manager CPU aggregation queue statistics table is used to track the aggregated CPU statistics.

Name, OID, and syntax	Access	Description
brcdTMCpuAggrQStatsTable brcdIp.1.14.2.1.2.9	None	This table contains information about aggregation of Traffic Manager CPU queue counters supported by the system.
brcdTMCpuAggrQStatsDescription brcdIp.1.14.2.1.2.9.1.1 Syntax: DisplayString	Read-only	The range of ports serviced by the brcdTMCpuQStatsTMDeviceId.
brcdTMCpuAggrQStatsEnquePkts brcdIp.1.14.2.1.2.9.1.2 Syntax: Counter64	Read-only	An aggregate count of all packets entering ingress queues on the Traffic Manager.
brcdTMCpuAggrQStatsEnqueBytes brcdIp.1.14.2.1.2.9.1.3 Syntax: Counter64	Read-only	An aggregate count of all bytes entering ingress queues on the Traffic Manager.
brcdTMCpuAggrQStatsDequePkts brcdIp.1.14.2.1.2.9.1.4 Syntax: Counter64	Read-only	An aggregate count of all packets dequeued from ingress queues and forwarded on the Traffic Manager.
brcdTMCpuAggrQStatsDequeBytes brcdIp.1.14.2.1.2.9.1.5 Syntax: Counter64	Read-only	An aggregate count of all bytes dequeued from ingress queues and forwarded on the Traffic Manager.
brcdTMCpuAggrQStatsTotalQDiscardPkts brcdIp.1.14.2.1.2.9.1.6 Syntax: Counter64	Read-only	An aggregate count of all packets failing to enter ingress queues on the Traffic Manager due to the following reasons: • When the queue reaches its maximum depth or WRED. • When the Network Processor decides to drop packets for including: an unknown Layer 3 route, RPF, or segment filtering.
brcdTMCpuAggrQStatsTotalQDiscardBytes brcdIp.1.14.2.1.2.9.1.7 Syntax: Counter64	Read-only	An aggregate count of all bytes failing to enter ingress queues on the Traffic Manager due to the following reasons: • When the queue reaches its maximum depth or WRED.

Name, OID, and syntax	Access	Description
		• When the Network Processor decides to drop packets for including: an unknown Layer 3 route, RPF, or segment filtering.
brcdTMCpuAggrQStatsOldestDiscardPkts brcdIp.1.14.2.1.2.9.1.8 Syntax: Counter64	Read-only	An aggregate count of all packets entering ingress queues on the Traffic Manager but deleted due to buffer full.
brcdTMCpuAggrQStatsOldestDiscardBytes brcdIp.1.14.2.1.2.9.1.9 Syntax: Counter64	Read-only	An aggregate count of all bytes entering ingress queues on the Traffic Manager but deleted due to buffer full.
brcdTMCpuAggrQStatsWREDDroppedPkts brcdIp.1.14.2.1.2.9.1.10 Syntax: Counter64	Read-only	An aggregate count of all packets entering ingress queues on the Traffic Manager but dropped due to WRED.
brcdTMCpuAggrQStatsWREDDroppedBytes brcdIp.1.14.2.1.2.9.1.11 Syntax: Counter64	Read-only	An agggregate count of all bytes entering ingress queues on the Traffic Manager but dropped due to WRED.

IPv4 ACL MIB Definition

ACL global MIB objects

The following table lists the global MIB objects of the ACL table.

Name, OID, and syntax	Access	Description
snAgAclGblAcctEnable brcdIp.1.2.2.15.1.2 Syntax: Integer **NOTE** This object is not supported on the CES 2000 Series and CER 2000 Series devices.	Read-write	Specifies the administration status of the ACL accounting. • disabled(0) • enabled(1)
snAgAclGblIfIPv4AcctClear brcdIp.1.2.2.15.1.3 Syntax: InterfaceIndexOrZero	Read-write	Clears the IPv4 ACL accounting information of a particular interface. The value "0" clears IPv4 ACL accounting information on all the interfaces. Returns the value 0 for SNMP GET and GET-NEXT requests.
snAgAclGblIfIPv6AcctClear brcdIp.1.2.2.15.1.4 Syntax: InterfaceIndexOrZero	Read-write	Clears the IPv6 ACL accounting information of a particular interface. The value "0" clears IPv6 ACL accounting information on all the interfaces. Returns the value 0 for SNMP GET and GET-NEXT requests.
snAgAclGblRebindAclNumber brcdIp.1.2.2.15.1.5 Syntax: AclNumber	Read-write	Specifies the valid ACL number for a rebind. Returns the value 0 for SNMP GET and GET-NEXT requests.
snAgAclGblRebindAclName brcdIp.1.2.2.15.1.6 Syntax: DisplayString	Read-write	Specifies the ACL name for a rebind. Returns a null string for SNMP GET and GET-NEXT requests. Maximum 255 characters are allowed.
brcdPbrAclAccntFilterAclName brcdIp. 1.2.2.15.1.7 Syntax: DisplayString	Read-write	Used to control the content of brcdPbrAclAccntTable. Any ACL filter that has a full or partial match with ACL name will not be returned in the brcdPbrAclAccntTable. The default value is null and all ACL filters will be returned by the table, if not specified.
brcdPbrAclAccntCounterType brcdIp. 1.2.2.15.1.8 Syntax: Integer	Read-write	This object is used to control the counter value of the brcdPbrAclAccntAclInfo object in

Name, OID, and syntax	Access	Description
		brcdPbrAclAccntTable. It specifies the statistics to query. • cumulative(1) - default • last5min(2)

IPv4 ACL table

The IPv4 ACL table contains the access control lists (ACLs) defined for the device. The snAgAclGblCurRowIndex object determines the number of ACLs that can be added to this table.

NOTE

The following table is supported on the MLX Series, MLX Series, XMR Series, CES 2000 Series, and CER 2000 Series devices.

Name, OID, and syntax	Access	Description
snAgAclTable brcdIp.1.2.2.15.2	None	Access control list table.
snAgAclIndex brcdIp.1.2.2.15.2.1.1 Syntax: Integer32	Read-only	Shows the index for an ACL entry that is associated with this ACL. This number must be unique among all the entries, even though the value of other objects for an entry may be the same as those of another entry.
snAgAclNumber brcdIp.1.2.2.15.2.1.2 Syntax: AclNumber	Read-write	The access control list number for an entry: • 1 to 99 - Standard access list • 100 to 199 - Extended access list
snAgAclName brcdIp.1.2.2.15.2.1.3 Syntax: DisplayString	Read-write	Shows the ACL name.
snAgAclAction brcdIp.1.2.2.15.2.1.4 Syntax: Integer	Read-write	Indicates if IP packets that matched this access control list are permitted or denied: • deny(0) • permit(1) The default action when no ACLs are configured on a device is to permit all traffic. However, once you configure an ACL and apply it to a port, the default action for that port is to deny all traffic that is not explicitly permitted on the port. • If you want to tightly control access, configure ACLs consisting of permit entries for the access you want to permit. The ACLs implicitly deny all other access. • If you want to secure access in environments with many users, you might want to configure ACLs that consist of explicit deny entries, then add an entry to permit all access to the end of each ACL. The software

Name, OID, and syntax	Access	Description
		permits packets that are not denied by the deny entries.
snAgAclProtocol brcdIp.1.2.2.15.2.1.5 Syntax: IPProtocol	Read-write	Indicates the protocol denied or permitted by the extended ACL. The protocol can be one of the following well-known names or any protocol number from 0 through 255: • Internet Control Message Protocol (ICMP) • Internet Group Management Protocol (IGMP) • Internet Gateway Routing Protocol (IGRP) • Internet Protocol (IP) • Open Shortest Path First (OSPF) • Transmission Control Protocol (TCP) • User Datagram Protocol (UDP) Entering "0" indicates any protocol.
snAgAclSourceIp brcdIp.1.2.2.15.2.1.6 Syntax: IpAddress	Read-write	Applies only to extended ACLs. Identifies the source IP address of the packet that will either be permitted or denied.
snAgAclSourceMask brcdIp.1.2.2.15.2.1.7 Syntax: IpAddress	Read-write	Applies only to extended ACLs. Identifies the source IP subnet mask of the packet that will either be permitted or denied.
snAgAclSourceOperator brcdIp.1.2.2.15.2.1.8 Syntax: Operator	Read-write	Applies only to TCP or UDP ports in extended ACLs. Indicates how the policy will be compared to the ports specified in the IPv4 ACL table and IPv4 ACL table objects: • eq(0) - The policy applies only to packets whose source port number matches the port number specified in the objects. • neq(1) - The policy applies only to packets whose source port numbers are not included in the specified range. • lt(2) - The policy applies only to packets whose source port numbers are less than those in the specified range. • gt(3) - The policy applies only to packets whose source port numbers are greater than those in the specified range. • range(4) - The policy applies to packets whose source port numbers fall within the specified range. • undefined(7)
snAgAclSourceOperand1 brcdIp.1.2.2.15.2.1.9 Syntax: Integer	Read-write	Applies only to TCP or UDP ports in extended ACLs.

Name, OID, and syntax	Access	Description
		Shows the source port number to be matched. If used with the IPv4 ACL table object, it defines the start of the range of source port numbers to be matched. Valid values: 0 - 65535. A value of 0 means that this object is not applicable.
snAgAclSourceOperand2 brcdIp.1.2.2.15.2.1.10 Syntax: Integer	Read-write	Applies only to TCP or UDP ports in extended ACLs. Used with the IPv4 ACL table object, it defines the end of the range of source port numbers to be matched. Valid values: 0 - 65535. A value of 0 means that this object is not applicable.
snAgAclDestinationIp brcdIp.1.2.2.15.2.1.11 Syntax: IpAddress	Read-write	Applies only to extended ACLs. Identifies the destination IP address of the packet that can either be permitted or denied.
snAgAclDestinationMask brcdIp.1.2.2.15.2.1.12 Syntax: IpAddress	Read-write	Applies only to extended ACLs. Identifies the destination subnet mask of the packet that can either be permitted or denied.
snAgAclDestinationOperator brcdIp.1.2.2.15.2.1.13 Syntax: Operator	Read-write	Applies only to TCP or UDP ports in extended ACLs. Indicates how the policy will be compared to the ports specified in the IPv4 ACL table and IPv4 ACL table objects: • eq(0) - The policy applies only to packets whose destination port number matches the port number specified in the objects. • neq(1) - The policy applies only to packets whose destination port numbers are not included in the specified range. • lt(2) - The policy applies only to packets whose destination port numbers are less than those in the specified range. • gt(3) - The policy applies only to packets whose destination port numbers are greater than those in the specified range. • range(4) - The policy applies to packets whose destination port numbers fall within the specified range. • undefined(7)
snAgAclDestinationOperand1 brcdIp.1.2.2.15.2.1.14 Syntax: Integer	Read-write	Applies only to TCP or UDP ports in extended ACLs. Shows the destination port number to be matched. If used with the IPv4 ACL table object, it defines the start of the range of destination port numbers to be matched.

Name, OID, and syntax	Access	Description
		Valid values: 0 - 65535. A value of 0 means that this object is not applicable.
snAgAclDestinationOperand2 brcdIp.1.2.2.15.2.1.15 Syntax: Integer	Read-write	Applies only to TCP or UDP ports in extended ACLs. Used with the IPv4 ACL table object, it defines the end of the range of destination port numbers to be matched. Valid values: 0 - 65535. A value of 0 means that this object is not applicable.
snAgAclPrecedence brcdIp.1.2.2.15.2.1.16 Syntax: PrecedenceValue	Read-write	Applies only to extended ACLs. Indicates the IP precedence value that a packet must have to be permitted or denied: • routine(0) • priority(1) • immediate(2) • flash(3) • flash-override(4) • critical(5) • internet(6) • network(7) The following priorities specify a hardware-forwarding queue: routine(0), priority(1), immediate(2), and flash(3).
snAgAclTos brcdIp.1.2.2.15.2.1.17 Syntax: TosValue	Read-write	Applies only to extended ACLs. Indicates the type of service a packet must have to be denied or permitted: • normal(0) - The ACL matches packets that have the normal TOS. If TOS is not defined, packets are matched to this value. • minMonetaryCost(1) - The ACL matches packets that have the minimum monetary cost TOS. • maxReliability(2) - The ACL matches packets that have the maximum reliability TOS. • maxThroughput(4) - The ACL matches packets that have the maximum throughput TOS. • minDelay(8) - The ACL matches packets that have the minimum delay TOS.
snAgAclEstablished brcdIp.1.2.2.15.2.1.18 Syntax: Integer	Read-write	Applies only to extended ACLs. Enables or disables the filtering of established TCP packets that have the ACK or RESET flag turned on. This additional filter only applies to TCP transport protocol: • disabled(0) • enabled(1)

Name, OID, and syntax	Access	Description
snAgAclLogOption brcdIp.1.2.2.15.2.1.19 Syntax: TruthVal	Read-write	Determines if ACL matches are logged: • false(0) - Do not log ACL matches. • true(1) - Log ACL matches.
snAgAclStandardFlag brcdIp.1.2.2.15.2.1.20 Syntax: TruthVal	Read-write	Indicates if this is a standard ACL: • false(0) - The ACL is an extended ACL. • true(1) - The ACL is a standard ACL.
snAgAclRowStatus brcdIp.1.2.2.15.2.1.21 Syntax: SnRowStatus	Read-write	Creates or deletes an ACL entry: • other(1) • valid(2) • delete(3) • create(4)
snAgAclFlowCounter brcdIp.1.2.2.15.2.1.22 Syntax: Counter64	Read-only	Shows an approximate count of flows that match the individual ACL entry.
snAgAclPacketCounter brcdIp.1.2.2.15.2.1.23 Syntax: Counter64	Read-only	Shows the number of packets that matched the ACL entry.
snAgAclComments brcdIp.1.2.2.15.2.1.24 Syntax: DisplayString	Read-write	Indicates the description of an individual ACL entry.
snAgAclIpPriority brcdIp.1.2.2.15.2.1.25 Syntax: Integer	Read-write	Indicates the QoS priority option for this ACL. This priority assigns traffic that matches the ACL to a hardware-forwarding queue. In addition to changing the internal forwarding priority, if the outgoing interface is an 802.1Q interface, this option maps the specified priority to its equivalent 802.1p (CoS) priority and marks the packet with the new 802.1p priority. NOTE This option applies only to 10 Gigabit Ethernet modules.
snAgAclPriorityForce brcdIp.1.2.2.15.2.1.26 Syntax: Integer	Read-write	Indicates the priority that is being forced on the outgoing packet. This parameter allows you assign packets of outgoing traffic that match the ACL to a specific hardware-forwarding queue, even though the incoming packet may be assigned to another queue. Valid values: • qosp0(0) • qosp1(1) • qosp2(2) • qosp3(3) • Not defined(4) Default: Not defined(4) NOTE This option applies only to 10 Gigabit Ethernet modules.

Name, OID, and syntax	Access	Description
snAgAclDscpMarking brcdIp.1.2.2.15.2.1.28 Syntax: Integer	Read-write	Indicates the DSCP marking of a packet that will be matched. Valid values: 0 - 64 Default: Not defined(64) **NOTE** This option applies only to 10 Gigabit Ethernet modules.
snAgAclDscpMapping brcdIp.1.2.2.15.2.1.29 Syntax: Integer	Read-write	Indicates the DCSP value of the incoming packet value to be matched. Valid values: 0 - 64 Default: Not defined(64) **NOTE** This option applies only to 10 Gigabit Ethernet modules.
snAgAclIcmpCode brcdIp.1.2.2.15.2.1.30 Syntax: Integer	Read write	If you entered a value for ICMP message type number in the IPv4 ACL table object, enter the code number in this object. Valid value for type code 1, Echo reply 1 = Echo reply Valid values for type code 4, Destination unreachable • 1 = Network unreachable • 2 = Host unreachable • 3 = Protocol unreachable • 4 = Port unreachable • 5 = Fragmentation needed but do not fragment bit set • 6 = Source route failed • 7 = Destination network unknown • 8 = Destination host unknown • 9 = Source host isolated • 10 = Destination network administratively prohibited • 11 = Destination host administratively prohibited • 12 = Network unreachable for TOS • 13 = Host unreachable for TOS • 14 = Communication administratively prohibited by filter • 15 = Host precedence violation • 16 = Precedence cutoff in effect Valid values for type code 5, Source quench 1 = Source quench Valid values for type code 6, Redirect • 1 = Redirect for network • 2 = Redirect for host

Name, OID, and syntax	Access	Description
		• 3 = Redirect for TOS and network • 4 = Redirect for TOS and host Valid value for type code 9, Echo request 1 = Echo request Valid value for type code 10, Router advertisement 1 = Router advertisement Valid value for type code 11, Router solicitation 1 = Router solicitation Valid values for type code 12, Time exceeded • 1 = Time to live equals 0 during transmit • 2 = Time to live equals 0 during reassembly Valid values for type code 13, Parameter problem • 1 = IP header bad (catchall error) • 2 = Required option missing Valid value for type code 14, Timestamp request 1 = Timestamp request Valid value for type code 15, Timestamp reply 1 = Timestamp reply Valid value for type code 16, Information request 1 = Information request Valid value for type code 17, Information reply 1 = Information reply Valid value for type code 18, Address mask request 1 = Address mask request Valid value for type code 19, Address mask reply 1 = Address mask reply
snAgAclParameters brcdIp.1.2.2.15.2.1.31 Syntax: BITS	Read-write	The mask represents multiple parameters are configured for the ACL. Bit 0 specifies the first octet. • Bit 0 = Matches fragmented IP packets. • Bit 1 = Matches non-fragmented IP packets. • Bit 2 = Matches only the TCP packets with SYN Bit set. Valid only if the snAgAclSourceOperator or snAgAclDestinationOperator object is set to TCP.

Name, OID, and syntax	Access	Description
		• Bit 3 = Permits the packets that fail in RPF check. • Bit 4 = Mirrors the packets matching ACL permit clause. • Bit 5 = Sends the packets matching ACL permit clause to sFlow collector. • Bit 6 = Sets the dscp-mapping. The value is given by snAgAclDscpMarking. • Bit 7 = Sets the dscp-marking. The value is given by snAgAclDscpMapping.
snAgAclVlanId brcdIp.1.2.2.15.2.1.32 Syntax: FdryVlanIdOrNoneTC	Read-create	An optional VLAN ID to match against the incoming packets. By default, the VLAN ID field is ignored during the match and the value 0 is returned.
snAgAclClauseString brcdIp.1.2.2.15.2.1.33 Syntax: DisplayString	Read-only	Returns the equivalent filter clause string.

ACL bind to port table

The ACL bind to port table contains ACL port bindings for a Layer 3 Switch. Port numbers and bind direction are used to index entries.

NOTE
The ACL port MIBs are supported on the MLX Series and XMR Series devices. Beginning from NetIron 05.9.00 release, the following MIB objects have VRF support.

Name, OID, and syntax	Access	Description
snAgAclIfBindTable brcdIp.1.2.2.15.4	None	The ACL bind to port table.
snAgAclIfBindIndex brcdIp.1.2.2.15.4.1.1 Syntax: InterfaceIndex	Read-only	The number of the virtual or physical interface to which this ACL is bound.
snAgAclIfBindDirection brcdIp.1.2.2.15.4.1.2 Syntax: Direction	Read-only	Shows the traffic direction to which the ACL will be applied: • inbound(0) • outbound(1)
snAgAclIfBindNum brcdIp.1.2.2.15.4.1.3 Syntax: Integer	Read-create	Shows the defined IPv4 ACL number that will be bound to the port.
snAgAclIfBindName brcdIp.1.2.2.15.4.1.4 Syntax: DisplayString	Read-create	The name of the IPv4 ACL name bound to the Interface. Maximum 255 characters are allowed.
snAgAclIfBindVifPortList brcdIp.1.2.2.15.4.1.5 Syntax: Octet string	Read-create	Contains a list of ports for binding a virtual interface. Each port index is an ifIndex. If there are four or more consecutive ifIndexes, then they

Name, OID, and syntax	Access	Description
		will be encoded. THe Encoding and decoding scheme is range-based. Each range prefix with 0000 (2 octets) where 0000 is not a valid ifIndex. The next 2 octets indicates the lower range ifIndex, followed by 2 octets of higher range ifIndex. The individual (non- range) ones will be displayed as is. For example: Port list: 0001..0005 0015 0032..0047 Port list in PDU: 0000 0001 0005 000f 0000 0020 002f
snAgAclIfRowStatus brcdIp.1.2.2.15.4.1.6 Syntax: SnRowStatus	Read-create	Controls the management of the table rows. The following values can be written: • delete(3) - Delete the row. • create(4) - Create a new row. • modify(5) - Modify an existing row. If the row exists, then a SET with a value of create(4) returns a "bad value" error. Deleted rows are removed from the table immediately. The following values can be returned on reads: • noSuch(0) - No such row. • invalid(1) - Row is inoperative. • valid(2) - Row exists and is valid.
snAgAclIfBindDenyLogging brcdIp.1.2.2.15.4.1.7 Syntax: Integer	Read-create	Enables or disables deny logging.
snAgAclIfIpv6BindName brcdIp.1.2.2.15.4.1.8 Syntax: DisplayString	Read-create	The name of the IPv6 ACL name bound to the interface. A maximum 200 characters is allowed.

ACL accounting table

The following table contains the ACLs configured on the NetIron devices.

NOTE

The ACL accounting table is supported on the XMR Series, MLX Series, MLX Series, CES 2000 Series, and CER 2000 Series devices. SNMP-WALK on the agAclAccntEntry object may not return the full output in certain configurations of Extreme NetIron devices. Beginning from NetIron 05.9.00 release, the following MIB objects have VRF support.

Name, OID, and syntax	Access	Description
agAclAccntTable brcdIp.1.2.2.15.5	None	Table of ACL accounting statistics for router.
agAclAccntKind brcdIp.1.2.2.15.5.1.1 Syntax: Integer	None	The following kinds of ACL accounting statistics are supported: • ipv4(0) • l2(1) • ipv4PolicyBasedRouting(2)

Name, OID, and syntax	Access	Description
		• rateLimit(3) • receiveAcl(4) • ipv6(5) • ipv6PolicyBasedRouting(6) • ipv6ReceiveAcl(7) - This value is not supported on the CES 2000 Series and CER 2000 Series devices. • userDefinedAcl(8) - This value is not supported on the CES 2000 Series and CER 2000 Series devices.
agAclAccntIfIndex brcdIp.1.2.2.15.5.1.2 Syntax: InterfaceIndex	None	Physical or virtual interface on which ACL accounting is desired. For Receive-ACL, use the lowest port of the management module as the value for this object.
agAclAccntDirection brcdIp.1.2.2.15.5.1.3 Syntax: Direction	None	ACL port direction, inbound or outbound. For Receive-ACL kind, direction cannot be outbound.
agAclAccntAclNumber brcdIp.1.2.2.15.5.1.4 Syntax: AclNumber	None	The access list number for this entry.
agAclAccntFilterId brcdIp.1.2.2.15.5.1.5 Syntax: Unsigned	None	Filter ID within a given ACL. This is a zero-based value.
agAclAccntAclName brcdIp.1.2.2.15.5.1.6 Syntax: AclNameString	Read-only	ACL name for an entry, if applicable. Otherwise, a null string is returned.
agAclAccntOneSecond brcdIp.1.2.2.15.5.1.7 Syntax: Counter64	Read-only	Accounting data for last one second.
agAclAccntOneMinute brcdIp.1.2.2.15.5.1.8 Syntax: Counter64	Read-only	Accounting data for last one minute.
agAclAccntFiveMinute brcdIp.1.2.2.15.5.1.9 Syntax: Counter64	Read-only	Accounting data for last five minute.
agAclAccntCumulative brcdIp.1.2.2.15.5.1.10 Syntax: Counter64	Read-only	Cumulative accounting data since the ACL was installed.
agAclAccntRaclDropCnt brcdIp.1.2.2.15.5.1.11 Syntax: Counter64	Read-only	Receive-ACL drop counter used for rate limiting. Not used for other ACL kind. The value returned is per ACL, instead of per filter within the ACL. This object supports rate limiting statistics for ACL and Layer 2 ACL-enabled interfaces.
agAclAccntRaclFwdCnt brcdIp.1.2.2.15.5.1.12 Syntax: Counter64	Read-only	Receive-ACL forward counter used for rate limiting. Not used for other ACL kind. The value returned is per ACL, instead of per filter within the ACL.

Name, OID, and syntax	Access	Description
		This object supports rate limiting statistics for ACL and Layer 2 ACL-enabled interfaces.
agAclAccntRaclRemarkCnt brcdIp.1.2.2.15.5.1.13 Syntax: Counter64	Read-only	Receive-ACL remark counter used for rate limiting. Not used for other ACL kind. The value returned is per ACL, instead of per filter within the ACL. This object supports rate limiting statistics for ACL and Layer 2 ACL-enabled interfaces.
agAclAccntRaclTotalCnt brcdIp.1.2.2.15.5.1.14 Syntax: Counter64	Read-only	Receive-ACL total counter used for rate limiting. Not used for other ACL kind. The value returned is per ACL, instead of per filter within the ACL. This object supports rate limiting statistics for ACL and Layer 2 ACL-enabled interfaces.
agAclAccntRaclTotalSWHitCountCnt brcdIp.1.2.2.15.5.1.15 Syntax: Counter64	Read-only	Receive-ACL cumulative software hit counter. Not used for other ACL kind. The value returned is per ACL, instead of per filter within the ACL.

Textual conventions

The Layer 2 ACL tables use the following textual conventions.

Name and syntax	Description
fdryVlanIdOrNoneTC Syntax: Integer32	The VLAN ID that uniquely identifies a specific VLAN, or no VLAN. The special value of zero is used to indicate that no VLAN ID is present or used. This can be used in any situation where an object or a table entry must refer either to a specific VLAN, or to no VLAN. Valid values: 0 or 1 - 4094
PortQosTC Syntax: Integer	The port QoS priority-hardware queue. The value 0 is the lowest priority and 7 is the highest. Valid values: • level0(0) • level1(1) • level2(2) • level3(3) • level4(4) • level5(5) • level6(6) • level7(7) • invalid(127)
fdryEnetTypeOrZeroTC Syntax: Integer	Ethernet Type field within the Ethernet-II frame: • invalid(0) • ipv4(1) • arp(2) • ipv6(3)
fdryClauseIndexTC Syntax: Unsigned 32	One-based clause index value within a given ACL number.

Layer 2 ACL next clause table

The Layer 2 ACL next clause table (fdryL2AclNextClauseTable) contains the list of the next lowest available clause index that can be used for creating a Layer 2 ACL in the fdryL2AclTable configuration table. (Refer to Layer 2 ACL configuration table on page 378.)

Every Layer 2 ACL in fdryL2AclTable has a clause index that consists of a list of ACL clause entries. A Layer 2 ACL cannot be created without any clause entries. There must be at least one clause entry in a Layer 2 ACL. Thus, when all the clause entries are deleted from a Layer 2 ACL, the ACL itself will also be deleted.

By default, there will be 64 clause entries for each Layer 2 ACL. This number can be changed by issuing the **system-max l2-acl-table-entries** command on the device CLI. You can specify up to 256 clause entires per Layer 2 ACL.

The initial value of fdryL2AclNextClauseIndex in each table row is 1. When a clause entry is created for a Layer 2 ACL, this value is incremented by one. When the number of clause entries created for an ACL reaches the maximum limit, a Get operation on fdryL2AclClauseIndex will return a noSuchInstance error. The error indicates that no more clauses can be added to fdryL2AclTable for this ACL.

When a clause entry for an ACL is removed (in the beginning or middle or end), the clause index is available for adding a new clause entry for this ACL. The fdryL2AclClauseIndex always returns the lowest available clause index where a new clause must be added.

The CLI displays the ACL clause in chronological order. However, SNMP is bounded by clause index, and thus it may not display the rows in chronological order. The clause index does not map to the sequence in which the ACL clause is checked at run time. The clause index is an internal value used to identify unique ACL clauses within a given ACL ID.

For example, if only three clause entries can be created for a Layer 2 ACL, the following steps describe how the ACL clause is assigned.

1. Before adding any clause to a Layer 2 ACL, a Get operation on fdryL2AclNextClauseIndex returns “1”.
2. When you add the first clause entry, a Get operation on fdryL2AclNextClauseIndex returns “2”.
3. When you add the second clause entry, a Get operation on fdryL2AclNextClauseIndex returns “3”.
4. When you add the third clause entry, a Get operation on fdryL2AclNextClauseIndex returns “4”.
5. If you remove the second clause entry (#2), a Get operation on fdryL2AclNextClauseIndex, returns “2” because it is the lowest available index.

   The fdryL2AclNextClauseTable is a read-only table.

Name, OID, and syntax	Access	Description
fdryL2AclNextClauseTable brcdIp.1.2.2.15.6	None	This read-only table contains the list of the next lowest available clause index that can be used for creating a new entry in fdryL2AclTable. The clause index values will not change as a result of switchovers or hitless upgrades, but may change as a result of a device reload. However, the relative order of persistent entries would remain the same.
fdryL2AclNextClauseIndex brcdIp.1.2.2.15.6.1.1 Syntax: Textual conventions on page 376	Read-only	The next lowest available clause index for a given Layer 2 ACL number. The maximum value of this object is the configured maximum number of clauses for a Layer 2 ACL. Even though the syntax of fdryL2AclClauseIndex is Textual conventions on page 376, its value will be from 1 to the configured maximum clause entries for each Layer 2 ACL.

Layer 2 ACL configuration table

The following objects are available for Layer 2 ACL configuration.

NOTE
The following fdryL2AclTable has support only for the numbered Layer2 ACL and does not have support for the named Layer2 ACL.

Name, OID, and syntax	Access	Description
fdryL2AclTable brcdIp.1.2.2.15.7	None	The table of Layer 2 ACLs. A Layer 2 ACL number can have 64 (default) to 256 clauses. The clause index values will not change as a result of switchovers or hitless upgrades, but may change as a result of a device reload. However, the relative order of persistent entries remains the same.
fdryL2AclNumber brcdIp.1.2.2.15.7.1.1 Syntax: AclNumber	None	The access list number for this entry. For Layer 2 ACLs, valid values are from 400 through 599.
fdryL2AclClauseIndex brcdIp.1.2.2.15.7.1.2 Syntax:Textual conventions on page 376	None	The index of the clause within a given ACL number. During row creation, the clause index value should match the next available clause index for a given ACL number. It is advisable to first perform a Get operation on fdryL2AclNextClauseTable for a given ACL number, and use the value of fdryL2AclNextClauseIndex returned by the agent.
fdryL2AclAction brcdIp.1.2.2.15.7.1.3 Syntax: Action	Read-write	Action to take if the Layer 2 packet on the port matches this ACL.
fdryL2AclSourceMac brcdIp.1.2.2.15.7.1.4 Syntax: MAC address	Read-write	Optional source MAC address. By default, it matches with any source MAC address within a packet. Default: '000000000000'H
fdryL2AclSourceMacMask brcdIp.1.2.2.15.7.1.5 Syntax: MAC address	Read-write	Optional source MAC address mask. For a Set operation, this object can only be used in conjunction with fdryL2AclSourceMac. By default, this matches any source MAC address within a packet. If you want to match the first two bytes of the address aabb.ccdd.eeff, use the mask ffff.0000.0000. In this case, the clause matches all source MAC addresses that contain "aabb" as the first two bytes and any values in the remaining bytes of the MAC address. Default: '000000000000'H
fdryL2AclDestinationMac brcdIp.1.2.2.15.7.1.6 Syntax: MAC address	Read-write	Optional destination MAC address. By default, it matches any destination MAC address within a packet. Default: '000000000000'H

Name, OID, and syntax	Access	Description
fdryL2AclDestinationMacMask brcdIp.1.2.2.15.7.1.7 Syntax: MAC address	Read-write	Optional destination MAC address mask. For a Set operation, this object can only be used in conjunction with fdryL2AclDestinationMac. By default, it matches any destination MAC address within a packet. If you want to match the first two bytes of the address aabb.ccdd.eeff, use the mask ffff.0000.0000. In this case, the clause matches all destination MAC addresses that contain "aabb" as the first two bytes and any values in the remaining bytes of the MAC address. Default: '000000000000'H
fdryL2AclVlanId brcdIp.1.2.2.15.7.1.8 Syntax: Textual conventions on page 376	Read-write	The optional VLAN ID to match against the incoming packet. By default, the VLAN ID field is ignored during the match and the value 0 is returned. Default: 0
fdryL2AclEthernetType brcdIp.1.2.2.15.7.1.9 Syntax: Textual conventions on page 376	Read-write	The optional Ethernet type to match against the etype field of the incoming packet. By default, the etype field is ignored during the match. Default: invalid
fdryL2AclDot1pPriority brcdIp.1.2.2.15.7.1.10 Syntax: Textual conventions on page 376	Read-write	This object is optional. It assigns the traffic that matches the ACL to a hardware-forwarding queue. In addition to changing the internal forwarding priority, if the outgoing interface is an 802.1q interface, this option maps the specified priority to its equivalent 802.1p (QoS) priority and marks the packet with the new 802.1p priority. This option is applicable only for the inbound Layer 2 ACLs. NOTE The fdryL2AclDot1pPriority object following fdryL2AclDot1pPriorityForce cannot be used together in a Layer 2 ACL entry. Default: level0(0)
fdryL2AclDot1pPriorityForce brcdIp.1.2.2.15.7.1.11 Syntax: Textual conventions on page 376	Read-write	This object is optional. It assigns the packets of outgoing traffic that match the Layer 2 ACL to a specific hardware-forwarding queue, even though the incoming packet may be assigned to another queue. This option is applicable only for the inbound ACLs. NOTE The fdryL2AclDot1pPriority object following fdryL2AclDot1pPriorityForce cannot be used together in a Layer 2 ACL entry. Default: level0(0)
fdryL2AclDot1pPriorityMapping brcdIp.1.2.2.15.7.1.12	Read-write	This object is optional. It matches the packet's 802.1p value. This option does not change the packet's forwarding priority through the device or

Name, OID, and syntax	Access	Description
Syntax: Textual conventions on page 376		mark the packet. It is applicable for both inbound and outbound Layer 2 ACLs. Default: level0(0)
fdryL2AclMirrorPackets brcdIp.1.2.2.15.7.1.13 Syntax: TruthVal	Read-write	This object is optional. It is applicable only for the ACLs with a permit clause. When you bind a Layer 2 ACL to a port, you can configure the port to mirror the packets to another port using the **acl-mirror-port** CLI command. Then the packets permitted on this port (as a result of the bound ACL) will be mirrored on the other port. Default: "false"
fdryL2AclLogEnable brcdIp.1.2.2.15.7.1.14 Syntax: TruthVal	Read-write	The optional parameter to enable logging only when a deny clause is specified. Note that the traffic denied by the implicit deny mechanism is not subject to logging. The implicit deny occurs when traffic does not match any of the clauses and there is no **permit any any** clause specified at the end of the Layer 2 ACL. Default: "false"
fdryL2AclRowStatus brcdIp.1.2.2.15.7.1.15 Syntax: RowStatus	Read-write	The row status variable is used according to installation and removal conventions for conceptual rows. Setting this object to active(1) or createAndGo(4) results in the addition of a Layer 2 ACL filter in the router. Duplicate entries will be rejected during row creation. As part of the row creation, entries are appended to this table. Row insertion may not be supported. Setting this object to destroy(6) removes the associated filter from the router. Other values in the enumeration are not used.

Layer 2 ACL binding configuration table

The Layer 2 ACL binding configuration table lists the Layer 2 ACLs that have been bound to a port.

Name, OID, and syntax	Access	Description
fdryL2AclIfBindTable brcdIp.1.2.2.15.8	None	The table of Layer 2 ACL binding to a port. Layer 2 ACLs and Layer 3 ACLs cannot be bound to the same port. However, you can configure a port to use Layer 2 ACLs, and another port on the same device to use Layer 3 ACLs. In general: • Layer 2 ACLs cannot be bound to virtual interfaces, unlike Layer 3 ACLs. • You cannot modify an existing Layer 2 ACL clause. You must first unbind the Layer 2 ACL, delete it, and then create a new clause.

Name, OID, and syntax	Access	Description
fdryL2AclIfBindDirection brcdIp.1.2.2.15.8.1.1 Syntax: Direction	None	Indicates if Layer 2 ACLs are bound to incoming or outgoing ports: • inbound(0) • outbound(1))
fdryL2AclIfBindAclNumber brcdIp.1.2.2.15.8.1.2 Syntax: Unsigned32	Read-write	The Layer 2 ACL number that is to be bound to a physical interface. Valid values: 400 - 599
fdryL2AclIfBindRowStatus brcdIp.1.2.2.15.8.1.3 Syntax: RowStatus	Read-write	The row status variable is used according to the installation and removal conventions for conceptual rows. Setting this object to active(1) or createAndGo(4) binds the Layer 2 ACL to the specified physical port. Setting this object to destroy(6) unbinds the Layer 2 ACL from the port. Other values in the enumeration are not used.
fdryL2AclIfBindAclName brcdIp.1.2.2.15.8.1.4 Syntax: AclNameString	Read-only	Represents the name of each configured L2 named ACL.

PBR ACL Accounting Table

NOTE
The following table is supported only on the MLX Series, MLX Series, and XMR Series devices.

Name, OID, and syntax	Access	Description
brcdPbrAclAccntTable brcdIp.1.2.2.15.9	None	The table of PBR ACL Accounting Statistics for router.
brcdPbrAclAccntKind brcdIp.1.2.2.15.9.1.1 Syntax: Integer	None	The kind of PBR ACL Accounting statistics that is required. • ipv4PolicyBasedRouting(1) • ipv6PolicyBasedRouting(2) • l2PolicyBasedRouting(3) • udaPlicyBasedRouting(4)
brcdPbrAclAccntIfIndex brcdIp.1.2.2.15.9.1.2 Syntax: InterfaceIndex	None	The physical or virtual interface on which ACL accounting is desired.
brcdPbrSerialNumber brcdIp.1.2.2.15.9.1.3 Syntax: Integer	None	A running serial number that may change if an ACL or routemap is modified. Valid values: 0 - 2147483647
brcdPbrAclAccntAclInfo brcdIp.1.2.2.15.9.1.4 Syntax: DisplayString	Read-only	This contains ACL Number, ACL Name, ACL Filter ID, and last five minutes and cumulative accounting data since the ACL was installed. Each field is separated by a pipe character. For example, 5MIN|CUMULATIVE|ACL Number|

Name, OID, and syntax	Access	Description
		ACL Filter Id|ACL Name. Depending on the value of the brcdPbrAclAccntCounterType object the corresponding counter will have the value while the other is zero.

Layer 2 named ACL configuration table

NOTE

The following table is supported only on the MLX Series, MLX Series, XMR Series, CES 2000 Series, and CER 2000 Series devices.

Name, OID, and syntax	Access	Description
fdryL2NamedAclTable brcdIp.1.2.2.15.10	None	The table displays the Layer 2 named Access Control List (ACL) Information, such as: • Source MAC address • Source MAC mask • Destination MAC address • Destination MAC mask • VLAN ID • Ethernet type
fdryL2NamedAclIndex brcdIp.1.2.2.15.10.1.1 Syntax: AclNumber	None	Represents a unique number for each configured Layer 2 named ACL.
fdryL2NamedAclClauseIndex brcdIp.1.2.2.15.10.1.2 Syntax: FdryClauseIndexTC	None	The index of the clause within a given ACL number.
fdryL2NamedAclName brcdIp.1.2.2.15.10.1.3 Syntax: AclNameString	Read-only	Represents the name of each configured Layer 2 named ACL.
fdryL2NamedAclAction brcdIp.1.2.2.15.10.1.4 Syntax: Action	Read-only	Action to take if the ingress Layer 2 packet matches this ACL.
fdryL2NamedAclSourceMac brcdIp.1.2.2.15.10.1.5 Syntax: MacAddress	Read-only	Optional source MAC address. By default, it matches with any source MAC address within a packet. Default: '000000000000'H
fdryL2NamedAclSourceMacMask brcdIp.1.2.2.15.10.1.6 Syntax: MacAddress	Read-only	Optional source MAC address mask. By default, it matches with any source MAC address within a packet. To match on the first two bytes of the address aabb.ccdd.eeff, use the mask ffff.0000.0000. In this case, the clause matches all source MAC addresses that contain 'aabb' as the first two bytes and any values in the remaining bytes of the MAC address. Default: '000000000000'H

Name, OID, and syntax	Access	Description
fdryL2NamedAclDestinationMac brcdIp.1.2.2.15.10.1.7 Syntax: MacAddress	Read-only	Optional destination MAC address. By default, it matches with any destination MAC within a packet. Default: '000000000000'H
fdryL2NamedAclDestinationMacMask brcdIp.1.2.2.15.10.1.8 Syntax: MacAddress	Read-only	Optional destination MAC address mask. By default, it matches with any destination MAC within a packet. To match on the first two bytes of the address aabb.ccdd.eeff, use the mask ffff. 0000.0000. In this case, the clause matches all destination MAC addresses that contain "aabb'" as the first two bytes and any values in the remaining bytes of the MAC address. Default: '000000000000'H
fdryL2NamedAclVlanId brcdIp.1.2.2.15.10.1.9 Syntax: FdryVlanIdOrNoneTC	Read-only	Optional VLAN ID to match against that of the incoming packet. By default, the VLAN ID field is ignored during the match. In this case, the value 0 is returned. Default: 0
fdryL2NamedAclEthernetType brcdIp.1.2.2.15.10.1.10 Syntax: FdryEnetTypeOrZeroTC	Read-only	Optional Ethernet type to match against the etype field of the incoming packet. By default, the etype field is ignored during the match. Default: invalid
fdryL2NamedAclDot1pPriority brcdIp.1.2.2.15.10.1.11 Syntax: PortQosTC	Read-only	The priority option assigns traffic that matches the ACL to a hardware-forwarding queue. In addition to changing the internal forwarding priority, if the outgoing interface is an 802.1q interface, this option maps the specified priority to its equivalent 802.1p (QoS) priority and marks the packet with the new 802.1p priority. This option is applicable for inbound ACLs only. NOTE fdryL2NamedAclDot1pPriority following fdryL2NamedAclDot1pPriorityForce cannot be used together in an ACL entry. Default: level0
fdryL2NamedAclDot1pPriorityForce brcdIp.1.2.2.15.10.1.12 Syntax: PortQosTC	Read-only	The priority-force option assigns packets of outgoing traffic that match the ACL to a specific hardware forwarding queue, even though the incoming packet is assigned to another queue. This option is applicable for inbound ACLs only. NOTE fdryL2NamedAclDot1pPriority following fdryL2NamedAclDot1pPriorityForce cannot be used together in an ACL entry. Default: level0
fdryL2NamedAclDot1pPriorityMapping	Read-only	The priority-mapping option matches on the packet's 802.1p value.

Name, OID, and syntax	Access	Description
brcdIp.1.2.2.15.10.1.13 Syntax: PortQosTC		This option does not change the packets forwarding priority through the device or mark the packet. The keyword is applicable for both inbound and outbound ACLs. Default: level0
fdryL2NamedAclMirrorPackets brcdIp.1.2.2.15.10.1.14 Syntax: TruthValue	Read-only	Mirror packets matching the ACL permit clause. Default: false
fdryL2NamedAclLogEnable brcdIp.1.2.2.15.10.1.15 Syntax: TruthValue	Read-only	Optional parameter to enable logging only when a deny clause is specified. Note that traffic denied by an implicit deny mechanism is not subject to logging. The implicit deny is enabled when the traffic does not match any of the clauses and there is no "permit any any" clause specified at the end. Default: false
fdryL2NamedAclRowStatus brcdIp.1.2.2.15.10.1.16 Syntax: RowStatus	Read-only	The row status variable illustrates the current status (active).

IPv6 ACL MIB Definition

IPv6 ACL table

The following table contains the IPv6 ACLs for Extreme NetIron IPv6 devices.

Name, OID, and syntax	Access	Description
fdryIpv6AclTable brcdIp.1.2.16.1.1.1	None	The IPv6 access control list filters.
fdryIpv6AclIndex brcdIp.1.2.16.1.1.1.1.1 Syntax: Unsigned32	None	The index number for an ACL entry. This is a unique number even though the name is not unique for a given ACL with the same or different source address, prefix length, destination address, destination prefix length, protocol type, action (permit or deny) type, and operator (neq, eq, gt, and lt).
fdryIpv6AclName brcdIp.1.2.16.1.1.1.1.2 Syntax: DisplayString	Read-create	The ACL name for an entry. **NOTE** The object access is read-only in the Extreme NetIron devices.
fdryIpv6AclAction brcdIp.1.2.16.1.1.1.1.3 Syntax: Action	Read-create	The action to take if the IP packet matches this ACL.
fdryIpv6AclProtocol brcdIp.1.2.16.1.1.1.1.4 Syntax: IpProtocol	Read-create	The transport protocols. 0 means any protocol.
fdryIpv6AclSourceIp brcdIp.1.2.16.1.1.1.1.5 Syntax: Ipv6Address	Read-create	The source IPv6 address.
fdryIpv6AclSourcePrefixLen brcdIp.1.2.16.1.1.1.1.6 Syntax: Unsigned32	Read-create	The source IPv6 address prefix length.
fdryIpv6AclSourceOperator brcdIp.1.2.16.1.1.1.1.7 Syntax: Operator	Read-create	The type of comparison to perform. This applies only to TCP or UDP.
fdryIpv6AclSourceOperand1 brcdIp.1.2.16.1.1.1.1.8 Syntax: Unsigned32	Read-create	This object refers to the source transport protocol port number of the operand 1.
fdryIpv6AclSourceOperand2 brcdIp.1.2.16.1.1.1.1.9 Syntax: Unsigned32	Read-create	This object refers to the source transport protocol port number of the operand 2.
fdryIpv6AclDestinationIp	Read-create	The destination IPv6 address.

Name, OID, and syntax	Access	Description
brcdIp.1.2.16.1.1.1.1.10 Syntax: Ipv6Address		
fdryIpv6AclDestinationPrefixLen brcdIp.1.2.16.1.1.1.1.11 Syntax: Unsigned32	Read-create	The destination IPv6 address prefix length.
fdryIpv6AclDestinationOperator brcdIp.1.2.16.1.1.1.1.12 Syntax: Operator	Read-create	The type of comparison to perform. This applies only to TCP or UDP.
fdryIpv6AclDestinationOperand1 brcdIp.1.2.16.1.1.1.1.13 Syntax: Unsigned32	Read-create	This object refers to the destination transport protocol port number of the operand 1.
fdryIpv6AclDestinationOperand2 brcdIp.1.2.16.1.1.1.1.14 Syntax: Unsigned32	Read-create	This object refers to the destination transport protocol port number of the operand 2.
fdryIpv6AclEstablished brcdIp.1.2.16.1.1.1.1.15 Syntax: RtrStatus	Read-create	Enables or disables the filtering of established TCP packets for which the ACK or RESET flag is on. This filter applies only to the TCP transport protocol.
fdryIpv6AclLogOption brcdIp.1.2.16.1.1.1.1.16 Syntax: TruthValue	Read-create	The log flag. This should be set to one, which enables logging.
fdryIpv6AclComments brcdIp.1.2.16.1.1.1.1.17 Syntax: DisplayString	Read-create	A description of the individual ACL entry.
fdryIpv6AclRowStatus brcdIp.1.2.16.1.1.1.1.18 Syntax: RowStatus	Read-create	Creates or deletes an ACL entry.
fdryIpv6AclVlanId brcdIp.1.2.16.1.1.1.1.19 Syntax: FdryVlanIdOrNoneTC **NOTE** This object is supported only on the MLX Series, MLX Series, XMR Series, CES 2000 Series, and CER 2000 Series devices.	Read-create	An optional VLAN ID to match against the incoming packets. By default, the VLAN ID field is ignored during the match and the value 0 is returned.
fdryIpv6AclClauseString brcdIp. 1.2.16.1.1.1.1.20 Syntax: DisplayString	Read-only	Returns the equivalent filter clause string.

IPv6 access list table

The following table contains the IPv6 access list entries supported on the Extreme NetIron devices.

Name, OID, and syntax	Access	Description
brcdIpv6AccessListTable brcdIp.1.2.16.1.1.2	None	IPv6 Access Control List (ACL) configuration table.

Name, OID, and syntax	Access	Description
		The table supports only IPv6 ACLs with names not more than 110 characters. SNMP WALK operation will skip the entries if the IPv6 ACL name is greater than 110 characters.
brcdIpv6AccessListName brcdIp.1.2.16.1.1.2.1.1 Syntax: DisplayString	None	The name of an IPv6 ACL. The IPv6 ACL name length is restricted to 110 characters from SNMP and it can be 200 characters from CLI. This is due to SNMP restriction on sub-OID length to be 128 for index objects. SNMP GET/GETNEXT operations skip the IPv6 ACLs with more than 110 characters in it. SNMP SET operation is rejected if the IPv6 ACL name length is more than 110 characters.
brcdIpv6AccessListNextIndex brcdIp.1.2.16.1.1.2.1.2 Syntax: Unsigned32	Read-only	Specifies the next index entry. A combination of the IPv6 ACL ID and the next available filter ID is used as an index while creating an access list filter entry in the fdryIpv6AclTable.
brcdIpv6AccessListRowStatus brcdIp.1.2.16.1.1.2.1.3 Syntax: RowStatus	Read-create	The following options are supported: • active(1)—To return SNMP GET or GET-NEXT requests. • createAndGo(4)—To add a new row. • destroy(6)—To remove a row.

MCT MIB Definition

MCT global MIB object

The following table lists the global MIB object of the MCT table.

Name, OID, and syntax	Access	Description
brcdMctL2Forward brcdIp.1.1.12.1.1.1 Syntax: EnabledStatus	Read-write	The global cluster Layer 2 forward state of the system. The STP packets coming from the MCT VLANs is dropped when the object is set to the disabled(2) state.

MCT cluster table

The following table lists the objects that apply globally to the Extreme NetIron devices a devices. Currently, the Extreme NetIron devices support only one cluster.

Use the **deploy** command or SNMP-SET request for brcdMctClusterDeploy with the deploy(2) value to verify whether the user has provided all the configuration information. The notReady(3) value for brcdMctClusterRowStatus indicates the user has not configured all the required cluster objects.

Name, OID, and syntax	Access	Description
brcdMctClusterTable brcdIp.1.1.12.1.1.2	None	The MCT cluster table.
brcdMctClusterId brcdIp.1.1.12.1.1.2.1.1 Syntax: Unsigned32	None	The ID of the MCT cluster.
brcdMctClusterName brcdIp.1.1.12.1.1.2.1.2 Syntax: DisplayString	Read-create	The name of the MCT cluster. The object cannot be modified after creation. Valid values: 1 - 64
brcdMctClusterRbridgeId brcdIp.1.1.12.1.1.2.1.3 Syntax: Unsigned32	Read-create	The remote bridge ID of the MCT cluster. The remote bridge ID is used by the peer to communicate with the cluster node. Valid values: 1 - 35535
brcdMctClusterSessionVlan brcdIp.1.1.12.1.1.2.1.4 Syntax: BrcdVlanIdTC	Read-create	The session VLAN of the MCT cluster. The cluster session VLAN ranges from 1 through 4090, but it cannot be a default VLAN. The brcdMctClusterSessionVlan and brcdMctClusterKeepAliveVlan objects cannot be the same value.

Name, OID, and syntax	Access	Description
brcdMctClusterKeepAliveVlan brcdIp.1.1.12.1.1.2.1.5 Syntax: BrcdVlanIdOrNoneTC	Read-create	The keepalive VLAN of the MCT cluster. The keepalive VLAN ranges from 0 through 4090, but it cannot be a default VLAN. The brcdMctClusterSessionVlan and brcdMctClusterKeepAliveVlan objects cannot be the same value. The value 0 indicates the keepalive VLAN is not set for the particular cluster. If the brcdMctClusterClientIsolationMode object is set to strict(2), then the brcdMctClusterKeepAliveVlan object cannot be set to any value other than 0. Default: 0
brcdMctClusterClientIsolationMode brcdIp.1.1.12.1.1.2.1.6 Syntax: Integer	Read-create	The client isolation mode of the MCT cluster. • loose(1)—Indicates the Cluster Communication Protocol (CCP) is down and the client performs the master/slave negotiation. After negotiation, the slave shuts down the client ports, whereas the master client ports continue to forward the traffic. • strict(2)—Indicates the CCP goes down and the client interface on both the cluster nodes is administratively shut down. In this mode, the client is isolated from the network if CCP is not operational. If the brcdMctClusterKeepAliveVlan object is set to any value other than 0, then the brcdMctClusterClientIsolationMode object cannot be set to strict(2). Default: loose(1)
brcdMctClusterClientShutdown brcdIp.1.1.12.1.1.2.1.7 Syntax: TruthVal	Read-create	The client shutdown state of the MCT cluster. Shuts down the entire local client interface in the cluster when the value is set to true. This results in the failover of the traffic to the cluster peer. Default: false
brcdMctClusterMemberVlans brcdIp.1.1.12.1.1.2.1.8 Syntax: DisplayString	Read-create	The list of the member VLAN IDs on which the MCT cluster is operating. This is the range of VLANs that has MAC synchronization. • The VLANs that are not sequential are represented as separated by a space; for example, 2 5 100. • The VLANs that are continuous and sequential are represented as a range; for example, 10 to 40.
brcdMctClusterActiveMemberVlans brcdIp.1.1.12.1.1.2.1.9 Syntax: DisplayString	Read-only	The list of the active member VLANs of the MCT cluster. • The VLANs that are not sequential are represented as separated by a space; for example, 2 5 100.

Name, OID, and syntax	Access	Description
		• The VLANs that are continuous and sequential are represented as a range; for example, 10 to 40.
brcdMctClusterDeploy brcdIp.1.1.12.1.1.2.1.10 Syntax: BrcdDeployStatus	Read-create	The administrator status of the MCT cluster. The consistency check of the entire cluster configuration is done when the object is set to the deploy(1) value. After the cluster is deployed, the configuration cannot be modified except for the brcdMctClusterMemberVlans, brcdMctClusterClientIsolationMode, and brcdMctClusterDeploy objects. Default: undeploy(2)
brcdMctClusterDeployFailureReason brcdIp.1.1.12.1.1.2.1.11 Syntax: Integer	Read-only	The last failure reasons for the cluster deploy operation through SNMP. The following failure reason codes are supported: • none(1)—Indicates the last deploy is successful. • unknown(2)—Indicates the last deploy is failed for an unknown reason. • rBridgeIdNotConfigured(3)—Indicates the remote bridge ID is not configured. • sessionVlanNotConfigured(4)—Indicates the session VLAN is not configured. • iclNotConfigured(5)—Indicates the Inter-Chassis Link (ICL) is not configured. • peerNotConfigured(6)—Indicates the peer is not configured. • iclIsMrpSecondaryInterface(7)—On the CES 2000 Series and CER 2000 Series devices, the ICL should not be a Metro Ring Protocol (MRP) secondary interface. • iclIsErpRplInterface(8)—On the CES 2000 Series and CER 2000 Series devices, the ICL should not be a Ethernet Ring Protection (ERP) Ring Protection Link (RPL) interface. • iclIsErpMsInterface(9)—On the CES 2000 Series and CER 2000 Series devices, the ICL should not be a ERP MS interface. • iclIsErpFsInterface(10)—On the CES 2000 Series and CER 2000 Series devices, the ICL should not be a ERP FS interface. • iclNotInSessionVlan(11)—Indicates the ICL is not in the session VLAN. • iclNotInMemberVlans(12)—Indicates the ICL is not in the member VLANs.

Name, OID, and syntax	Access	Description
		• nonIclInterfacesInSessionVlan(13)—Indicates none of the ICL interfaces are present under the session VLAN. • mgmtVeNotConfiguredInSessionVlan(14)—Indicates the management VE is not configured in the session VLAN. • mgmtIpNotConfiguredInSessionVlan(15)—Indicates the management IP is not configured in the session VLAN. • mgmtIpIsUsedInPeerOrClientConfig(16)—Indicates the management IP is used in peer or client configurations. • mgmtIpNotInSubnetOfPeerIp(17)—Indicates the management IP is not in the subnet of a peer IP.
brcdMctClusterDeployFailureReason (continued)		• rBridgeIdUsedInPeerOrClientConfig(18)—Indicates the remote bridge ID is used in peer or client configurations. • clientInterfaceIsNotInMemberVlan(19)—Indicates the client interface is not in the member VLAN. • defaultVlanConfigAsSessOrMemberVlan(20)—Indicates the default VLAN is configured as the session or member VLAN.
brcdMctClusterRowStatus brcdIp.1.1.12.1.1.2.1.12 Syntax: RowStatus	Read-create	The row status of the MCT clusters. All the row status values are supported. The notInService(2) value indicates the cluster is not yet activated. The following objects must be present in the same SNMP SET request to create a row with the brcdMctClusterRowStatus object set to the createAndGo(4) value: • brcdMctClusterName • brcdMctClusterRbridgeId • brcdMctClusterSessionVlan • brcdMctClusterMemberVlans The brcdMctClusterName object must be present in the same SNMP SET request to create a row in the brcdMctClusterTable with the brcdMctClusterRowStatus object set to the createAndWait(5) value. If the cluster is deployed, then the brcdMctClusterRowStatus object cannot be set to destroy(6).

MCT cluster ICL table

The following table lists the Inter-Chassis Link (ICL) MCT cluster MIB objects supported only on the Extreme NetIron devices.

Name, OID, and syntax	Access	Description
brcdMctClusterIclTable	None	The MCT cluster ICL table.

Name, OID, and syntax	Access	Description
brcdIp.1.1.12.1.1.3		
brcdMctClusterIclName brcdIp.1.1.12.1.1.3.1.1 Syntax: DisplayString	None	The name of the ICL. Valid values: 1 - 64
brcdMctClusterIclIfIndex brcdIp.1.1.12.1.1.3.1.2 Syntax: InterfaceIndex	Read-create	The interface index of the ICL. The ICL interface can be a single Ethernet interface or trunk interface index.
brcdMctClusterIclRowStatus brcdIp.1.1.12.1.1.3.1.3 Syntax: RowStatus	Read-create	The row status of the MCT cluster ICL entry. It supports only the active(1), createAndGo(4), and destroy (6) values of the row status. If the cluster is deployed, then the brcdMctClusterIclRowStatus object cannot be set to destroy(6). If the brcdMctClusterIclName object is used in the peer configuration for the brcdMctClusterPeerIclName object, then the peer configuration must be removed before setting the brcdMctClusterIclRowStatus object to destroy(6).

MCT cluster peer table

The following table lists the MCT cluster peer table MIB objects supported only on the Extreme NetIron devices. NetIron devices support only one cluster peer. The Layer 2 VPN peer is not supported.

Name, OID, and syntax	Access	Description
brcdMctClusterPeerTable brcdIp.1.1.12.1.1.4	None	The MCT cluster peer table. NOTE The objects in the table cannot be modified after the cluster is deployed.
brcdMctClusterPeerAddrType brcdIp.1.1.12.1.1.4.1.1 Syntax: InetAddressType	None	The address type of the MCT cluster peer. The supported address types are ipv4(1) and ipv6(2).
brcdMctClusterPeerAddr brcdIp.1.1.12.1.1.4.1.2 Syntax: InetAddress	None	The IPv4 or IPv6 address of the MCT cluster peer.
brcdMctClusterPeerRbridgeId brcdIp.1.1.12.1.1.4.1.3 Syntax: Unsigned32	Read-create	The remote bridge ID of the MCT cluster peer. Valid values: 1 - 35535
brcdMctClusterPeerIclName brcdIp.1.1.12.1.1.4.1.4 Syntax: DisplayString	Read-create	The ICL name of the MCT cluster peer. The ICL name must be similar to the brcdMctClusterIclName object.
brcdMctClusterPeerFastFailover brcdIp.1.1.12.1.1.4.1.5 Syntax: EnabledStatus	Read-create	The fast failover status of the MCT cluster peer. • When the object is set to enable(1), the remote MACs are flushed as soon

Name, OID, and syntax	Access	Description
		as the ICL interface and the CCP are down. • When the object is set to disable(2), the remote MACs are flushed only when the CCP is down. Even if the ICL interface is down, CCP waits for the hold time before making the CCP down.
brcdMctClusterPeerKeepAliveTime brcdIp.1.1.12.1.1.4.1.6 Syntax: Unsigned32	Read-create	The keepalive time in seconds of the MCT cluster peer. The keepalive time ranges from 0 through 21845 seconds. Default: 30 seconds
brcdMctClusterPeerHoldTime brcdIp.1.1.12.1.1.4.1.7 Syntax: Unsigned32	Read-create	The hold time in seconds of the MCT cluster peer. The hold time must be at least three times of the keepalive time. The hold time ranges from 3 through 65535 seconds. Default: 90 seconds
brcdMctClusterPeerActiveVlans brcdIp.1.1.12.1.1.4.1.8 Syntax: DisplayString	Read-only	The list of the active member VLANs of the MCT cluster peer. • The VLANs that are not sequential are represented as separated by a space; for example, 2 5 100. • The VLANs that are continuous and sequential are represented as a range; for example, 10 to 40.
brcdMctClusterPeerOperStatus brcdIp.1.1.12.1.1.4.1.9 Syntax: Integer	Read-only	The operational status of the MCT cluster peer. The following values are supported for the operational status: • unknown(1)—Unknown state. • noState(2)—The peer state machine is not started. • init(3)—The peer state machine is initializing. • ccpUp(4)—The CCP is up. • ccpDown(5)—The CCP is down. • reachable(6)—The CCP is down, but the peer is reachable through the keepalive VLAN.
brcdMctClusterPeerDownReason brcdIp.1.1.12.1.1.4.1.10 Syntax: Integer	Read-only	The reason for the brcdMctClusterPeerOperStatus object to be in the ccpDown(3) state. The following values are supported as the down reason: • none(1)—Indicates the peer is not in the down state. • loopbackInterfaceDown(2)—Indicates the loopback interface is down. • iclInterfaceDown(3)—Indicates the ICL interface is down. • upgradeInProgress(4)—Indicates all local client interfaces are disabled.

Name, OID, and syntax	Access	Description
		• routeNotAvailable(5)—Indicates the route to the cluster peer is not available. • iclVeDown(6)—Indicates the ICL VE interface is down. • rBridgeIdMismatch(7)—Indicates the remote bridge ID does not match with the peer. • clusterIdMismatch(8)—Indicates the cluster ID does not match with the peer. • keepAliveTimeMismatch(9)—Indicates the keepalive time does not match with the peer. • holdTimeMismatch(10)—Indicates the hold time does not match with the peer. • fastFailoverMismatch(11)—Indicates the fast failover parameter does not match with the peer. • shutdownMesgFromPeer(12)—Indicates a shutdown message is received from the peer. • tcpKeepAliveTimeout(13)—Indicates a TCP keepalive timeout message is received. • tclConnCloseMesg(14)—Indicates a TCP connection close message is received. • holdTimeoutExpired(15)—Indicates the hold timeout is expired. • sendStateTimeoutExpired(16)—Indicates the transmission state timeout is expired. • recvStateTimeoutExpired(17)—Indicates the received state timeout is expired. • initMesgSendFail(18)—Indicates failure to send the initializing message. • keepAliveMesgSendFail(19)—Indicates failure to send the keepalive message. • invalidAppMesgRecv(20)—Indicates an invalid application packet message is received from the peer. • badProtocolVersionPktRecv(21)—Indicates a bad protocol version packet received message from the peer. • badPduLengthPktRecv(22)—Indicates a bad PDU length packet received message from the peer. • unknownCcpPktRecv(23)—Indicates an unknown CCP message type

Name, OID, and syntax	Access	Description
		packet received message from the peer. • invalidCcpPktRecv(24)—Indicates an invalid CCP message length packet received message from the peer. • internalCcpErrorRecv(25)—Indicates an internal CCP error message from the peer. • ccpTcpCommFail(26)—Indicates a cluster CCP TCP communication is failed.
brcdMctClusterPeerUpTime brcdIp.1.1.12.1.1.4.1.11 Syntax: TimeInterval	Read-only	The time since the MCT cluster peer is up and running. If the brcdMctClusterPeerOperStatus object is not in the ccpUp(2) state, then the value 0 is returned.
brcdMctClusterPeerRowStatus brcdIp.1.1.12.1.1.4.1.12 Syntax: RowStatus	Read-create	The row status of the MCT cluster peer. Only the active(1), notInService(2), createAndGo(4), and destroy(6) values of the RowStatus are supported. The notInService(2) value indicates the cluster is not yet activated. The SNMP SET request to create a row with the brcdMctClusterPeerRowStatus object set to the createAndGo(4) value must contain the brcdMctClusterPeerRbridgeId and brcdMctClusterPeerIclName objects in the same SNMP SET request. If the cluster is deployed, then the brcdMctClusterPeerRowStatus object cannot be set to destroy(6).

MCT cluster client table

The following table lists the MCT cluster client MIB objects. The **deploy** command or SNMP SET request for the brcdMctClusterClientDeploy object with the deploy(2) value verifies if the configuration is set properly or not. The notReady(3) enum value for the brcdMctClusterClientRowStatus object indicates not all the required cluster client configuration objects are configured.

Name, OID, and syntax	Access	Description
brcdMctClusterClientTable brcdIp.1.1.12.1.1.5	None	The MCT cluster client table.
brcdMctClusterClientName brcdIp.1.1.12.1.1.5.1.1 Syntax: DisplayString	None	The name of the MCT cluster client.
brcdMctClusterClientRbridgeId brcdIp.1.1.12.1.1.5.1.2 Syntax: Unsigned32	Read-create	The remote bridge ID of the MCT cluster client. The remote bridge ID is used by the client to communicate with the cluster node. Valid values: 1 - 35535
brcdMctClusterClientIfIndex brcdIp.1.1.12.1.1.5.1.3 Syntax: InterfaceIndex	Read-create	The interface index that is connected to the MCT cluster client. The interface must be an Ethernet interface or trunk interface.

Name, OID, and syntax	Access	Description
brcdMctClusterClientOperStatus brcdIp.1.1.12.1.1.5.1.4 Syntax: Integer	Read-create	The operational status of the MCT cluster client. The following values are supported by the operational status: • unknown(1)—Indicates the unknown state. • noState(2)—Indicates the peer state machine is not started. • init(3)—Indicates the peer state machine is initializing. • localDeploy(4)—Indicates the client is up, but is not configured at the remote side. • adminUp(5)—Indicates the client is up, but both the client interfaces are operationally down. • remoteUp(6)—Indicates the client is remotely up and locally down. • localUp(7)—Indicates the client is locally up and remotely down. • up(8)—Indicates the client is up both locally and remotely. • slave(9)—Indicates the client is down and it has taken the slave role. • master(10)—Indicates the client is down and it has taken the master role. • masterPeerUp(11)—Indicates the client is down, it has taken the master role, and the master peer is up.
brcdMctClusterClientDeploy brcdIp.1.1.12.1.1.5.1.5 Syntax: BrcdDeployStatus	Read-create	The administration status of the MCT cluster client. When the object is set to deploy and the cluster is not deployed, the configuration happens but the client state machine will not get started. NOTE The objects in the table cannot be modified except the brcdMctClusterClientDeploy object, after the client is deployed.
brcdMctClusterClientDeployFailureReason brcdIp.1.1.12.1.1.5.1.6 Syntax: Integer	Read-only	The failure reasons for the last cluster client deploy operation through SNMP. The following failure reasons are supported: • none(1)—Indicates the last deploy is successful. • unknown(2)—Indicates the last deploy is failed for an unknown reason. • rBridgeIdNotConfigured(3)—Indicates the remote bridge ID is not configured. • clientInterfaceNotConfigured(4)—Indicates the client interface is not configured. • rBridgeIdUsedInClusterOrPeer(5)—Indicates the remote bridge ID is used in cluster or peer configurations.

Name, OID, and syntax	Access	Description
		• clientInterfaceNotPresent(6)—Indicates the client interface is physically not present. • clientInterfaceIsMrpRingInterface(7)—Indicates the client interface is configured as an MRP ring interface. • clientInterfaceIsErpInterface(8)—Indicates the client interface is configured as an ERP interface. • iclIsNotInMemberVlan(9)—Indicates the ICL is not in the member VLAN.
brcdMctClusterClientRowStatus brcdIp.1.1.12.1.1.5.1.7 Syntax: RowStatus	Read-create	The row status of the MCT cluster client. All the values of the row status are supported. The notInService(2) value indicates the cluster client is not deployed. The brcdMctClusterClientRbridgeId and brcdMctClusterClientIfIndex objects must be present in the same SNMP SET request to create a new row with the brcdMctClusterClientRowStatus object set to the createAndGo(4) value.

ARP MIB Definition

Global ARP statistics

The following MIB objects display statistics for Address Resolution Protocol (ARP).

NOTE
The objects in the following table are not supported on the XMR Series, MLX Series, MLX Series, CES 2000 Series, and CER 2000 Series devices.

Name, OID, and syntax	Access	Description
snArpStatsTotalReceived brcdIp.1.1.3.22.1.1 Syntax: Counter32	Read-only	The total number of ARP packets received from the interfaces, including those received in error.
snArpStatsRequestReceived brcdIp.1.1.3.22.1.2 Syntax: Counter32	Read-only	The total number of input ARP request packets received from the interfaces.
snArpStatsRequestSent brcdIp.1.1.3.22.1.3 Syntax: Counter32	Read-only	The total number of output ARP request packets sent from the interfaces.
snArpStatsRepliesSent brcdIp.1.1.3.22.1.4 Syntax: Counter32	Read-only	The total number of output ARP reply packets sent from the interfaces.
snArpStatsPendingDrop brcdIp.1.1.3.22.1.5 Syntax: Counter32	Read-only	The total number of ARP pending packets discarded.
snArpStatsInvalidSource brcdIp.1.1.3.22.1.6 Syntax: Counter32	Read-only	The total number of ARP packets received with invalid sender protocol address.
snArpStatsInvalidDestination brcdIp.1.1.3.22.1.7 Syntax: Counter32	Read-only	The total number of ARP packets received with invalid destination protocol address.

IP MIB Definition

Global router MIB

The following table contains a global MIB object covering the switching properties of the Layer 3 Switch, regardless of routing protocol.

Name, OID, and syntax	Access	Description
snGblRtRouteOnly brcdIp.1.2.8.1.1 Syntax: Integer	Read-write	Determines if the Layer 3 Switch will route or switch packets: • disabled(0) - Router will first route the packets. If it cannot route them, it will switch the packets. • enabled(1) - Router will only route the packets; it will not switch them.

IP general group

The following table contains the general objects for the IP group.

Name, OID, and syntax	Access	Description
snRtClearIpCache brcdIp.1.2.2.1.2 Syntax: ClearStatus	Read-write	Clears the entries in the IP forwarding cache table: • normal(0) - Do not clear entries. • clear(1) - Clear entries.
snRtClearIpRoute brcdIp.1.2.2.1.3 Syntax: ClearStatus	Read-write	Clears the IP route tables: • normal(0) - Do not clear entries. • clear(1) - Clear entries. NOTE Beginning with NetIron 05.9.00 release, the snRtClearIpRoute MIB object has VRF support.
snRtBootpServer brcdIp.1.2.2.1.4 Syntax: IpAddress	Read-write	Shows the IP address of the bootp server to which bootp packets must be relayed.

Name, OID, and syntax	Access	Description
NOTE This object is not supported on the MLX Series, MLX Series, XMR Series, CES 2000 Series, and CER 2000 Series devices.		
snRtBootpRelayMax brcdIp.1.2.2.1.5 Syntax: Integer NOTE This object is not supported on the MLX Series, MLX Series, XMR Series, CES 2000 Series, and CER 2000 Series devices.	Read-write	Specifies the maximum number of hops the bootp packet should travel. Valid values: Up to 15 hops
snRtArpAge brcdIp.1.2.2.1.6 Syntax: Integer	Read-write	Specifies the number of minutes that an ARP entry can be valid without having it to be relearned. Valid values: Up to 240 minutes. A value of zero (0) means that the entry will not age out.
snRtIpIrdpEnable brcdIp.1.2.2.1.7 Syntax: Integer	Read-write	Indicates if router advertisement is enabled on this device: • disabled(0) • enabled(1)
snRtIpLoadShare brcdIp.1.2.2.1.8 Syntax: Integer	Read-write	Indicates if more than one route is enabled to share the loads: • disabled(0) • enabled(1)
snRtIpProxyArp brcdIp.1.2.2.1.9 Syntax: Integer	Read-write	Indicates if the proxy ARP function is enabled: • disabled(0) • enabled(1)
snRtIpRarp brcdIp.1.2.2.1.10 Syntax: Integer	Read-write	Indicates if the RARP server is enabled: • disabled(0) • enabled(1)
snRtIpTtl brcdIp.1.2.2.1.11 Syntax: Integer	Read-write	Indicates the time-to-live (TTL) value that will be used in the IP header of an IP packet that was generated by this device. Valid values: 1 - 255
snRtIpSetAllPortConfig brcdIp.1.2.2.1.12 Syntax: Integer32 NOTE This object is not supported on the MLX Series, MLX Series, XMR Series, CES 2000 Series, and CER 2000 Series devices.	Read-write	Shows the index number of a row in IP interface port configuration table on page 410, such as IP interface port configuration table on page 410. All the writeable data from that row will be copied to all appropriate rows in all IPinterface port configuration table.

Name, OID, and syntax	Access	Description
		NOTE Prior to setting this object, make sure that the row identified in this object contains a value for all its objects; otherwise, the current data of the row will be used to set the entire IP interface configuration table.
snRtIpFwdCacheMaxEntries brcdIp.1.2.2.1.13 Syntax: Integer32	Read-only	Shows the maximum number of entries in the IP forwarding cache table.
snRtIpFwdCacheCurEntries brcdIp.1.2.2.1.14 Syntax: Integer32	Read-only	Shows the current number of entries in the IP forwarding cache table.
snRtIpMaxStaticRouteEntries brcdIp.1.2.2.1.15 Syntax: Integer	Read-only	Shows the maximum number of entries in the IP static route table.
snRtIpDirBcastFwd brcdIp.1.2.2.1.16 Syntax: Integer	Read-write	Indicates if the directed broadcast forwarding feature is enabled: • disabled(0) • enabled(1)
snRtIpLoadShareNumOfPaths brcdIp.1.2.2.1.17 Syntax: Integer32	Read-write	Specifies the number of routes to be used to share the load.
snRtIpLoadShareMaxPaths brcdIp.1.2.2.1.18 Syntax: Integer32	Read-only	Indicates the maximum number of routes that can be configured to share the load.
snRtIpLoadShareMinPaths brcdIp.1.2.2.1.19 Syntax: Integer32	Read-only	Indicates the minimum number of routes that can be configured to share the load.
snRtIpProtocolRouterId brcdIp.1.2.2.1.20 Syntax: IpAddress	Read-write	Shows the router ID for all Internet Protocols. NOTE Beginning with NetIron 05.9.00 release, the snRtIpProtocolRouterId MIB object has VRF support.
snRtIpSourceRoute brcdIp.1.2.2.1.21 Syntax: Integer	Read-write	Indicates if strict source routing is enabled to drop source routed packets: • disabled(0) • enabled(1)

IP static route table

NOTE
The following table is not supported on the MLX Series, MLX Series, XMR Series, CES 2000 Series, CER 2000 Series devices.

The IP static route table contains a list of static routes. These routes can be one of the following types:

- Standard - The static route consists of the destination network address and network mask, plus the IP address of the next-hop gateway.
- Interface-based - The static route consists of the destination network address and network mask, plus the Layer 3 Switch interface through which you want the Layer 3 Switch to send traffic for the route. Typically, this type of static route is directly attached to the destination networks.
- Null - The static route consists of the destination network address and network mask, plus the "null0" parameter. Typically, the null route is configured as a backup route for discarding traffic if the primary route is unavailable.

The IP static route table also serves as the default route table.

NOTE
SNMP support for IP static route MIB table is limited only to IPv4 and not supported on IPv6. Operations such as SNMP GET, SNMP WALK, and SNMP SET are supported.

NOTE
The following MIB table OIDs support only the default VRF and non-default VRF is not supported.

Name, OID, and syntax	Access	Description
snRtIpStaticRouteTable brcdIp.1.2.2.2	None	IP static route table.
snRtIpStaticRouteIndex brcdIp.1.2.2.2.1.1 Syntax: Integer32	Read-only	The table index for a static route entry.
snRtIpStaticRouteDest brcdIp.1.2.2.2.1.2 Syntax: IpAddress	Read-write	Shows the destination IP address of the default route. The address 0.0.0.0 is the IP address of the default router. NOTE The OID value of the snRtIpStaticRouteDest must be same as the snRtIpStaticRouteDest index value used to create the row. Index and index value must be the same. SNMPSET value must be a valid IP address.
snRtIpStaticRouteMask brcdIp.1.2.2.2.1.3 Syntax: IpAddress	Read-write	Shows the subnet mask of the default router destination IP address. The subnet mask of the default router is 0.0.0.0. The OID value of the snRtIpStaticRouteMask must be same as the snRtIpStaticRouteMask index value used to create the row. Index and index value must be the same. SNMPSET value must be a valid IP address
snRtIpStaticRouteNextHop brcdIp.1.2.2.2.1.4 Syntax: IpAddress	Read-write	Shows the IP address of the next-hop router (gateway) for the route. SNMPSET value must be a valid IP address.
snRtIpStaticRouteMetric brcdIp.1.2.2.2.1.5 Syntax: Integer32	Read-write	Shows the metrics to next-hop router.

Name, OID, and syntax	Access	Description
snRtIpStaticRouteRowStatus brcdIp.1.2.2.2.1.6 Syntax: Integer	Read-write	Controls the management of the table rows. The following values can be written: • delete(3) - Delete the row. • create(4) - Create a new row.
snRtIpStaticRouteDistance brcdIp.1.2.2.2.1.7 Syntax: Integer	Read-write	Specifies the administrative distance of the route. When comparing equal routes to a destination, the Layer 3 Switch prefers lower administrative distances over higher ones.

IP filter table

An IP filter is an access policy that determines whether the device forwards or drops IP packets. A filter consists of source and destination IP information and the action to take when a packet matches the values in the filter.

NOTE
The following table is not supported on the MLX Series, MLX Series, XMR Series, CES 2000 Series, and CER 2000 Series devices.

The following objects define IP filters.

Name, OID, and syntax	Access	Description
snRtIpFilterTable brcdIp.1.2.2.3	None	The IP filter table.
snRtIpFilterIndex brcdIp.1.2.2.3.1.1 Syntax: Integer32	Read-only	Shows the index for an entry in the IP filter table.
snRtIpFilterAction brcdIp.1.2.2.3.1.2 Syntax: Integer	Read-write	Determines the action to be taken if the IP packet matches this filter: • deny(0) • permit(1) • qosEnabled(2) When you configure an IP access policy, the device denies all IP packets by default unless you explicitly permit them. Thus, if you want the device to permit all IP packets except the ones that you filter out, you must configure the last IP access policy to permit all IP packets.
snRtIpFilterProtocol brcdIp.1.2.2.3.1.3 Syntax: Integer	Read-write	Specifies the transport protocol that you can filter. Only the traffic for the transport protocol selected will be allowed: • all(0) - All traffic of the following transport protocols listed is permitted. • ICMP(1) • IGMP(2) • IGRP(88) • OSPF(89) • TCP(6) • UDP(17)

Name, OID, and syntax	Access	Description
		In addition, if you filter TCP or UDP, you can also specify a particular application port (such as “HTTP” or “80”) or a logical expression consisting of an operator and port names or numbers.
snRtIpFilterSourceIp brcdIp.1.2.2.3.1.4 Syntax: IpAddress	Read-write	Shows the source IP address. The policy will be applied to packets that come from this IP address.
snRtIpFilterSourceMask brcdIp.1.2.2.3.1.5 Syntax: IpAddress	Read-write	Shows the source IP subnet mask. The policy will be applied to packets that come from this subnet mask.
snRtIpFilterDestIp brcdIp.1.2.2.3.1.6 Syntax: IpAddress	Read-write	Shows the destination IP address. The IP access policy will be applied to packets that are going to this IP address.
snRtIpFilterDestMask brcdIp.1.2.2.3.1.7 Syntax: IpAddress	Read-write	Shows the destination IP subnet mask. The IP access policy will be applied to packets that are going to this subnet mask.
snRtIpFilterOperator brcdIp.1.2.2.3.1.8 Syntax: Integer	Read-write	Applies only if the value of the IP filter table object is TCP or UDP. It specifies the type of comparison to be performed to TCP and UDP packets: • greater(1) - The policy applies to TCP or UDP port numbers that are greater than the value of the IP filter table object. • equal(2) - The policy applies to TCP or UDP port numbers that are equal to the value of the IP filter table object. • less(3) - The policy applies to TCP or UDP port numbers that are less than the value of the IP filter table object. • notEqual(4) - The policy applies to all TCP or UDP port numbers except to those that are equal to the value of the IP filter table object.
snRtIpFilterOperand brcdIp.1.2.2.3.1.9 Syntax: Integer	Read-write	Applies only if the value of the IP filter table object is TCP or UDP. Specifies the TCP or UDP port number that will be used in this filter. Valid values: 0 - 65535. 0 means that this object is not applicable.
snRtIpFilterRowStatus brcdIp.1.2.2.3.1.10 Syntax: Integer	Read-write	Controls the management of the table rows. The following values can be written: • delete(3) - Delete the row. • create(4) - Create a new row. • modify(5) - Modify an existing row. If the row exists, then a SET with a value of create(4) returns a "bad value" error. Deleted rows are removed from the table immediately.

Name, OID, and syntax	Access	Description
		The following values can be returned on reads: • noSuch(0) - No such row. • invalid(1) - Row is inoperative. • valid(2) - Row exists and is valid.
snRtIpFilterEstablished brcdIp.1.2.2.3.1.11 Syntax: Integer	Read-write	Applies only to TCP packets. Indicates if the filtering of established TCP packets is enabled for packets that have the ACK or RESET flag on: • disabled(0) • enabled(1)
snRtIpFilterQosPriority brcdIp.1.2.2.3.1.12 Syntax: Integer	Read-write	The router Layer 4 QoS Priority values are: • low(0) - lower priority • high(1) - higher priority The Priority values are: • level0(0) - Lower priority • level1(1) • level2(2) • level3(3), • level4(4) • level5(5) • level6(6) • level7(7) - Higher priority

RARP table

The Reverse Address Resolution Protocol (RARP) provides a simple mechanism for directly-attached IP hosts to boot over the network. RARP allows an IP host that does not have a means of storing its IP address across power cycles or software reloads to query a directly-attached router for an IP address.

RARP is enabled by default. However, there must be a static RARP entry for each host that will use the Layer 3 Switch for booting. The following table contains the objects that define each RARP entry.

NOTE
The following table is not supported on the MLX Series, MLX Series, and XMR Series devices.

Name, OID, and syntax	Access	Description
snRtIpRarpTable brcdIp.1.2.2.4	None	IP RARP table.
snRtIpRarpIndex brcdIp.1.2.2.4.1.1 Syntax: Integer	Read-only	An index for an entry in the RARP table. There can be up to 16 entries.
snRtIpRarpMac brcdIp.1.2.2.4.1.2 Syntax: OCTET STRING	Read-write	Shows the MAC address of the RARP client.
snRtIpRarpIp brcdIp.1.2.2.4.1.3	Read-write	Shows the IP address for a RARP client.

Name, OID, and syntax	Access	Description
Syntax: IpAddress		
snRtIpRarpRowStatus brcdIp.1.2.2.4.1.4 Syntax: Integer	Read-write	Controls the management of the table rows. The following values can be written: • delete(3) - Delete the row. • create(4) - Create a new row. • modify(5) - Modify an existing row. If the row exists, then a SET with a value of create(4) returns a "bad value" error. Deleted rows are removed from the table immediately. The following values can be returned on reads: • noSuch(0) - No such row. • invalid(1) - Row is inoperative. • valid(2) - Row exists and is valid.

Static ARP table

The Address Resolution Protocol (ARP) is a standard IP protocol that enables an IP Layer 3 Switch to obtain the MAC address of another device's interface when the Layer 3 Switch knows the IP address of the interface. ARP is enabled by default and cannot be disabled.

The static ARP table in a Layer 3 Switch contains entries that are useful in cases where you want to preconfigure an entry for a device that is not connected to the Layer 3 Switch, or you want to prevent a particular entry from aging out. The software removes a dynamic entry from the ARP cache if the ARP aging interval expires before the entry is refreshed. Static entries do not age out, regardless of whether or not the device receives an ARP request from the device that has the entry's address.

NOTE
The following table is not supported on the MLX Series, MLX Series, XMR Series, CES 2000 Series, and CER 2000 Series devices.

Name, OID, and syntax	Access	Description
snRtStaticArpTable brcdIp.1.2.2.5	None	IP static ARP table.
snRtStaticArpIndex brcdIp.1.2.2.5.1.1 Syntax: Integer	Read-only	An index for a static ARP entry. There can be up to 16 entries.
snRtStaticArpIp brcdIp.1.2.2.5.1.2 Syntax: IpAddress	Read-write	Shows the IP address of a static ARP entry.
snRtStatkicArpMac brcdIp.1.2.2.5.1.3 Syntax: OCTET STRING	Read-write	Specifies the MAC address of a static ARP entry.
snRtStaticArpPort brcdIp.1.2.2.5.1.4 Syntax: PortIndex	Read-write	Specifies the port number attached to the device that has the MAC address of the entry. For NetIron products, the value of this object is from 1 through 42.
snRtStaticArpRowStatus brcdIp.1.2.2.5.1.5 Syntax: Integer	Read-write	Controls the management of the table rows. The following values can be written: • delete(3) - Delete the row.

Name, OID, and syntax	Access	Description
		• create(4) - Create a new row. • modify(5) - Modify an existing row. If the row exists, then a SET with a value of create(4) returns a "bad value" error. Deleted rows are removed from the table immediately. The following values can be returned on reads: • noSuch(0) - No such row. • invalid(1) - Row is inoperative. • valid(2) - Row exists and is valid.

IP interface port address table

The IP interface port address table shows the port IP address and its port type.

NOTE
The following table is not supported on the MLX Series, MLX Series, and XMR Series devices.

Name, OID, and syntax	Access	Description
snRtIpPortAddrTable brcdIp.1.2.2.6	None	IP port address table.
snRtIpPortAddrPortIndex brcdIp.1.2.2.6.1.1 Syntax: PortIndex	Read-only	The index of the port address entry. For NetIron products, the value of this object is from 1 through 42.
snRtIpPortAddress brcdIp.1.2.2.6.1.2 Syntax: IpAddress	Read-only	Specifies the port IP address.
snRtIpPortSubnetMask brcdIp.1.2.2.6.1.3 Syntax: IpAddress	Read-write	Specifies the port IP address subnet mask.
snRtIpPortAddrType brcdIp.1.2.2.6.1.4 Syntax: Integer	Read-write	Shows the port type of the entry: • primary(1) • secondary(2) Default: primary(1)
snRtIpPortRowStatus brcdIp.1.2.2.6.1.5 Syntax: Integer	Read-write	Controls the management of the table rows. The following values can be written: • delete(3) - Delete the row. • create(4) - Create a new row. • modify(5) - Modify an existing row. If the row exists, then a set with a value of create(4) returns a "bad value" error. Deleted rows are removed from the table immediately. The following values can be returned on reads: • noSuch(0) - No such row. • invalid(1) - Row is inoperative. • valid(2) - Row exists and is valid.

IP interface port access table

The following table determines if the port is for incoming or outgoing traffic and the filter used on the interface.

NOTE
The following table is not supported on the MLX Series, MLX Series, XMR Series, CES 2000 Series, and CER 2000 Series devices.

Name, OID, and syntax	Access	Description
snRtIpPortAccessTable brcdIp.1.2.2.7	None	IP port access table.
snRtIpPortAccessPortIndex brcdIp.1.2.2.7.1.1 Syntax: PortIndex	Read-only	The index for an entry in the IP port access table. For NetIron products, the value of this object is from 1 through 42.
snRtIpPortAccessDirection brcdIp.1.2.2.7.1.2 Syntax: Integer	Read-only	Specifies if the port is for incoming or outgoing traffic: • in(1) • out(2)
snRtIpPortAccessFilters brcdIp.1.2.2.7.1.3 Syntax: Octet String	Read-write	Each octet represents a filter number.
snRtIpPortAccessRowStatus brcdIp.1.2.2.7.1.4 Syntax: Integer	Read-write	Controls the management of the table rows. The following values can be written: • delete(3) - Delete the row. • create(4) - Create a new row. • modify(5) - Modify an existing row. If the row exists, then a SET with a value of create(4) returns a "bad value" error. Deleted rows are removed from the table immediately. The following values can be returned on reads: • noSuch(0) - No such row. • invalid(1) - Row is inoperative. • valid(2) - Row exists and is valid.

Port configuration tables

The following table define the size, encapsulation format, and cost of the packet that will be transmitted through a port.

IP interface port configuration table

NOTE
The following table is not supported on the MLX Series, MLX Series, XMR Series, CES 2000 Series, and CER 2000 Series devices.

Name, OID, and syntax	Access	Description
snRtIpPortConfigTable brcdIp.1.2.2.8	None	The IP port configuration table.

Name, OID, and syntax	Access	Description
snRtIpPortConfigPortIndex brcdIp.1.2.2.8.1.1 Syntax: PortIndex	Read-only	An index for an entry in the IP port configuration table. For NetIron products, the value of this object is from 1 through 42.
snRtIpPortMtu brcdIp.1.2.2.8.1.2 Syntax: Integer	Read-write	Indicates the maximum size of IP packets that will be transmitted on the port.
snRtIpPortEncap brcdIp.1.2.2.8.1.3 Syntax: Integer	Read-write	Shows the encapsulation format that will be used on the IP frame transmitted on the port: • ethernet(1) - Ethernet • snap(2) - ATM and Ethernet • hdlc(3) - POS • ppp(4) - POS
snRtIpPortMetric brcdIp.1.2.2.8.1.4 Syntax: Integer	Read-write	Specifies the metric or cost the router adds to the route. Valid values: 1 - 15 Default: 1
snRtIpPortDirBcastFwd brcdIp.1.2.2.8.1.5 Syntax: Integer	Read-write	Indicates if the directed broadcast forwarding feature is enabled. A directed broadcast is a packet containing all ones (or in some cases, all zeros) in the host portion of the destination IP address. When a router forwards such a broadcast, it sends a copy of the packet out each of its enabled IP interfaces: • disabled(0) • enabled(1) Default: enabled(1)

IP interface address table

NOTE
The following table is not supported on the MLX Series, MLX Series, XMR Series, CES 2000 Series, and CER 2000 Series devices.

NOTE
Beginning with NetIron 05.9.00 release, the following MIB objects have VRF support.

Name, OID, and syntax	Access	Description
snRtIpPortIfAddrTable brcdIp.1.2.2.18	None	IP port interface address table.
snRtIpPortIfAddrInterfaceIndex brcdIp.1.2.2.18.1.1 Syntax: InterfaceIndex	Read-only	The interface index for port address entry.
snRtIpPortIfAddress brcdIp.1.2.2.18.1.2 Syntax: IpAddress	Read-only	The port IP address.
snRtIpPortIfSubnetMask brcdIp.1.2.2.18.1.3	Read-write	The port IP address subnet mask.

Name, OID, and syntax	Access	Description
Syntax: IpAddress		
snRtIpPortIfAddrType brcdIp.1.2.2.18.1.4 Syntax: Integer	Read-write	The port IP address type.
snRtIpPortIfRowStatus brcdIp.1.2.2.18.1.5 Syntax: RowStatus	Read-write	To create or delete a port address entry.

IP interface port access table

The following table determines if the port is for incoming or outgoing traffic and the filter used on the interface.

NOTE
The following table is not supported on the MLX Series, MLX Series, XMR Series, CES 2000 Series, and CER 2000 Series devices.

Name, OID, and syntax	Access	Description
snRtIpPortIfAccessTable brcdIp.1.2.2.19	None	IP port if access table.
snRtIpPortIfAccessInterfaceIndex brcdIp.1.2.2.19.1.1 Syntax: InterfaceIndex	Read-only	The interface index for port access entry.
snRtIpPortIfAccessDirection brcdIp.1.2.2.19.1.2 Syntax: Integer	Read-only	The incoming or outgoing check.
snRtIpPortIfAccessFilters brcdIp.1.2.2.19.1.3 Syntax: OCTET STRING	Read-write	The first octet correspond to the first filter number and so on.
snRtIpPortIfAccessRowStatus brcdIp.1.2.2.19.1.4 Syntax: RowStatus	Read-write	To create or delete a port access entry.

IP interface configuration table

The following MIB objects are supported on the Extreme NetIron devices.

Name, OID, and syntax	Access	Description
snRtIpPortIfConfigTable brcdIp.1.2.2.20	None	IP port if configuration table.
snRtIpPortIfConfigInterfaceIndex brcdIp.1.2.2.20.1.1 Syntax: InterfaceIndex	Read-only	The if index for port configuration entry.
snRtIpPortIfMtu brcdIp.1.2.2.20.1.2 Syntax: Integer32	Read-Write	The maximun transfer unit: • Ethernet MTU range: 46 to 1500 • POS MTU range: 60 to 4470 • ATM MTU range: 1500 to 9180

Name, OID, and syntax	Access	Description
		• ATM SubIf MTU range: 1500 to 9180 For jumbo support, the MTU range could be higher.
snRtIpPortIfEncap brcdIp.1.2.2.20.1.3 Syntax: Integer	Read-Write	Data link encapsulation to be used on the IP frame transmitted on the port.
snRtIpPortIfMetric brcdIp.1.2.2.20.1.4 Syntax: Integer	Read-Write	The metric for port configuration entry.
snRtIpPortIfDirBcastFwd brcdIp.1.2.2.20.1.5 Syntax: RtrStatus	Read-Write	Enables or disables directed broadcast forwarding on the port.
snRtIpPortConfigIfDonorInterface brcdIp. 1.2.2.20.1.6 Syntax: InterfaceIndexOrZero	Read-only	Returns the ifIndex of the donor interface, if the interface is configured as an unnumbered interface. Returns its own ifIndex value, if the interface is configured as a donor interface. Otherwise, returns 0.

IP interface counter table

The following MIB objects are supported on the Extreme NetIron devices.

Name, OID, and Syntax	Access	Description
agIpPortCounterTable brcdIp.1.2.2.21	None	IP port counter table to display IP traffic statistics. At present, the system supports only IP statistics for Ethernet ports.
agIpPortCounterIpVersion brcdIp.1.2.2.21.1.1 Syntax: IpAddress	None	The version of IP for which this counter entry is returned. This table supports ipv4(1) and ipv6(2) enumerations.
agIpPortCounterRxPacket brcdIp.1.2.2.21.1.2 Syntax: Counter64	Read-only	Total IP packets received on a given interface.
agIpPortCounterRxOctet brcdIp.1.2.2.21.1.3 Syntax: Counter64	Read-only	Total IP octets received on a given interface.
agIpPortCounterTxPacket brcdIp.1.2.2.21.1.4 Syntax: Counter64	Read-only	Total IP packets transmitted from a given interface.
agIpPortCounterTxOctet brcdIp.1.2.2.21.1.5 Syntax: Counter64	Read-only	Total IP octets transmitted from a given interface.

IPv6 MIB Definition

ECMP MIB objects

The SNMP Equal-Cost Multi-Path (ECMP) MIB object is used to configure ECMP for IPv6 using SNMP. ECMP enables the router to balance traffic to a specific destination across multiple equal-cost paths.

To use these objects, perform the following steps.

1. Enable ECMP for RIP using the snRtIpRipEcmpEnable MIB object.

   IP load sharing is enabled by default. However, ECMP must be enabled for RIP IP load sharing.

2. Enable IPv6 load sharing using the fdryIpv6LoadShare MIB object.

   IPv6 load sharing is enabled by default. If it needs to be enabled, set fdryIpv6LoadShare to 1.

3. Configure the maximum number of load sharing paths for IPv6 using the fdryIpv6LoadShareNumOfPaths MIB object.

Name, OID, and syntax	Access	Description
fdryIpv6LoadShare brcdIp.1.2.17.1.1.1 Syntax: RtrStatus	Read-write	This object directs the IPv6 traffic to distribute the traffic load to IPv6 routes if more than one IPv6 route is available: • 0 — Disables IPv6 load sharing. • 1 — Enables IPv6 load sharing.
fdryIpv6LoadShareNumOfPaths brcdIp.1.2.17.1.1.2 Syntax: Unsigned32	Read-write	Enter the number of IPv6 routes to be used to share a load. Enter a value from 2 through 6.

BGP4 MIB Definition

BGP4 general variables

The BGP4 implementation complies with RFC 4273. The BGP4 implementation also supports the following RFCs:

- RFC 1745 (OSPF Interactions)
- RFC 1965 (BGP4 Confederations)
- RFC 1997 (BGP Communities Attributes)
- RFC 2385 (TCP MD5 Signature Option)
- RFC 2439 (Route Flap Dampening)
- RFC 2796 (Route Reflection)
- RFC 2842 (Capability Advertisement)

The BGP4 objects apply globally to a device's BGP4 process.

Name, OID, and syntax	Access	Description
snBgp4Gen brcdIp.1.2.11.1	None	Beginning from NetIron 05.9.00 release, this MIB object supports VRF.
snBgp4GenAlwaysCompareMed brcdIp.1.2.11.1.1 Syntax: Integer	Read-write	Indicates if the comparison of the Multi-Exit Discriminator (MED) for paths from neighbors in different autonomous systems is enabled: • disabled(0) • enabled(1)
snBgp4GenAutoSummary brcdIp.1.2.11.1.2	Read-write	Indicates if subnet routes are automatically summarized: • disabled(0)

Name, OID, and syntax	Access	Description
Syntax: Integer		• enabled(1)
snBgp4GenDefaultLocalPreference brcdIp.1.2.11.1.3 Syntax: Integer32	Read-write	Sets the default local preference attribute. When the router uses the BGP4 algorithm to select a route to send to the IP route table, one of the parameters the algorithm uses is the local preference. Local preference is an attribute that indicates a degree of preference for a route relative to other routes. BGP4 neighbors can send the local preference value as an attribute of a route in an Update message. Local preference applies only to routes within the local autonomous system (AS). BGP4 routers can exchange local preference information with neighbors who are also in the local AS; however, BGP4 routers do not exchange local preference information with neighbors in remote autonomous systems. Valid values: 0 - 4294967295 Default: 100
snBgp4GenDefaultInfoOriginate brcdIp.1.2.11.1.4 Syntax: Integer	Read-write	Indicates if the default Information Originate is enabled: • disabled(0) • enabled(1) By default, the router does not originate and advertise a default route using BGP4. A BGP4 default route is the IP address 0.0.0.0 and the route prefix 0 or network mask 0.0.0.0. For example, 0.0.0.0/0 is a default route. Layer 3 Switches check for the existence of an IGP route with 0.0.0.0/0 in the IP route table before creating a local BGP route for 0.0.0.0/0.
snBgp4GenFastExternalFallover brcdIp.1.2.11.1.5 Syntax: Integer	Read-write	Indicates whether or not automatic resetting of BGP sessions of any directly adjacent sessions is enabled, if the links used to reach them go down: • disabled(0) • enabled(1)
snBgp4GenNextBootNeighbors brcdIp.1.2.11.1.6 Syntax: Integer32	Read-write	The next boot-configured number of neighbors in a BGP peer group. The minimum value of this object is the value of the BGP4 general variables object. Its maximum value is the value of the BGP4 general variables object.
snBgp4GenNextBootRoutes brcdIp.1.2.11.1.7 Syntax: Integer32	Read-write	The next boot-configured number of routes. The minimum value of this MIB is BGP4 general variables. The maximum value of this MIB is BGP4 general variables.
snBgp4GenSynchronization brcdIp.1.2.11.1.8 Syntax: Integer	Read-write	Enables or disables the synchronization between BGP and your IGP: • disabled(0) • enabled(1)
snBgp4GenKeepAliveTime brcdIp.1.2.11.1.9	Read-write	Indicates how often the device sends keepalive messages.

Name, OID, and syntax	Access	Description
Syntax: Integer		Valid values: 1 - 65535 seconds Default: 60 seconds
snBgp4GenHoldTime brcdIp.1.2.11.1.10 Syntax: Integer	Read-write	Determines how many seconds the device will wait for a keepalive or update message from a BGP4 neighbor before deciding that the neighbor is dead. Valid values: 1 - 65535 seconds Default: 180 seconds
snBgp4GenRouterId brcdIp.1.2.11.1.11 Syntax: IpAddress	Read-write	Indicates the BGP router IP address.
snBgp4GenTableMap brcdIp.1.2.11.1.12 Syntax: OCTET STRING	Read-write	Defines the route map name. Each character of the name is represented by one octet. Valid values: Up to 32 octets.
snBgp4GenAdminStat brcdIp.1.2.11.1.13 Syntax: Integer **NOTE** This object is supported only on the MLX Series, MLX Series, XMR Series, CES 2000 Series, and CER 2000 Series devices.	Read-write	Indicates if BGP4 routing is enabled: • disabled(0) • enabled(1)
snBgp4GenDefaultMetric brcdIp.1.2.11.1.14 Syntax: Integer32	Read-write	Indicates the default metric values for the BGP4. The Layer 3 Switches can redistribute directly connected routes, static IP routes, RIP routes, and OSPF routes into BGP4. The MED (metric) is a global parameter that specifies the cost that will be applied to all routes by default when they are redistributed into BGP4. Valid values: 0 - 4294967295
snBgp4GenMaxNeighbors brcdIp.1.2.11.1.15 Syntax: Integer32	Read-only	Shows the maximum number of neighbors that can be configured in a BGP peer group.
snBgp4GenMinNeighbors brcdIp.1.2.11.1.16 Syntax: Integer32	Read-only	Shows the minimum number of neighbors that can be configured in a BGP peer group.
snBgp4GenMaxRoutes brcdIp.1.2.11.1.17 Syntax: Integer32	Read-only	Shows the maximum number of configured routes.
snBgp4GenMinRoutes brcdIp.1.2.11.1.18 Syntax: Integer32	Read-only	Shows the minimum number of configured routes.
snBgp4GenMaxAddrFilters brcdIp.1.2.11.1.19 Syntax: Integer32	Read-only	Shows the maximum number of configured BGP4 address filters.

Name, OID, and syntax	Access	Description
snBgp4GenMaxAggregateAddresses brcdIp.1.2.11.1.20 Syntax: Integer32	Read-only	Shows the maximum number of configured BGP4 aggregate addresses.
snBgp4GenMaxAsPathFilters brcdIp.1.2.11.1.21 Syntax: Integer32	Read-only	Shows the maximum number of configured BGP4 AS-Path filters.
snBgp4GenMaxCommunityFilters brcdIp.1.2.11.1.22 Syntax: Integer32	Read-only	Shows the maximum number of configured BGP4 community filters.
snBgp4GenMaxNetworks brcdIp.1.2.11.1.23 Syntax: Integer32	Read-only	Shows the maximum number of configured BGP4 networks.
snBgp4GenMaxRouteMapFilters brcdIp.1.2.11.1.24 Syntax: Integer32	Read-only	Shows the maximum number of configured BGP4 route map filters.
snBgp4GenNeighPrefixMinValue brcdIp.1.2.11.1.25 Syntax: Integer32	Read-only	Shows the minimum configured value of the BGP4 neighbor prefix.
snBgp4GenOperNeighbors brcdIp.1.2.11.1.26	Read-only	Shows the current operational maximum number of neighbors configured for a BGP group.
snBgp4GenOperRoutes brcdIp.1.2.11.1.27 Syntax: Integer32	Read-only	Shows the current operational number of routes.
snBgp4GenLocalAs brcdIp.1.2.11.1.28 Syntax: Integer **NOTE** This object is supported only on the MLX Series, MLX Series, XMR Series, CES 2000 Series, and CER 2000 Series devices.	Read-only	Shows the BGP4 local AS number. Valid values: 1 - 65536
snBgp4GenRoutesInstalled brcdIp.1.2.11.1.29 Syntax: Integer32	Read-only	Shows the BGP4 installed routes.
snBgp4GenAsPathInstalled brcdIp.1.2.11.1.30 Syntax: Integer32	Read-only	Shows the BGP4 installed AS-Path.
snBgp4ExternalDistance brcdIp.1.2.11.1.31 Syntax: Integer	Read-write	Determines the administrative distance for BGP external routes. Default: 200
snBgp4InternalDistance brcdIp.1.2.11.1.32 Syntax: Integer	Read-write	Determines the administrative distance for BGP internal routes. Default: 200
snBgp4LocalDistance brcdIp.1.2.11.1.33	Read-write	Determines the administrative distance for BGP local routes.

Name, OID, and syntax	Access	Description
Syntax: Integer		Default: 200
snBgp4OperNumOfAttributes brcdIp.1.2.11.1.34 Syntax: Integer32	Read-only	Shows the operational number of attribute entries.
snBgp4NextBootMaxAttributes brcdIp.1.2.11.1.35 Syntax: Integer	Read-write	Defines the next boot maximum attribute entries. Default: 10000 (which means to reset to the default)
snBgp4ClusterId brcdIp.1.2.11.1.36 Syntax: Integer32	Read-write	Defines a cluster ID which is represented by 4-unsigned-byte integers (0..0xFFFFFFFF). 0 means to reset to the default.
snBgp4ClientToClientReflection brcdIp.1.2.11.1.37 Syntax: Integer	Read-write	Indicates if the client-to-client reflection in BGP4 is enabled: • disabled(0) • enabled(1)
snBgp4GenTotalNeighbors brcdIp.1.2.11.1.38 Syntax: Integer32	Read-only	Shows the current total number of neighbors running in a BGP group.
snBgp4GenMaxPaths brcdIp.1.2.11.1.39 Syntax: Integer	Read-write	Indicates the maximum number of configured paths.
snBgp4GenConfedId brcdIp.1.2.11.1.40 Syntax: Integer	Read-write	Determines the BGP4 confederation ID. This ID identifies the confederation to BGP routers outside the confederation. A confederation is a BGP4 AS that has been subdivided into multiple, smaller autonomous systems. Subdividing an AS into smaller autonomous systems simplifies administration and reduces BGP-related traffic, thus reducing the complexity of the Interior Border Gateway Protocol (IBGP) mesh among the BGP routers in the AS. The confederation ID is the AS ID.
snBgp4GenConfedPeers brcdIp.1.2.11.1.41 Syntax: OCTET STRING	Read-write	Specifies the sub-AS numbers that are members of the confederation. There is a maximum of 50 peers. This is a number from 1 to 0xFFFF. It is represented by two octets.
snBgp4GenDampening brcdIp.1.2.11.1.42 Syntax: Integer	Read-write	Specifies the dampening of BGP4 in the device: • none(0) - BGP4 dampening is off. • parameters(1) - Parameters are configurable. • routemap(2) - The route map is configurable.
snBgp4GenDampenHalfLife brcdIp.1.2.11.1.43 Syntax: Integer	Read-write	Specifies the number of minutes after which the route's penalty becomes half its value.
snBgp4GenDampenReuse brcdIp.1.2.11.1.44	Read-write	Specifies how low a route's penalty must be before the route becomes eligible for use again after being suppressed.

Name, OID, and syntax	Access	Description
Syntax: Integer		
snBgp4GenDampenSuppress brcdIp.1.2.11.1.45 Syntax: Integer	Read-write	Specifies how high a route's penalty can be before the Layer 3 Switch suppresses the route.
snBgp4GenDampenMaxSuppress brcdIp.1.2.11.1.46 Syntax: Integer	Read-write	Specifies the maximum number of minutes that a route can be suppressed regardless of how unstable it is.
snBgp4GenDampenMap brcdIp.1.2.11.1.47 Syntax: OCTET STRING	Read-write	Specifies the name of the route map that will be used to redirect traffic. The name is an octet string. Each character is represented by one octet. Valid values: Up to 32 octets.
snBgp4GenLocalAs4 brcdIp.1.2.11.1.48 Syntax: InetAutonomousSystemNumber NOTE This object is supported only on the MLX Series, MLX Series, XMR Series, CES 2000 Series, and CER 2000 Series devices.	Read-write	The BGP4 local AS number to support 4-byte AS format.
snBgp4GenDefaultMetric1 brcdIp.1.2.11.1.49 Syntax: Unsigned32	Read-write	Specifies to set the default metric values for the BGP4 protocol.
snBgp4GenDefaultLocalPreference1 brcdIp.1.2.11.1.50 Syntax: Unsigned32	Read-write	Specifies to set the default local preference attribute.

BGP4 address filter table

You can configure the router to explicitly permit or deny specific IP addresses received in updates from BGP4 neighbors by defining IP address filters. The router permits all IP addresses by default. You can define up to 100 IP address filters for BGP4:

- If you want **permit** to remain the default behavior, define individual filters to deny specific IP addresses.
- If you want to change the default behavior to **deny** , define individual filters to permit specific IP addresses.

NOTE
Once you define a filter, the default action for addresses that do not match a filter is **deny** . To change the default action to **permit** , configure the last filter as **permitanyany** .

Address filters can be referred to by a BGP neighbor's distribute list number as well as by match statements in a route map.

Name, OID, and syntax	Access	Description
snBgp4AddrFilterTable brcdIp.1.2.11.2.1	None	The BGP4 address filter table.
snBgp4AddrFilterIndex brcdIp.1.2.11.2.1.1.1	Read-only	The table index for a filter entry.

Name, OID, and syntax	Access	Description
Syntax: Integer32		
snBgp4AddrFilterAction brcdIp.1.2.11.2.1.1.2 Syntax: Integer	Read-write	Indicates what the device will do if the BGP address matches this filter: • deny(0) • permit(1)
snBgp4AddrFilterSourceIp brcdIp.1.2.11.2.1.1.3 Syntax: IpAddress	Read-write	Specifies the source IP address.
snBgp4AddrFilterSourceMask brcdIp.1.2.11.2.1.1.4 Syntax: IpAddress	Read-write	Specifies the source IP subnet mask.
snBgp4AddrFilterDestIp brcdIp.1.2.11.2.1.1.5 Syntax: IpAddress	Read-write	Specifies the destination IP address.
snBgp4AddrFilterDestMask brcdIp.1.2.11.2.1.1.6 Syntax: IpAddress	Read-write	Specifies the destination IP subnet mask.
snBgp4AddrFilterRowStatus brcdIp.1.2.11.2.1.1.7 Syntax: Integer	Read-write	Controls the management of the table rows. The following values can be written: • delete(3) - Deletes the row. • create(4) - Creates a new row. • modify(5) - Modifies an existing row. If the row exists, then a SET with a value of create(4) returns a "bad value" error. Deleted rows are removed from the table immediately. The following values can be returned on reads: • noSuch(0) - No such row. • invalid(1) - Row is inoperative. • valid(2) - Row exists and is valid.

BGP4 aggregate address table

By default, the Layer 3 Switch advertises individual routes for all the networks. The aggregation feature allows you to configure the Layer 3 Switch to aggregate routes in a range of networks into a single Classless Inter-Domain Routing (CIDR) number.

Name, OID, and syntax	Access	Description
snBgp4AggregateAddrTable brcdIp.1.2.11.3.1	None	The BGP4 aggregate address table.
snBgp4AggregateAddrIp brcdIp.1.2.11.3.1.1.1 Syntax: IpAddress	Read-only	Shows the aggregate address IP address. Specify 0 for the host portion and for the network portion that differs among the networks in the aggregate. For example, to aggregate 10.0.1.0, 10.0.2.0, and 10.0.3.0, enter the IP address 10.0.0.0 and the network mask 255.255.0.0 in the next object.
snBgp4AggregateAddrMask	Read-only	Shows the aggregate address IP subnet mask.

Name, OID, and syntax	Access	Description
brcdIp.1.2.11.3.1.1.2 Syntax: IpAddress		
snBgp4AggregateAddrOption brcdIp.1.2.11.3.1.1.3 Syntax: Integer	Read-only	Specifies the type of aggregate address option that is being used: • address(1) - Adds an address. This is the default option. • asSet(2) - Causes the router to aggregate AS-Path information for all the routes in the aggregate address into a single AS-Path. • summaryOnly(3) - Prevents the router from advertising more specific routes contained within the aggregate route. • suppressMap(4) - Prevents the more specific routes contained in the specified route map from being advertised. • advertiseMap(5) - Configures the router to advertise the more specific routes in the specified route map. • attributeMap(6) - Configures the router to set attributes for the aggregate routes based on the specified route map.
snBgp4AggregateAddrMap brcdIp.1.2.11.3.1.1.4 Syntax: OCTET STRING	Read-write	Specifies the name of the route map to be used if the BGP4 aggregate address table object is set to suppressMap(4), advertiseMap(5), or attributeMap(6). The value of this object is an octet string. Each character in the address map name is represented by one octet. There can be up to 32 octets in this object.
snBgp4AggregateAddrRowStatus brcdIp.1.2.11.3.1.1.5 Syntax: Integer	Read-write	Controls the management of the table rows. The following values can be written: • delete(3) - Deletes the row. • create(4) - Creates a new row. • modify(5) - Modifies an existing row. If the row exists, then a SET with a value of create(4) returns a "bad value" error. Deleted rows are removed from the table immediately. The following values can be returned on reads: • noSuch(0) - No such row. • invalid(1) - Row is inoperative. • valid(2) - Row exists and is valid.

BGP4 AS-Path filter table

A list of the other autonomous systems through which a route passes. BGP4 routers can use the AS-Path to detect and eliminate routing loops.

Name, OID, and syntax	Access	Description
snBgp4AsPathFilterTable brcdIp.1.2.11.4.1	None	The BGP4 AS-Path filter table.
snBgp4AsPathFilterIndex brcdIp.1.2.11.4.1.1.1 Syntax: Integer32	Read-only	The table index for a filter entry.
snBgp4AsPathFilterAction brcdIp.1.2.11.4.1.1.2 Syntax: Integer	Read-write	Specifies what the device will do if the BGP address matches this filter: • deny(0) • permit(1)
snBgp4AsPathFilterRegExpression brcdIp.1.2.11.4.1.1.3 Syntax: OCTET STRING	Read-write	Shows the AS in the filter that is using a regular expression. Each character of the regular expression string is represented by one octet. Valid values: Up to 256 octets
snBgp4AsPathFilterRowStatus brcdIp.1.2.11.4.1.1.4 Syntax: Integer	Read-write	Controls the management of the table rows. The following values can be written: • delete(3) - Deletes the row. • create(4) - Creates a new row. • modify(5) - Modifies an existing row. If the row exists, then a SET with a value of create(4) returns a "bad value" error. Deleted rows are removed from the table immediately. The following values can be returned on reads: • noSuch(0) - No such row. • invalid(1) - Row is inoperative. • valid(2) - Row exists and is valid.

BGP4 community filter table

You can filter routes received from BGP4 neighbors based on community names.

Name, OID, and syntax	Access	Description
snBgp4CommunityFilterTable brcdIp.1.2.11.5.1	None	The BGP4 community filter table.
snBgp4CommunityFilterIndex brcdIp.1.2.11.5.1.1.1 Syntax: Integer32	Read-only	The table index for a filter entry.
snBgp4CommunityFilterAction brcdIp.1.2.11.5.1.1.2 Syntax: Integer	Read-write	Specifies what the device will do if the BGP address matches this filter: • deny(0) • permit(1)
snBgp4CommunityFilterCommNum brcdIp.1.2.11.5.1.1.3 Syntax: OCTET STRING	Read-write	Identifies the filter's number. This is a number from 1 through 0xFFFFFFFF. There can be up to 20 filters. Each integer is represented by four octets.
snBgp4CommunityFilterInternet brcdIp.1.2.11.5.1.1.4 Syntax: Integer	Read-write	Indicates if Internet Community is enabled: • disabled(0) • enabled(1)

Name, OID, and syntax	Access	Description
snBgp4CommunityFilterNoAdvertise brcdIp.1.2.11.5.1.1.5 Syntax: Integer	Read-write	Checks the route to see if it has the keyword "NO_ADVERTISE". If the route has the keyword, it will not be advertised to EBGP peers: • false(0) • true(1)
snBgp4CommunityFilterNoExport brcdIp.1.2.11.5.1.1.6 Syntax: Integer	Read-write	Checks the route to see if it has the keyword "NO_EXPORT". If the route has the keyword, it will not be advertised to EBGP peers outside the local AS: • false(0) • true(1)
snBgp4CommunityFilterRowStatus brcdIp.1.2.11.5.1.1.7 Syntax: Integer	Read-write	Controls the management of the table rows. The following values can be written: • delete(3) - Deletes the row. • create(4) - Creates a new row. • modify(5) - Modifies an existing row. If the row exists, then a SET with a value of create(4) returns a "bad value" error. Deleted rows are removed from the table immediately. The following values can be returned on reads: • noSuch(0) - No such row. • invalid(1) - Row is inoperative. • valid(2) - Row exists and is valid.
snBgp4CommunityFilterLocalAs brcdIp.1.2.11.5.1.1.8 Syntax: Integer	Read-write	Checks the route to see if it has the keyword "LOCAL_AS". If the route has the keyword, the community applies only to confederations. The device will advertises the route only within the sub-AS: • false(0) • true(1)

BGP4 neighbor general configuration table

BGP4 does not contain a peer discovery process. You must indicate the neighbor's IP address for each of the router's BGP4 neighbors (peers), as well as the AS each neighbor is in. Neighbors that are in different autonomous systems communicate using EBGP. Neighbors within the same AS communicate using IBGP.

Name, OID, and syntax	Access	Description
snBgp4NeighGenCfgTable brcdIp.1.2.11.6.1	None	The BGP4 neighborhood general configuration table.
snBgp4NeighGenCfgNeighIp brcdIp.1.2.11.6.1.1.1 Syntax: IpAddress	Read-only	Shows the IP address for a neighbor entry.
snBgp4NeighGenCfgAdvertlevel brcdIp.1.2.11.6.1.1.2 Syntax: Integer	Read-write	Specifies the minimum delay (in seconds) between messages to the specified neighbor. Valid values: 0 - 600

Name, OID, and syntax	Access	Description
		Defaults: • 30 for EBGP neighbors (neighbors in other autonomous systems) • 5 for IBGP neighbors (neighbors in the same AS).
snBgp4NeighGenCfgDefOriginate brcdIp.1.2.11.6.1.1.3 Syntax: Integer	Read-write	Indicates if the default originate for this neighbor is enabled: • disabled(0) • enabled(1) If enabled, the device sends the default route 0.0.0.0 to the neighbor.
snBgp4NeighGenCfgEbgpMultihop brcdIp.1.2.11.6.1.1.4 Syntax: Integer	Read-write	Indicates if the EBGP multihop for this neighbor is enabled. • disabled(0) • enabled(1) If enabled, the neighbor is more than one hop away and that the session type with the neighbor is thus EBGP multihop. Default: disabled(0)
snBgp4NeighGenCfgMaxPrefix brcdIp.1.2.11.6.1.1.5 Syntax: Integer32	Read-write	Specifies the maximum number of IP network prefixes (routes) that can be learned from the specified neighbor or peer group. You can specify a value from 0 through 4294967295. Default: 0 (unlimited) The minimum value of the maximum prefix is defined by the BGP4 general variables on page 417 object. The maximum value of the maximum prefix is defined by the BGP4 general variables on page 417 object.
snBgp4NeighGenCfgNextHopSelf brcdIp.1.2.11.6.1.1.6 Syntax: Integer	Read-write	Indicates if the option that allows the router to list itself as the next hop in the updates sent to the specified neighbor is enabled: • disabled(0) • enabled(1) Default: disabled(0)
snBgp4NeighGenCfgRemoteAs brcdIp.1.2.11.6.1.1.7 Syntax: Integer	Read-write	Specifies the AS that the remote neighbor is in. Valid values: 1 - 65535 Default: No default
snBgp4NeighGenCfgSendComm brcdIp.1.2.11.6.1.1.8 Syntax: Integer	Read-write	Indicates if the option to send community attributes in updates to specified neighbors is enabled: • disabled(0) • enabled(1) Default: disabled(0)
snBgp4NeighGenCfgWeight brcdIp.1.2.11.6.1.1.9 Syntax: Integer	Read-write	Assigns a weight to a neighbor connection. BGP4 prefers larger weights over smaller weights. Valid values: 0 - 65535

Name, OID, and syntax	Access	Description
		Default: 0
snBgp4NeighGenCfgWeightFilterList brcdIp.1.2.11.6.1.1.10 Syntax: OCTET STRING	Read-write	Specifies a weight that the device applies to routes received from the neighbor that match the AS-Path filter or ACL. Valid values: 1 - 0xFFFF. Each integer is represented by two octets.
snBgp4NeighGenCfgRowStatus brcdIp.1.2.11.6.1.1.11 Syntax: Integer	Read-write	Controls the management of the table rows. The following values can be written: • delete(3) - Deletes the row. • create(4) - Creates a new row. • modify(5) - Modifies an existing row. If the row exists, then a SET with a value of create(4) returns a "bad value" error. Deleted rows are removed from the table immediately. The following values can be returned on reads: • noSuch(0) - No such row. • invalid(1) - Row is inoperative. • valid(2) - Row exists and is valid.
snBgp4NeighGenCfgUpdateSrcLpbIntf brcdIp.1.2.11.6.1.1.12 Syntax: Integer	Read-write	Specifies the loopback interface number for TCP connections. Valid values: 0 - 8 Generally, loopback interfaces are used for links to IBGP neighbors, which often are multiple hops away, rather than to EBGP neighbors. Zero interface means to restore the interface assignment to the closest interface, which is called the best local address.
snBgp4NeighGenCfgRouteRefClient brcdIp.1.2.11.6.1.1.13 Syntax: Integer	Read-write	Indicates if the option to allow this neighbor to be a router reflector client is enabled: • disabled(0) • enabled(1)
snBgp4NeighGenCfgRemovePrivateAs brcdIp.1.2.11.6.1.1.14 Syntax: Integer	Read-write	Specifies if the option to remove private AS numbers from update messages that routers sent to this neighbor is enabled: • disabled(0) • enabled(1) If enabled, the router will remove AS numbers 64512 - 65535 (the well-known BGP4 private AS numbers) from the AS-Path attribute in UPDATE messages the device sends to the neighbor. Default: disabled(0)
snBgp4NeighGenCfgEbgpMultihopTtl brcdIp.1.2.11.6.1.1.15 Syntax: Integer	Read-write	Specifies the time-to-live (TTL) for the neighbor. Valid values: 0 - 255. Default: 0. If you leave the EBGP TTL value set to 0, the software uses the IP TTL value.
snBgp4NeighGenCfgShutdown brcdIp.1.2.11.6.1.1.16	Read-write	Indicates if BGP4 neighbor shutdown is enabled: • disabled(0)

Name, OID, and syntax	Access	Description
Syntax: Integer		• enabled(1) If enabled, the device shuts down the session with this neighbor. Shutting down the session allows you to completely configure the neighbor and save the configuration without actually establishing a session with the neighbor. Default: disabled(0)
snBgp4NeighGenCfgKeepAliveTime brcdIp.1.2.11.6.1.1.17 Syntax: Integer	Read-write	Indicates how often the device sends keep alive messages. This object overrides the global settings for the Keepalive Time. Valid values: 0 - 65535 seconds
snBgp4NeighGenCfgHoldTime brcdIp.1.2.11.6.1.1.18 Syntax: Integer	Read-write	Determines how many seconds the device will wait for a keepalive or update message from a BGP4 neighbor before deciding that the neighbor is dead. This object overrides the global settings for Hold Time. Valid values: 0 or 3 - 65535 seconds (1 and 2 seconds are not allowed). If you set the Hold Time to 0, the router waits indefinitely for messages from a neighbor.
snBgp4NeighGenCfgDefOrigMap brcdIp.1.2.11.6.1.1.19 Syntax: OCTET STRING	Read-write	Indicates the name of the default route map. This is an octet string. Each character is represented by one octet. Valid values: Up to 32 octets
snBgp4NeighGenCfgDesc brcdIp.1.2.11.6.1.1.20 Syntax: OCTET STRING	Read-write	Specifies the name for the neighbor. Valid values: Up to 80 octets
snBgp4NeighGenCfgPass brcdIp.1.2.11.6.1.1.21 Syntax: OCTET STRING	Read-write	Specifies an MD5 password for securing sessions between the device and its neighbor. Valid values: Up to 80 octets

BGP4 neighbor distribute group table

The following table lists the BGP4 neighbor distribute group table MIB objects.

Name, OID, and syntax	Access	Description
snBgp4NeighDistGroupTable brcdIp.1.2.11.7.1	None	The BGP4 neighbor distribute group table.
snBgp4NeighDistGroupNeighIp brcdIp.1.2.11.7.1.1.1 Syntax: IpAddress	Read-only	Shows the IP address for this entry.
snBgp4NeighDistGroupDir brcdIp.1.2.11.7.1.1.2 Syntax: Integer	Read-only	Indicates if the access list is applied to incoming or outgoing advertisements: • out(0) • in(1)

Name, OID, and syntax	Access	Description
snBgp4NeighDistGroupAccessList brcdIp.1.2.11.7.1.1.3 Syntax: OCTET STRING	Read-write	Indicates the access list that will be applied to advertisements. This is a number from 1 through 0xFFFF. Each integer is represented by two octets.
snBgp4NeighDistGroupRowStatus brcdIp.1.2.11.7.1.1.4 Syntax: Integer	Read-write	Controls the management of the table rows. The following values can be written: • delete(3) - Deletes the row. • create(4) - Creates a new row. • modify(5) - Modifies an existing row. If the row exists, then a SET with a value of create(4) returns a "bad value" error. Deleted rows are removed from the table immediately. The following values can be returned on reads: • noSuch(0) - No such row. • invalid(1) - Row is inoperative. • valid(2) - Row exists and is valid.
snBgp4NeighDistGroupInFilterList brcdIp.1.2.11.7.1.1.5 Syntax: OCTET STRING	Read-write	Indicates the group filter list that will be applied to incoming advertisements. This is number from 1 through 0xFFFF. The incoming and outgoing list can have a mximum of 16 entries each. Each integer is represented by two octets.
snBgp4NeighDistGroupOutFilterList brcdIp.1.2.11.7.1.1.6 Syntax: OCTET STRING	Read-write	Indicates the group filter list that will be applied to outgoing advertisements. This is number from 1 through 0xFFFF. The incoming and outgoing list can have a mximum of 16 entries each. Each integer is represented by two octets.
snBgp4NeighDistGroupInIpAccessList brcdIp.1.2.11.7.1.1.7 Syntax: OCTET STRING	Read-write	Indicates the access list that will be applied to incoming advertisements. This is number from 1 through 0xFFFF. The incoming and outgoing list can have a mximum of 16 entries each. Each integer is represented by two octets.
snBgp4NeighDistGroupOutIpAccessList brcdIp.1.2.11.7.1.1.8 Syntax: OCTET STRING	Read-write	Indicates the access list that will be applied to outgoing advertisements. This is number from 1 through 0xFFFF. The incoming and outgoing list can have a mximum of 16 entries each. Each integer is represented by two octets.
snBgp4NeighDistGroupInPrefixList brcdIp.1.2.11.7.1.1.9 Syntax: OCTET STRING	Read-write	Specifies the prefix name list of incoming advertisements. Valid values: Up to 32 octets
snBgp4NeighDistGroupOutPrefixList brcdIp.1.2.11.7.1.1.10 Syntax: OCTET STRING	Read-write	Specifies the prefix name list of outgoing advertisements. Valid values: Up to 32 octets

BGP4 neighbor filter group table

The BGP4 neighbor filter group table controls the routes that the device learns or advertises.

Name, OID, and syntax	Access	Description
snBgp4NeighFilterGroupTable brcdIp.1.2.11.8.1	None	The BGP4 neighbor filter group table.
snBgp4NeighFilterGroupNeighIp brcdIp.1.2.11.8.1.1.1 Syntax: IpAddress	Read-only	Shows the IP address for a neighbor entry.
snBgp4NeighFilterGroupDir brcdIp.1.2.11.8.1.1.2 Syntax: Integer	Read-only	Shows the direction of advertisements to which the access list is applied: • out(0) - Outgoing • in(1) - Incoming
snBgp4NeighFilterGroupAccessList brcdIp.1.2.11.8.1.1.3 Syntax: OCTET STRING	Read-write	Identifies the access list that is being used to filter a neighbor group. This is a number from 1 through 0xFFFF. The incoming and outgoing list can have a mximum of 16 entries each. This integer is represented by two octets.
snBgp4NeighFilterGroupRowStatus brcdIp.1.2.11.8.1.1.4 Syntax: IpAddress	Read-write	Controls the management of the table rows. The following values can be written: • delete(3) - Deletes the row. • create(4) - Creates a new row. • modify(5) - Modifies an existing row. If the row exists, then a SET with a value of create(4) returns a "bad value" error. Deleted rows are removed from the table immediately. The following values can be returned on reads: • noSuch(0) - No such row. • invalid(1) - Row is inoperative. • valid(2) - Row exists and is valid.
snBgp4NeighFilterGroupInFilterList brcdIp.1.2.11.8.1.1.5 Syntax: OCTET STRING	Read-write	Identifies the filter list that is being used to filter incoming routes from a neighbor group. This is a number from 1 through 0xFFFF. The incoming and outgoing list can have a mximum of 16 entries each. This integer is represented by two octets.
snBgp4NeighFilterGroupOutFilterList brcdIp.1.2.11.8.1.1.6 Syntax: OCTET STRING	Read-write	Identifies the filter list that is being used to filter outgoing routes from a neighbor group. This is a number from 1 through 0xFFFF. The incoming and outgoing list can have a mximum of 16 entries each. This integer is represented by two octets.
snBgp4NeighFilterGroupInAsPathAccessList brcdIp.1.2.11.8.1.1.7 Syntax: OCTET STRING	Read-write	Identifies the AS-Path list that is being used to filter incoming routes from a neighbor group. This is a number from 1 through 0xFFFF. The incoming and outgoing list can have a mximum of 16 entries each. This integer is represented by two octets.

Name, OID, and syntax	Access	Description
snBgp4NeighFilterGroupOutAsPathAccessList brcdIp.1.2.11.8.1.1.8 Syntax: OCTET STRING	Read-write	Identifies the AS-Path list that is being used to filter outgoing routes from a neighbor group. This is a number from 1 through 0xFFFF. The incoming and outgoing list can have a mximum of 16 entries each. This integer is represented by two octets.
snBgp4NeighFilterGroupWeight brcdIp.1.2.11.8.1.1.9 Syntax: Integer	Read-write	Assigns a weight to a neighbor filter. Valid values: 0 - 65535
snBgp4NeighFilterGroupWeightAccessList brcdIp.1.2.11.8.1.1.10 Syntax: OCTET STRING	Read-write	This is a number from 1 through 0xFFFF. The incoming and outgoing list can have a mximum of 16 entries each. This integer is represented by two octets.

BGP4 neighbor route map table

A route map can be one of the parameters to be advertised by the BGP4 network. The Layer 3 Switch can use the route map to set or change BGP4 attributes when creating a local BGP4 route.

Name, OID, and syntax	Access	Description
snBgp4NeighRouteMapTable brcdIp.1.2.11.9.1	None	The BGP4 neighbor route map table.
snBgp4NeighRouteMapNeighIp brcdIp.1.2.11.9.1.1.1 Syntax: IpAddress	Read-only	Shows the IP address for a neighbor entry.
snBgp4NeighRouteMapDir brcdIp.1.2.11.9.1.1.2 Syntax: Integer	Read-only	Indicates the direction of the advertisement to which the access list is applied: • out(0) • in(1)
snBgp4NeighRouteMapMapName brcdIp.1.2.11.9.1.1.3 Syntax: OCTET STRING	Read-write	Specifies the name of the route map you want to use. The value of this object is an octet string. Each character of the name is represented by one octet. There can be up to 32 octets in this object.
snBgp4NeighRouteMapRowStatus brcdIp.1.2.11.9.1.1.4 Syntax: Integer	Read-write	Controls the management of the table rows. The following values can be written: • delete(3) - Deletes the row. • create(4) - Creates a new row. • modify(5) - Modifies an existing row. If the row exists, then a SET with a value of create(4) returns a "bad value" error. Deleted rows are removed from the table immediately. The following values can be returned on reads: • noSuch(0) - No such row. • invalid(1) - Row is inoperative. • valid(2) - Row exists and is valid.

BGP4 network table

The BGP4 network table shows the weight used for the network.

Name, OID, and syntax	Access	Description
snBgp4NetworkTable brcdIp.1.2.11.10.1	None	The BGP4 network table.
snBgp4NetworkIp brcdIp.1.2.11.10.1.1.1 Syntax: IpAddress	Read-only	Shows the IP address for a network entry.
snBgp4NetworkSubnetMask brcdIp.1.2.11.10.1.1.2 Syntax: IpAddress	Read-only	Shows the subnet mask for a network entry.
snBgp4NetworkWeight brcdIp.1.2.11.10.1.1.3 Syntax: Integer	Read-write	Shows the weight of the neighbor connection. Valid values: 0 - 65535
snBgp4NetworkBackdoor brcdIp.1.2.11.10.1.1.4 Syntax: Integer	Read-write	Indicates if the backdoor option is enabled for this network: • disabled(0) • enabled(1) The backdoor option changes the administrative distance of the route to this network from the EBGP administrative distance (20 by default) to the Local BGP weight (200 by default). The route is tagged as a backdoor route. Use this option when you want the router to prefer IGP routes such as RIP or OSPF routes over the EBGP route for the network.
snBgp4NetworkRowStatus brcdIp.1.2.11.10.1.1.5 Syntax: Integer	Read-write	Controls the management of the table rows. The following values can be written: • delete(3) - Deletes the row. • create(4) - Creates a new row. • modify(5) - Modifies an existing row. If the row exists, then a SET with a value of create(4) returns a "bad value" error. Deleted rows are removed from the table immediately. The following values can be returned on reads: • noSuch(0) - No such row. • invalid(1) - Row is inoperative. • valid(2) - Row exists and is valid.

BGP4 redistribution of routes table

The BGP4 redistribution of routes table contains configurations that could be imported into the BGP4 domain. Each entry specifies a particular RIP, OSPF, or static route that will be imported into the BGP4 domain.

Name, OID, and syntax	Access	Description
snBgp4RedisTable	None	The BGP4 redistribution of routes table.

Name, OID, and syntax	Access	Description
brcdIp.1.2.11.11.1		
snBgp4RedisProtocol brcdIp.1.2.11.11.1.1.1 Syntax: Integer	Read-only	Shows the type of route that was imported into the BGP4 domain: • rip(1) - RIP • ospf(2) - OSPF • static(3) - Static • connected(4) - Connected • isis(5) - IS-IS
snBgp4RedisMetric brcdIp.1.2.11.11.1.1.2 Syntax: Integer32	Read-write	Indicates the metric used.
snBgp4RedisRouteMap brcdIp.1.2.11.11.1.1.3 Syntax: OCTET STRING	Read-write	Indicates the name of the route map used. Each character is represented by one octet. Valid values: Up to 32 octets
snBgp4RedisWeight brcdIp.1.2.11.11.1.1.4 Syntax: Integer	Read-write	Specifies the weight assigned to this entry.
snBgp4RedisMatchInternal brcdIp.1.2.11.11.1.1.5 Syntax: Integer	Read-write	Applies only to the OSPF protocol: • disabled(0) • enabled(1)
snBgp4RedisMatchExternal1 brcdIp.1.2.11.11.1.1.6 Syntax: Integer	Read-write	Applies only to the OSPF protocol: • disabled(0) • enabled(1)
snBgp4RedisMatchExternal2 brcdIp.1.2.11.11.1.1.7 Syntax: Integer	Read-write	Applies only to the OSPF protocol: • disabled(0) • enabled(1)
snBgp4RedisRowStatus brcdIp.1.2.11.11.1.1.8 Syntax: Integer	Read-write	Controls the management of the table rows. The following values can be written: • delete(3) - Deletes the row. • create(4) - Creates a new row. • modify(5) - Modifies an existing row. If the row exists, then a SET with a value of create(4) returns a "bad value" error. Deleted rows are removed from the table immediately. The following values can be returned on reads: • noSuch(0) - No such row. • invalid(1) - Row is inoperative. • valid(2) - Row exists and is valid.

BGP4 route map filter table

A route map is a named set of match conditions and parameter settings that a Layer 3 Switch can use to modify route attributes and to control redistribution of routes.

BGP4 allows you to include the redistribution filters as part of a route map. A route map examines and modifies route information exchanged between BGP4 and RIP or OSPF.

Name, OID, and syntax	Access	Description
snBgp4RouteMapFilterTable brcdIp.1.2.11.12.1	None	The BGP4 route map filter table.
snBgp4RouteMapFilterMapName brcdIp.1.2.11.12.1.1.1 Syntax: OCTET STRING	Read-only	Shows the route map's name. The value of this object contains an octet string. Each character is represented by one octet. There can be up to 32 octets in this object.
snBgp4RouteMapFilterSequenceNum brcdIp.1.2.11.12.1.1.2 Syntax: Integer32	Read-only	Shows the sequence number for this particular route map.
snBgp4RouteMapFilterAction brcdIp.1.2.11.12.1.1.3 Syntax: Integer	Read-write	Informs the device what to do if the BGP address matches this entry: • deny(0) • permit(1)
snBgp4RouteMapFilterRowStatus brcdIp.1.2.11.12.1.1.4 Syntax: Integer	Read-write	Controls the management of the table rows. The following values can be written: • delete(3) - Deletes the row. • create(4) - Creates a new row. • modify(5) - Modifies an existing row. If the row exists, then a SET with a value of create(4) returns a "bad value" error. Deleted rows are removed from the table immediately. The following values can be returned on reads: • noSuch(0) - No such row. • invalid(1) - Row is inoperative. • valid(2) - Row exists and is valid.

BGP4 route map match table

The following table lists the BGP4 route map match table MIB objects.

Name, OID, and syntax	Access	Description
snBgp4RouteMapMatchTable brcdIp.1.2.11.13.1	None	The BGP4 route map match table.
snBgp4RouteMapMatchMapName brcdIp.1.2.11.13.1.1.1 Syntax: OCTET STRING	Read-only	Shows the name of the route map to be matched. The value of this object is an octet string. Each character of the name is represented by one octet. There can be up to 32 octets in this object.
snBgp4RouteMapMatchSequenceNum brcdIp.1.2.11.13.1.1.2 Syntax: Integer32	Read-only	Shows the sequence number for this particular route map. Routes are matched to the route map in ascending numerical order. Matching stops once a match is found.
snBgp4RouteMapMatchAsPathFilter brcdIp.1.2.11.13.1.1.3 Syntax: OCTET STRING	Read-write	Identifies the AS-Path list number that this route must match. This is a number from 1 through 0xFFFF. The incoming and outgoing list can have a maximum

Name, OID, and syntax	Access	Description
		of 10 entries each. Each number consists of two octets.
snBgp4RouteMapMatchCommunityFilter brcdIp.1.2.11.13.1.1.4 Syntax: OCTET STRING	Read-write	Identifies the community filter number that this route must match. This is a number from 1 through 0xFFFF. The incoming and outgoing list can have a maximum of 10 entries each. Each number consists of two octets.
snBgp4RouteMapMatchAddressFilter brcdIp.1.2.11.13.1.1.5 Syntax: OCTET STRING	Read-write	Identifies the address filter number that this route must match. This is a number from 1 through 0xFFFF. The incoming and outgoing list can have a maximum of 10 entries each. Each number consists of two octets. There can be a total of 20 octets in this object.
snBgp4RouteMapMatchMetric brcdIp.1.2.11.13.1.1.6 Syntax: Integer32	Read-write	Compares the route's MED (metric) to this value. There can be up to 20 octets in this object.
snBgp4RouteMapMatchNextHopList brcdIp.1.2.11.13.1.1.7 Syntax: OCTET STRING	Read-write	Compares the IP address of the route's next hop to the IP address filters in this route. This is a number from 1 - 0xFFFF, represented by two octets. The incoming and outgoing list can have a maximum of 16 entries each. There can be a total of 32 octets in this object.
snBgp4RouteMapMatchRouteType brcdIp.1.2.11.13.1.1.8 Syntax: Integer	Read-write	Determines the OSPF route type to match: • none(0) • external(1) • externalType1(2) • externalType2(3) • internal(4) • local(5) Currently only externalType1(2), externalType2(3), and internal(4) are supported for SNMP-SET.
snBgp4RouteMapMatchTagList brcdIp.1.2.11.13.1.1.9 Syntax: OCTET STRING	Read-write	Identifies the community tag access list that this route must match. This is a number represented by an octet strings. There can be up to 32 octets in this object.
snBgp4RouteMapMatchRowMask brcdIp.1.2.11.13.1.1.10 Syntax: Integer32	Read-write	This object is used together with the MIB objects above in the same VARBIND to set and reset any MIBs in the table. The bit number is referred to the snBgp4RouteMapMatchEntry number of each row in the table: • The bit is ON - Means set • The bit is OFF - Means reset
snBgp4RouteMapMatchAsPathAccessList brcdIp.1.2.11.13.1.1.11 Syntax: OCTET STRING	Read-write	Indicates which BGP AS-Path access list this route must match. This is an integer from 1 through 0xFFFFFFFF, consisting of five sets of four octets.

Name, OID, and syntax	Access	Description
snBgp4RouteMapMatchCommunityList brcdIp.1.2.11.13.1.1.12 Syntax: OCTET STRING	Read-write	Indicates which BGP community access list this route must match. This is an integer from 1 through 0xFFFFFFFF, consisting of five sets of four octets.
snBgp4RouteMapMatchAddressAccessList brcdIp.1.2.11.13.1.1.13 Syntax: OCTET STRING	Read-write	Indicates which BGP address access list this route must match. This is an integer from 1 through 0xFFFFFFFF, consisting of five sets of two octets.
snBgp4RouteMapMatchAddressPrefixList brcdIp.1.2.11.13.1.1.14 Syntax: OCTET STRING	Read-write	Indicates the prefix list that must match a BGP address access list. Valid values: Up to 170 octets.
snBgp4RouteMapMatchNextHopAccessList brcdIp.1.2.11.13.1.1.15 Syntax: OCTET STRING	Read-write	Indicates the ID of the next-hop router that this route must match. This is an integer from 1 through 0xFFFFFFFF, consisting of five integers. Each integer has two octets.
snBgp4RouteMapMatchNextHopPrefixList brcdIp.1.2.11.13.1.1.16 Syntax: OCTET STRING	Read-write	Indicates the prefix list of the next-hop router that this route must match. Valid values: Up to 170 octets.

BGP4 route map set table

The BGP4 route map set table describes the route map set MIB objects.

Name, OID, and syntax	Access	Description
snBgp4RouteMapSetTable brcdIp.1.2.11.14.1	None	The BGP4 route map set table.
snBgp4RouteMapSetMapName brcdIp.1.2.11.14.1.1.1 Syntax: OCTET STRING	Read-only	An octet string of the route map name; each character of the name is represented by one octet.
snBgp4RouteMapSetSequenceNum brcdIp.1.2.11.14.1.1.2 Syntax: Integer32	Read-only	A sequence number for this particular route map.
snBgp4RouteMapSetAsPathType brcdIp.1.2.11.14.1.1.3 Syntax: Integer	Read-write	Modifies an autonomous system path for BGP routes: • tag(0) - Converts the tag of a route into an autonomous system path. • prepend(1) - Appends the string from snBgp4RouteMapSetAsPathString to the AS-Path of the route that is matched by the route map.
snBgp4RouteMapSetAsPathString brcdIp.1.2.11.14.1.1.4 Syntax: OCTET STRING	Read-write	This AS-Path string is used only if snBgp4RouteMapSetAsPathCmd was sent together with the value set to prepend(1).
snBgp4RouteMapSetAutoTag brcdIp.1.2.11.14.1.1.5 Syntax: Integer	Read-write	Enables or disables the automatic tag for BGP routes.

Name, OID, and syntax	Access	Description
snBgp4RouteMapSetCommunityType brcdIp.1.2.11.14.1.1.6 Syntax: Integer	Read-write	Sets the BGP communities attribute: • None - No other community attributes are allowed. • Nums - Allows community attributes.
snBgp4RouteMapSetCommunityNum brcdIp.1.2.11.14.1.1.7 Syntax: Integer	Read-write	This number is used only if snBgp4RouteMapSetCommunityCmd was sent together with the value set to number(0).
snBgp4RouteMapSetCommunityAdditive brcdIp.1.2.11.14.1.1.8 Syntax: Integer	Read-write	Adds the community to the existing communities.
snBgp4RouteMapSetLocalPreference brcdIp.1.2.11.14.1.1.9 Syntax: Integer	Read-write	Modifies a local preference for BGP routes.
snBgp4RouteMapSetMetric brcdIp.1.2.11.14.1.1.10 Syntax: Integer32	Read-write	Modifies a metric for BGP routes.
snBgp4RouteMapSetNextHop brcdIp.1.2.11.14.1.1.11 Syntax: IpAddress	Read-write	Modifies the IP address of the next hop for BGP routes.
snBgp4RouteMapSetOrigin brcdIp.1.2.11.14.1.1.12 Syntax: Integer	Read-write	Sets the BGP origin code.
snBgp4RouteMapSetTag brcdIp.1.2.11.14.1.1.13 Syntax: Integer	Read-write	Specifies the tag for BGP routes.
snBgp4RouteMapSetWeight brcdIp.1.2.11.14.1.1.14 Syntax: Integer	Read-write	Specifies the BGP weight for the routing table.
snBgp4RouteMapSetRowMask brcdIp.1.2.11.14.1.1.15 Syntax: Integer	Read-write	This object is used together with the MIBs in the same VARBIND to set and reset any MIBs in the table.
snBgp4RouteMapSetCommunityNums brcdIp.1.2.11.14.1.1.16 Syntax: OCTET STRING	Read-write	The community number is from 1 through 0xFFFFFFFF. The incoming and outgoing list can have a maximum of 6 entries each. This integer number is represented by four octets.
snBgp4RouteMapSetDampenHalfLife brcdIp.1.2.11.14.1.1.17 Syntax: Integer	Read-write	The BGP4 route map dampening half life.
snBgp4RouteMapSetDampenReuse brcdIp.1.2.11.14.1.1.18 Syntax: Integer	Read-write	The BGP4 route map dampening reuse.
snBgp4RouteMapSetDampenSuppress brcdIp.1.2.11.14.1.1.19 Syntax: Integer	Read-write	The BGP4 route map dampening suppress.
snBgp4RouteMapSetDampenMaxSuppress brcdIp.1.2.11.14.1.1.20	Read-write	The BGP4 route map dampening maximum suppress time.

Name, OID, and syntax	Access	Description
Syntax: Integer		

BGP4 neighbor operational status table

The BGP4 neighbor operational status table shows the state of a neighbor and statistics about the messages sent and received.

Name, OID, and syntax	Access	Description
snBgp4NeighOperStatusTable brcdIp.1.2.11.15.1	None	The BGP4 neighbor operational status table.
snBgp4NeighOperStatusIndex brcdIp.1.2.11.15.1.1.1 Syntax: Integer32	Read-only	The index for the entry. Each entry represents a neighbor.
snBgp4NeighOperStatusIp brcdIp.1.2.11.15.1.1.2 Syntax: IpAddress	Read-only	Shows the IP address of the neighbor.
snBgp4NeighOperStatusRemoteAs brcdIp.1.2.11.15.1.1.3 Syntax: Integer32	Read-only	Shows the AS that the neighbor is in.
snBgp4NeighOperStatusBgpType brcdIp.1.2.11.15.1.1.4 Syntax: Integer	Read-only	Shows the type of BGP used by this entry: • ebgp(0) - The neighbor is in another AS. • ibgp(1) - The neighbor is in the same AS.
snBgp4NeighOperStatusState brcdIp.1.2.11.15.1.1.5 Syntax: Integer	Read-only	Shows the state of this neighbor: • noState(0) • idle(1) - BGP4 process is waiting to be started. Usually, enabling BGP4 or establishing a neighbor session starts the BGP4 process. A minus sign (-) indicates that the session has gone down and the software is clearing or removing routes. • connect(2) - BGP4 is waiting for the connection process for the TCP neighbor session to be completed. • active(3) - BGP4 is waiting for a TCP connection from the neighbor. • openSent(4) - BGP4 is waiting for an OPEN message from the neighbor. • openConfirm(5) - BGP4 has received an OPEN message from the neighbor and is now waiting for either a KEEPALIVE or NOTIFICATION message. If the router receives a KEEPALIVE message from the neighbor, the state changes to established(6). If the message is a NOTIFICATION, the state changes to idle(1).

Name, OID, and syntax	Access	Description
		• established(6) - BGP4 is ready to exchange UPDATE messages with the neighbor. NOTE If there is more BGP data in the TCP receiver queue, a plus sign (+) is also displayed.
snBgp4NeighOperStatusKeepAliveTime brcdIp.1.2.11.15.1.1.6 Syntax: Integer	Read-only	Specifies how often this router sends keepalive messages to the neighbor.
snBgp4NeighOperStatusHoldTime brcdIp.1.2.11.15.1.1.7 Syntax: Integer32	Read-only	Specifies how many seconds the router will wait for a keepalive or update message from a BGP4 neighbor before deciding that the neighbor is dead.
snBgp4NeighOperStatusAdvertlevel brcdIp.1.2.11.15.1.1.8 Syntax: Integer32	Read-only	Shows the minimum interval between the sending of BGP routing updates.
snBgp4NeighOperStatusKeepAliveTxCounts brcdIp.1.2.11.15.1.1.9 Syntax: Integer32	Read-only	Shows the number of keepalive message sent.
snBgp4NeighOperStatusKeepAliveRxCounts brcdIp.1.2.11.15.1.1.10 Syntax: Counter32	Read-only	Shows the number of keepalive message received.
snBgp4NeighOperStatusUpdateTxCounts brcdIp.1.2.11.15.1.1.11 Syntax: Counter32	Read-only	Shows the number of updated messages sent.
snBgp4NeighOperStatusUpdateRxCounts brcdIp.1.2.11.15.1.1.12 Syntax: Counter32	Read-only	Shows the number of updated messages received.
snBgp4NeighOperStatusNotifTxCounts brcdIp.1.2.11.15.1.1.13 Syntax: Counter32	Read-only	Shows the number of notification messages sent.
snBgp4NeighOperStatusNotifRxCounts brcdIp.1.2.11.15.1.1.14 Syntax: Counter32	Read-only	Shows the number of notification messages received.
snBgp4NeighOperStatusOpenTxCounts brcdIp.1.2.11.15.1.1.15 Syntax: Counter32	Read-only	Shows the number of open messages sent.
snBgp4NeighOperStatusOpenRxCounts brcdIp.1.2.11.15.1.1.16 Syntax: Counter32	Read-only	Shows the number of open messages received.

BGP4 router operational status table

The following table lists the BGP4 router operational status table MIB objects.

Name, OID, and syntax	Access	Description
snBgp4RouteOperStatusTable brcdIp.1.2.11.16.1	None	The BGP4 router operational status table.
snBgp4RouteOperStatusIndex brcdIp.1.2.11.16.1.1.1 Syntax: Integer32	Read-only	The index for a route entry.
snBgp4RouteOperStatusIp brcdIp.1.2.11.16.1.1.2 Syntax: IpAddress	Read-only	Shows the IP address of the route.
snBgp4RouteOperStatusSubnetMask brcdIp.1.2.11.16.1.1.3 Syntax: IpAddress	Read-only	Shows the IP subnet mask of the route.
snBgp4RouteOperStatusNextHop brcdIp.1.2.11.16.1.1.4 Syntax: IpAddress	Read-only	Shows the IP address of the next hop in the route.
snBgp4RouteOperStatusMetric brcdIp.1.2.11.16.1.1.5 Syntax: Integer	Read-only	Shows the value of the route's MED attribute.
snBgp4RouteOperStatusLocalPreference brcdIp.1.2.11.16.1.1.6 Syntax: Integer32	Read-only	Shows the degree of preference for this route relative to other routes in the local AS. When the BGP4 algorithm compares routes on the basis of local preferences, the route with the higher local preference is chosen. The preference can have a value from 0 through 4294967295.
snBgp4RouteOperStatusWeight brcdIp.1.2.11.16.1.1.7 Syntax: Integer32	Read-only	The value that this router associates with routes from a specific neighbor. For example, if the router receives routes to the same destination from two BGP4 neighbors, the router prefers the route from the neighbor with the larger weight.
snBgp4RouteOperStatusOrigin brcdIp.1.2.11.16.1.1.8 Syntax: Integer	Read-only	Shows the route's origin: • igp(0) - Routes with this set of attributes came to BGP through IGP. • egp(1) - Routes with this set of attributes came to BGP through EGP. • incomplete(2) - Routes came from an origin other than IGP or EGP. For example, they may have been redistributed from OSPF or RIP.
snBgp4RouteOperStatusStatus brcdIp.1.2.11.16.1.1.9 Syntax: Integer32	Read-only	Shows the route's status. The value of this object is a bit array, a packed bit string. The following shows the meaning of each bit. A bit position may be set to 0 - FALSE or 1 - TRUE: Bit position Meaning 6 - 31 reserved 5 aggregate route for multiple networks 4 best route to destination 3 internal, learned through BGP4 2 local, originated on this device

Name, OID, and syntax	Access	Description
		1 suppressed, suppressed during aggregation and thus is not advertised to neighbors 0 valid
snBgp4RouteOperStatusRouteTag brcdIp.1.2.11.16.1.1.10 Syntax: Integer32	Read-only	Sets the route's tag. This can be a value from 0 through 4294967295. This object applies only to routes redistributed into OSPF
snBgp4RouteOperStatusCommunityList brcdIp.1.2.11.16.1.1.11 Syntax: OCTET STRING	Read-only	Shows the communities the route is in. A community is represented by 4 octets. The community list, could have some well-known numbers such as: • BGP_COMMUNITY_ATTRIBUTE_NO_EXPORT0xFFFFFF01 • BGP_COMMUNITY_ATTRIBUTE_NO_ADVERTISE0xFFFFFF02 If the community list is a NULL string (empty list), then the community is INTERNET, which is represented by a number from 1 through 0xFFFFFFFF.
snBgp4RouteOperStatusAsPathList brcdIp.1.2.11.16.1.1.12 Syntax: OCTET STRING	Read-only	Shows the AS-Path list of this route. Valid values: 1 - 0xFFFF. This integer is represented by two octets.

BGP4 neighbor summary table

The BGP4 neighbor summary table shows statistics for the router's BGP4 neighbors.

Name, OID, and syntax	Access	Description
snBgp4NeighborSummaryTable brcdIp.1.2.11.17.1	None	The BGP4 neighbor summary table.
snBgp4NeighborSummaryIndex brcdIp.1.2.11.17.1.1.1 Syntax: Integer32	Read-only	The index for a route entry.
snBgp4NeighborSummaryIp brcdIp.1.2.11.17.1.1.2 Syntax: IpAddress	Read-only	Shows the IP address of the neighbor.
snBgp4NeighborSummaryState brcdIp.1.2.11.17.1.1.3 Syntax: Integer	Read-only	Shows the state of the BGP4 process during the current session with the neighbor: • noState(0) • idle(1) - The BGP4 process is waiting to be started. Usually, enabling BGP4 or establishing a neighbor session starts the BGP4 process. A minus sign (-) indicates that the session has gone down and the software is clearing or removing routes.

Name, OID, and syntax	Access	Description
		• connect(2) - Waiting for the connection process for the TCP neighbor session to be completed. • active(3) - BGP4 is waiting for a TCP connection from the neighbor. • openSent(4) - BGP4 is waiting for an OPEN message from the neighbor. • openConfirm(5) - BGP4 has received an OPEN message from the neighbor and is now waiting for either a KEEPALIVE or NOTIFICATION message. If the router receives a KEEPALIVE message from the neighbor, the state changes to established(6). If the message is a NOTIFICATION, the state changes to idle(1). • established(6) - BGP4 is ready to exchange UPDATE messages with the neighbor. NOTE If there is more BGP data in the TCP receiver queue, a plus sign (+) is also displayed.
snBgp4NeighborSummaryStateChgTime brcdIp.1.2.11.17.1.1.4 Syntax: Integer32	Read-only	Shows the number of times the state of this neighbor has changed. If the state frequently changes between CONNECT and ACTIVE, there may be a problem with the TCP connection.
snBgp4NeighborSummaryRouteReceived brcdIp.1.2.11.17.1.1.5 Syntax: Integer32	Read-only	Shows the number of routes received from the neighbor during the current BGP4 session.
snBgp4NeighborSummaryRouteInstalled brcdIp.1.2.11.17.1.1.6 Syntax: Integer32	Read-only	Indicates how many of the received routes were accepted and installed in the BGP4 route table.

BGP4 attribute entries table

The BGP4 attribute entries table contains the sets of BGP4 attributes stored in the router's memory. Each set of attributes is unique and can be associated with one or more routes.

Name, OID, and syntax	Access	Description
snBgp4AttributeTable brcdIp.1.2.11.18.1	None	The BGP4 attribute entries table.
snBgp4AttributeIndex brcdIp.1.2.11.18.1.1.1 Syntax: Integer32	Read-only	Shows the index for a route entry.
snBgp4AttributeNextHop brcdIp.1.2.11.18.1.1.2 Syntax: Integer	Read-only	Shows the IP address of the next-hop router for routes that have this set of attributes.

Name, OID, and syntax	Access	Description
snBgp4AttributeMetric brcdIp.1.2.11.18.1.1.3 Syntax: Integer32	Read-only	Shows the cost of the route entry.
snBgp4AttributeOrigin brcdIp.1.2.11.18.1.1.4 Syntax: Integer	Read-only	Shows the origin of this route: • igp(0) - Routes with this set of attributes came to BGP through IGP. • egp(1) - Routes with this set of attributes came to BGP through EGP. • incomplete(2) - Routes came from an origin other than IGP or EGP. For example, they may have been redistributed from OSPF or RIP.
snBgp4AttributeAggregatorAs brcdIp.1.2.11.18.1.1.5 Syntax: Integer32	Read-only	Shows the aggregator AS number for an attribute entry. The AS in which the network information in the attribute set was aggregated. This value applies only to aggregated routes and is otherwise 0.
snBgp4AttributeRouterId brcdIp.1.2.11.18.1.1.6 Syntax: Integer	Read-only	Shows the ID of the device that originated this aggregator.
snBgp4AttributeAtomicAggregatePresent brcdIp.1.2.11.18.1.1.7 Syntax: Integer	Read-only	Shows if this aggregation has resulted in information loss: • false(0) - No information loss. • true(1) - Information has been lost.
snBgp4AttributeLocalPreference brcdIp.1.2.11.18.1.1.8 Syntax: Integer32	Read-only	Shows the degree of preference for routes that use this set of attributes, relative to other routes in the local AS.
snBgp4AttributeCommunityList brcdIp.1.2.11.18.1.1.9 Syntax: OCTET STRING	Read-only	Shows the community list of this attribute entry. A community is represented by four octets. The community list, could have some well-known numbers such as: • BGP_COMMUNITY_ATTRIBUTE_NO_EXPORT0xFFFFFF01 • BGP_COMMUNITY_ATTRIBUTE_NO_ADVERTISE0xFFFFFF02 If the community list is a NULL string (empty list), then the community is INTERNET, which is represented by a number from 1 through 0xFFFFFFFF.
snBgp4AttributeAsPathList brcdIp.1.2.11.18.1.1.10 Syntax: OCTET STRING	Read-only	Shows the ASs through which routes with this set of attributes have passed. The local AS is shown in parentheses. This is a number from 1 through 0xFFFF. This integer number is represented by two octets.
snBgp4AttributeOriginator brcdIp.1.2.11.18.1.1.11 Syntax: IpAddress	Read-only	Shows the originator of the route in a route reflector environment.
snBgp4AttributeClusterList brcdIp.1.2.11.18.1.1.12 Syntax: OCTET STRING	Read-only	Shows the route reflector clusters through which this set of attributes has passed.

Name, OID, and syntax	Access	Description
		The list is a group of cluster IDs. Each ID is an IP address represented by four octets.

BGP4 clear neighbor command table

The following table lists the BGP4 clear neighbor command table MIB objects.

Name, OID, and syntax	Access	Description
snBgp4ClearNeighborCmdTable brcdIp.1.2.11.19.1	None	The BGP4 clear neighbor command table.
snBgp4ClearNeighborCmdIp brcdIp.1.2.11.19.1.1.1 Syntax: IpAddress	Read-only	Shows the IP address of a neighbor entry. If the IP address is 255.255.255.255, then the entry applies to all neighbors.
snBgp4ClearNeighborCmdElement brcdIp.1.2.11.19.1.1.2 Syntax: Integer	Read-write	Indicates what will be cleared: • valid(0) - Received in SNMP-GET. • lastPacketWithError(1) - Clears the buffer containing the first 400 bytes of the last BGP4 packet that contained an error. • notificationErrors(2) - Clears the buffer containing the last NOTIFICATION message sent or received. • softOutbound(3) - Updates all outbound routes by applying the new or changed filters, but sends only the existing routes affected by the new or changed filters to the neighbor. • traffic(4) - Clears the BGP4 message counters for all neighbors (the default) or a neighbor. • neighbor(5) - Clears the BGP4 message counter for all neighbors within a peer group.

BGP4 neighbor prefix group table

The following table lists the BGP4 neighbor prefix group table MIB objects.

Name, OID, and syntax	Access	Description
snBgp4NeighPrefixGroupTable brcdIp.1.2.11.20.1	None	The BGP4 neighbor prefix group table.
snBgp4NeighPrefixGroupNeighIp brcdIp.1.2.11.20.1.1.1 Syntax: IpAddress	Read-only	Shows the neighbor's IP address.
snBgp4NeighPrefixGroupDir brcdIp.1.2.11.20.1.1.2 Syntax: Integer	Read-only	Shows the direction of the advertisement to which this filter will be applied: • outgoing(0) - Applied to routes that will be transmitted to the neighbor.

Name, OID, and syntax	Access	Description
		• incoming(1) - Applied to routes received from the neighbor.
snBgp4NeighPrefixGroupInAccessList brcdIp.1.2.11.20.1.1.3 Syntax: OCTET STRING	Read-write	If the BGP4 neighbor prefix group table object is set to incoming(1), this object shows the name of the prefix list for incoming routes. There can be up to 32 octets in this object.
snBgp4NeighPrefixGroupOutAccessList brcdIp.1.2.11.20.1.1.4 Syntax: OCTET STRING	Read-write	If the BGP4 neighbor prefix group table object is set outgoing(0), this object shows the name of the prefix list for outgoing routes. There can be up to 32 octets in this object.
snBgp4NeighPrefixGroupRowStatus brcdIp.1.2.11.20.1.1.5 Syntax: Integer	Read-write	Controls the management of the table rows. The following values can be written: • delete(3) - Deletes the row. • create(4) - Creates a new row. • modify(5) - Modifies an existing row. If the row exists, then a SET with a value of create(4) returns a "bad value" error. Deleted rows are removed from the table immediately. The following values can be returned on reads: • noSuch(0) - No such row. • invalid(1) - Row is inoperative. • valid(2) - Row exists and is valid.

OSPF MIB Definition

OSPF general objects

The Open Shortest Path First (OSPF) general objects provide information about the OSPF process. and they apply globally to the routers.

Name, OID, and syntax	Access	Description
snOspfGen brcdIp.1.2.4.1	None	Beginning from NetIron 05.9.00 release, this MIB object supports VRF.
snOspfRouterId brcdIp.1.2.4.1.1 Syntax: RouterID	Read-write	Shows the IP address of the Autonomous System Boundary Router (ASBR). Conventionally, this ID defaults to the IP address of one of the routers to ensure uniqueness in the network. This object contains a 32-bit integer.
snOspfAdminStat brcdIp.1.2.4.1.2 Syntax: Integer	Read-write	Specifies the state of the OSPF in the router: • disabled(0) - OSPF is disabled on all interfaces. • enabled(1) - OSPF is active on at least one interface.
snOspfASBdrRtrStatus brcdIp.1.2.4.1.3 Syntax: TruthVal	Read-write	Indicates if this router is an Autonomous System Boundary Router: • false(0) • true(1)
snOspfRedisMode brcdIp.1.2.4.1.4 Syntax: Integer	Read-write	Specifies if OSPF redistribution has been enabled on this router: • disabled(0) - OSPF redistribution is disabled. • enabled(1) - OSPF redistribution is active.
snOspfDefaultOspfMetricValue brcdIp.1.2.4.1.5 Syntax: Integer	Read-write	Shows the cost of using a default OSPF metric value on this route. Valid values: 1 - 65535

Name, OID, and syntax	Access	Description
snOspfExternLSACount brcdIp.1.2.4.1.6 Syntax: Gauge32	Read-only	The number of external link-state advertisements in the link-state database.
snOspfExternLSACksumSum brcdIp.1.2.4.1.7 Syntax: Integer32	Read-only	Indicates the 32-bit unsigned sum of the link-state (LS) checksums of the external link-state advertisements (LSA) 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.
snOspfOriginateNewLSAs brcdIp.1.2.4.1.8 Syntax: Counter	Read-only	Shows the number of new link-state advertisements that have been originated by the router. This number increments each time the router originates a new LSA.
snOspfRxNewLSAs brcdIp.1.2.4.1.9 Syntax: Counter32	Read-only	Shows the number of link-state advertisements received by the router. This number does not include newer instantiations of self-originated link-state advertisements.
snOspfOspfRedisMetricType brcdIp.1.2.4.1.10 Syntax: Integer	Read-write	Indicates the type of route: • type1(1) - External Type 1 (comparable value) intra-area and inter-area routes. It is an OSPF metric plus the external metric. • type2(2) - External Type 2 (non-comparable value) routes. It is the external metric.
snOspfExtLsdbLimit brcdIp.1.2.4.1.11 Syntax: Integer32	Read-write	Provides compliance with RFC 1765 in the handling of OSPF external link-state database (LSDB) overflow. Specifies the maximum number of non-default AS-external-LSAs entries that can be stored in the link-state database. When the number of non-default AS-external-LSAs in a router's link-state database reaches ospfExtLsdbLimit, the router enters overflow state.The router never holds more than ospfExtLsdbLimit non-default AS-external-LSAs in its database. OspfExtLsdbLimit must be set identically in all routers attached to the OSPF backbone and any regular OSPF area. OSPF stub areas and NSSAs are excluded. Valid values: 1 - 2000. NOTE There is no limit, if the value is -1.
snOspfExitOverflowInterval brcdIp.1.2.4.1.12 Syntax: Integer	Read-write	Specifies the number of seconds that a router will attempt to leave the overflow state. This value allows the router to again originate non-default AS-external-LSAs. If this object is set to 0, the router will not leave the overflow state until it is restarted. Valid values: 0 - 86400 seconds

Name, OID, and syntax	Access	Description
snOspfRfc1583Compatibility brcdIp.1.2.4.1.13 Syntax: Integer	Read-write	Specifies if the OSPF route is compatible with RFC 1583 or RFC 2178: • disabled(0) - Compatible with RFC 2178. • enabled(1) - Compatible with RFC 1583.
snOspfRouterIdFormat brcdIp.1.2.4.1.14 Syntax: Integer	Read-write	Specifies the format of how the router ID will be entered in the OSPF general objects object: • integer(0) - Integer • ipAddress(1) - IP address
snOspfDistance brcdIp.1.2.4.1.15 Syntax: Integer	Read-write	Determines the OSPF administrative distance area. The value is zero is the distance is not set. Valid values: 1 - 255 Default: 110
snOspfDistanceIntra brcdIp.1.2.4.1.16 Syntax: Integer	Read-write	Determines the OSPF administrative distance for intra-area routes. Valid values: 1 - 255 Default: 110
snOspfDistanceInter brcdIp.1.2.4.1.17 Syntax: Integer	Read-write	Determines the OSPF administrative distance for inter-area routes. Valid values: 1 - 255 Default: 110
snOspfDistanceExternal brcdIp.1.2.4.1.18 Syntax: Integer	Read-write	Determines the OSPF administrative distance for external routes. Valid values: 1 - 255 Default: 110

OSPF area table

The OSPF area data structure contains information that describes the various OSPF areas. The interfaces and virtual links are configured as parts of these areas. Area 0.0.0.0, by definition, is the Backbone Area.

Name, OID, and syntax	Access	Description
snOspfAreaTable brcdIp.1.2.4.2.1	None	The OSPF area table.
snOspfAreaId brcdIp.1.2.4.2.1.1.1 Syntax: AreaID	Read-only	Specifies the address of the area. This address identifies the router, independent of its IP address. Area ID 0.0.0.0 is used for the OSPF backbone. The format used for this ID is specified by the OSPF area table object.
snOspfImportASExtern brcdIp.1.2.4.2.1.1.2 Syntax: Integer32	Read-write	Indicates the type of OSPF area that this router supports: • 0 - Stub area. OSPF routers within a stub area cannot send or receive external LSAs. In addition, OSPF routers in a stub area must use a default route to the area's Area Border

Name, OID, and syntax	Access	Description
		Router (ABR) or Autonomous System Boundary Router (ASBR) to send traffic out of the area. • 1 - Normal area. OSPF routers within a normal area can send and receive external link-state advertisements. • 2 - NSSA area. ASBR of an NSSA can import external route information into the area.
snOspfStubMetric brcdIp.1.2.4.2.1.1.3 Syntax: BigMetric	Read-write	The metric value applied at the default type of service (ospfMetric). By default, this equals the least metric at the type of service among the interfaces to other areas. This object exists only if the value of snOspfAreaSummary is snOspfAreaSummary(2); Otherwise, an SNMP_GET or GET_NEXT attempt of this object will return NO_SUCH_NAME.
snOspfAreaRowStatus brcdIp.1.2.4.2.1.1.4 Syntax: Integer	Read-write	Controls the management of the table rows. The following values can be written: • delete(3) - Deletes the row. • create(4) - Creates a new row. • modify(5) - Modifies an existing row. If the row exists, then a SET with a value of create(4) returns a "bad value" error. Deleted rows are removed from the table immediately. The following values can be returned on reads: • noSuch(0) - No such row. • invalid(1) - Row is inoperative. • valid(2) - Row exists and is valid.
snOspfAreaIdFormat brcdIp.1.2.4.2.1.1.5 Syntax: Integer	Read-write	Specifies the format of the area ID entered in the OSPF interface configuration table on page 451 object: • integer(0) - Integer • ipAddress(1) - IP address

Area range table

The area range allows you to assign an aggregate value to a range of IP addresses. This aggregate value becomes the address that is advertised instead of all the individual addresses it represents being advertised. The area range table contains the aggregate value of the ranges of IP addresses that are configured to be propagated from an OSPF area.

Name, OID, and syntax	Access	Description
snOspfAreaRangeTable brcdIp.1.2.4.3.1	None	The area range table.
snOspfAreaRangeAreaID brcdIp.1.2.4.3.1.1.1 Syntax: AreaID	Read-only	Specifies the ID of the area where the address range can be found. The Area range table object determines the format of this object.
snOspfAreaRangeNet brcdIp.1.2.4.3.1.1.2	Read-only	Specifies the IP address of the net or subnet indicated by the range.

Name, OID, and syntax	Access	Description
Syntax: IpAddress		
snOspfAreaRangeMask brcdIp.1.2.4.3.1.1.3 Syntax: IpAddress	Read-write	Specifies the subnet mask that pertains to the net or subnet.
snOspfAreaRangeRowStatus brcdIp.1.2.4.3.1.1.4 Syntax: Integer	Read-write	Controls the management of the table rows. The following values can be written: • delete(3) - Deletes the row. • create(4) - Creates a new row. • modify(5) - Modifies an existing row. If the row exists, then a SET with a value of create(4) returns a "bad value" error. Deleted rows are removed from the table immediately. The following values can be returned on reads: • noSuch(0) - No such row. • invalid(1) - Row is inoperative. • valid(2) - Row exists and is valid.
snOspfAreaRangeAreaIdFormat brcdIp.1.2.4.3.1.1.5 Syntax: Integer	Read-only	Specifies the format of how area ID will be entered in the Area range table object: • integer(0) - Integer • ipAddress(1) - IP Address

OSPF interface configuration tables

The OSPF interface table augments the ifTable with OSPF-specific information. The following table is deprecated by OSPF interface 2 configuration table on page 454 (snOspfIf2Table).

OSPF interface configuration table

Name, OID, and syntax	Access	Description
snOspfIfTable brcdIp.1.2.4.4.1	None	The OSPF interface configuration table.
snOspfIfPort brcdIp.1.2.4.4.1.1.1 Syntax: Integer32	Read-only	The physical router port of this OSPF interface.
snOspfIfAreaId brcdIp.1.2.4.4.1.1.2 Syntax: AreaID	Read-write	Specifies the address of the area in a 32-bit integer. This address uniquely identifies the area to which the interface connects. Area ID 0.0.0.0 is used for the OSPF backbone. Default:'00000000'h, which is equal to 0.0.0.0 .
snOspfIfAdminStat brcdIp.1.2.4.4.1.1.3 Syntax: Integer	Read-write	Indicates if neighbor relationships may be formed on this interface: • disabled(0) - The interface is external to OSPF. • enabled(1) - Neighbor relationships may be formed on the interface, which

Name, OID, and syntax	Access	Description
		will be advertised as an internal route to an area. Default: enabled(1)
snOspfIfRtrPriority brcdIp.1.2.4.4.1.1.4 Syntax: DesignatedRouterPriority	Read-write	Specifies the priority of this interface. This object is used in the designated router election algorithm for multi-access networks. Valid values: 0 - 255. A value of 0 signifies that the router is not eligible to become the designated router on this particular network. If two or more routers have the same priority value, then the router with the highest router ID becomes the designated router. The router with the next highest router ID becomes the backup designated router.
snOspfIfTransitDelay brcdIp.1.2.4.4.1.1.5 Syntax: UpToMaxAge	Read-write	Shows the time it takes to transmit link-state update packets on this interface. Valid values: 0 - 3600 seconds Default: 1 second
snOspfIfRetransInterval brcdIp.1.2.4.4.1.1.6 Syntax: UpToMaxAge	Read-write	Specifies the number of seconds between link-state advertisement retransmissions, for adjacencies belonging to this interface. This value is also used when retransmitting database description and link-state request packets. Values values: 0 - 3600 seconds Default: 5 seconds
snOspfIfHelloInterval brcdIp.1.2.4.4.1.1.7 Syntax: HelloRange	Read-write	Specifies the number of seconds the router waits before it sends the next hello packet on this interface. This value must be the same for all routers attached to a common network Valid values: 1 - 65535 seconds (up to 'FFFF'h) Default: 10 seconds
snOspfIfRtrDeadInterval brcdIp.1.2.4.4.1.1.8 Syntax: PositiveInteger	Read-write	Specifies the number of seconds that neighbor routers wait for a router's hello packets before they declare that the router is down. This should be a multiple of the hello interval. This value must be the same for all routers attached to a common network. Valid values: 1 - 2147483647 seconds Default: 40 seconds
snOspfIfAuthType brcdIp.1.2.4.4.1.1.9 Syntax: Integer	Read-write	Specifies the authentication type for an interface. Valid values: • none(0) • simplePassword(1) • md5(2) • reserved for specification by IANA(> 2) Additional authentication types may be assigned locally on a per interface basis, up to 255. Default: none(0)

Name, OID, and syntax	Access	Description
snOspfIfAuthKey brcdIp.1.2.4.4.1.1.10 Syntax: Octet String	Read-write	Indicates the authentication key: • If the authentication type selected is a simple password, then this object requires an alphanumeric password. If the value is shorter than eight octets, the agent will left-adjust and zero-fill the key to equal eight octets. The simple password setting takes effect immediately. All OSPF packets transmitted on the interface contain this password. Any OSPF packet received on the interface is checked for this password. If the password is not present, then the packet is dropped. The password can be up to eight characters long. • If the authentication type is MD5, then a key ID and an MD5 key are required. The key ID is a number from 1 through 255 and identifies the MD5 key that is being used. The MD5 key can be up to 16 alphanumeric characters long. Default:'0000000000000000'h, which is equal to 0.0.0.0.0.0.0.0. When read, OSPF interface configuration table always returns a blank.
snOspfIfMetricValue brcdIp.1.2.4.4.1.1.11 Syntax: Integer	Read-write	Specifies the cost of using this type of service (TOS) on this interface. The default value of the TOS 0 Metric is equal to 10^8 divided by the ifSpeed.
snOspfIfRowStatus brcdIp.1.2.4.4.1.1.12 Syntax: Integer	Read-write	Controls the management of the table rows. The following values can be written: • delete(3) - Deletes the row. • create(4) - Creates a new row. • modify(5) - Modifies an existing row. If the row exists, then a SET with a value of create(4) returns a "bad value" error. Deleted rows are removed from the table immediately. The following values can be returned on reads: • noSuch(0) - No such row. • invalid(1) - Row is inoperative. • valid(2) - Row exists and is valid.
snOspfIfMd5AuthKeyId brcdIp.1.2.4.4.1.1.13 Syntax: Integer	Read-write	Specifies the ID of the MD5 authentication key. If the OSPF virtual interface table on page 458 object is set to MD5, this object identifies the algorithm and secret key used to create the message digest appended to the OSPF packet. Key identifiers are unique per interface (or equivalently, per subnet). The value of this object must be a number from 1 through 255.
snOspfIfMd5AuthKey brcdIp.1.2.4.4.1.1.14	Read-write	Specifies the MD5 authentication key. If the OSPF virtual interface table on page 458 object is set to MD5, the value of this object is

Name, OID, and syntax	Access	Description
Syntax: Octet String		encrypted and included in each OSPF packet transmitted. The agent will left-adjust and zero-fill the key to equal 16 octets. When read, snOspfIfMd5AuthKey always returns a blank.
snOspfIfMd5ActivationWaitTime brcdIp.1.2.4.4.1.1.15 Syntax: Integer	Read-write	Determines when a newly configured MD5 authentication key is valid. This parameter provides a graceful transition from one MD5 key to another without disturbing the network. All new packets transmitted after the key activation wait time interval use the newly configured MD5 key. OSPF packets that contain the old MD5 key are accepted for up to five minutes after the new MD5 key is in operation. The range for the key activation wait time is from 0 through 14400 seconds. Default: 300 seconds
snOspfIfAreaIdFormat brcdIp.1.2.4.4.1.1.16 Syntax: Integer	Read-only	Specifies the format of how Area ID will be entered in the OSPF interface configuration table object: • integer(0) - Integer • ipAddress(1) - IP Address
snOspfIfPassiveMode brcdIp.1.2.4.4.1.1.17 Syntax: Integer	Read-write	Indicates if passive mode is enabled on this interface: • disabled(0) • enabled(1)
snOspfIfDatabaseFilterAllOut brcdIp.1.2.4.4.1.1.18 Syntax: Integer	Read-write	Determines if the filtering of an outgoing OSPF LSA on this interface is enabled: • disabled(0) - Filtering is disabled. • enabled(1) - Filtering is enabled.
snOspfIfMtuIgnore brcdIp.1.2.4.4.1.1.19 Syntax: Integer	Read-write	Determines if the MTU detection mode of this interface is enabled: • disabled(0) - MTU detection mode is disabled. • enabled(1) - MTU detection mode is enabled.
snOspfIfNetworkP2mp brcdIp.1.2.4.4.1.1.20 Syntax: Integer	Read-write	Determines if the P2MP mode of this interface is enabled: • disabled(0) - P2MP mode is disabled. • enabled(1) - P2MP mode is enabled.

OSPF interface 2 configuration table

The following table replaces snOspfIfTable and snOspfIf2Port is an ifIndex of the table.

Name, OID, and syntax	Access	Description
snOspfIf2Table brcdIp.1.2.4.4.2	None	The OSPF interface table describes the interfaces from the viewpoint of OSPF.

Name, OID, and syntax	Access	Description
		Determines if the P2MP mode of this interface is enabled: • disabled(0) - P2MP mode is disabled. • enabled(1) - P2MP mode is enabled.
snOspfIf2Port brcdIp.1.2.4.4.2.1.1 Syntax: Integer32	Read-only	The physical router port of this OSPF interface.
snOspfIf2AreaId brcdIp.1.2.4.4.2.1.2 Syntax: AreaID	Read-write	Specifies the address of the area in a 32-bit integer. This address uniquely identifies the area to which the interface connects. Area ID 0.0.0.0 is used for the OSPF backbone. Default: '00000000'h, which is equal to 0.0.0.0
snOspfIf2AdminStat brcdIp.1.2.4.4.2.1.3 Syntax: Integer	Read-write	Indicates if neighbor relationships may be formed on this interface: • disabled(0) - The interface is external to OSPF. • enabled(1) - Neighbor relationships may be formed on the interface, which will be advertised as an internal route to an area. Default: enabled(1)
snOspfIf2RtrPriority brcdIp.1.2.4.4.2.1.4 Syntax: DesignatedRouterPriority	Read-write	Specifies the priority of this interface. This object is used in the designated router election algorithm for multi-access networks. Valid values: 0 - 255. A value of 0 signifies that the router is not eligible to become the designated router on this particular network. If two or more routers have the same priority value, then the router with the highest router ID becomes the designated router. The router with the next highest router ID becomes the backup designated router.
snOspfIf2TransitDelay brcdIp.1.2.4.4.2.1.5 Syntax: UpToMaxAge	Read-write	Shows the time it takes to transmit link-state update packets on this interface. Valid values: 0 - 3600 seconds Default: 1 second
snOspfIf2RetransInterval brcdIp.1.2.4.4.2.1.6 Syntax: UpToMaxAge	Read-write	Specifies the number of seconds between link-state advertisement retransmissions, for adjacencies belonging to this interface. This value is also used when retransmitting database description and link-state request packets. Valid values: 0 - 3600 seconds Default: 5 seconds
snOspfIf2HelloInterval brcdIp.1.2.4.4.2.1.7 Syntax: HelloRange	Read-write	Specifies the number of seconds that router waits before it sends the next hello packet on this interface. This value must be the same for all routers attached to a common network. Valid values: 1 - 65535 seconds (up to 'FFFF'h) Default: 10 seconds

Name, OID, and syntax	Access	Description
snOspfIf2RtrDeadInterval brcdIp.1.2.4.4.2.1.8 Syntax: PositiveInteger	Read-write	Specifies the number of seconds that neighbor routers wait for a router's hello packets before they declare that the router is down. This should be a multiple of the hello interval. This value must be the same for all routers attached to a common network. Valid values: 1 - 2147483647 seconds Default: 40 seconds
snOspfIf2AuthType brcdIp.1.2.4.4.2.1.9 Syntax: Integer	Read-write	Specifies the authentication type for an interface. Valid values: • none(0) • simplePassword(1) • md5(2) • reserved for specification by IANA(> 2) Additional authentication types may be assigned locally on a per-interface basis. The value of this object can be up to 255. Default: none(0)
snOspfIf2AuthKey brcdIp.1.2.4.4.2.1.10 Syntax: Octet String	Read-write	Indicates the authentication key: • If the authentication type selected is a simple password, then this object requires an alphanumeric password. If the value is shorter than eight octets, the agent will left-adjust and zero-fill the key to equal eight octets. The simple password setting takes effect immediately. All OSPF packets transmitted on the interface contain this password. Any OSPF packet received on the interface is checked for this password. If the password is not present, then the packet is dropped. The password can be up to eight characters long. • If the authentication type is MD5, then a key ID and an MD5 key are required. The key ID is a number from 1 through 255 and identifies the MD5 key that is being used. The MD5 key can be up to 16 alphanumeric characters long. Valid values: Up to eight octets Default: '0000000000000000'h, which is equal to 0.0.0.0.0.0.0.0 When read, OSPF interface 2 configuration table always returns a blank.
snOspfIf2MetricValue brcdIp.1.2.4.4.2.1.11 Syntax: Integer	Read-write	Specifies the cost of using this type of service (TOS) on this interface. The default value of the TOS 0 Metric is equal to 10^8 divided by the ifSpeed. Valid values: 0 - 65535

Name, OID, and syntax	Access	Description
snOspfIf2RowStatus brcdIp.1.2.4.4.2.1.12 Syntax: Integer	Read-write	Controls the management of the table rows. The following values can be written: • delete(3) - Deletes the row. • create(4) - Creates a new row. • modify(5) - Modifies an existing row. If the row exists, then a SET with a value of create(4) returns a "bad value" error. Deleted rows are removed from the table immediately. The following values can be returned on reads: • noSuch(0) - No such row. • invalid(1) - Row is inoperative. • valid(2) - Row exists and is valid.
snOspfIf2Md5AuthKeyId brcdIp.1.2.4.4.2.1.13 Syntax: Integer	Read-write	Specifies the ID of the MD5 authentication key. If the OSPF virtual interface table on page 458 object is set to MD5, this object identifies the algorithm and secret key used to create the message digest appended to the OSPF packet. Key identifiers are unique per interface (or equivalently, per subnet). The value of this object must be a number from 1 through 255.
snOspfIf2Md5AuthKey brcdIp.1.2.4.4.2.1.14 Syntax: Octet String	Read-write	Specifies the MD5 authentication key. If the OSPF virtual interface table on page 458 object is set to MD5, the value of this object is encrypted and included in each OSPF packet transmitted. The agent will left-adjust and zero-fill the key to equal 16 octets. When read, OSPF interface 2 configuration table always returns a blank. Valid values: Up to 16 octets.
snOspfIf2Md5ActivationWaitTime brcdIp.1.2.4.4.2.1.15 Syntax: Integer	Read-write	Determines when a newly configured MD5 authentication key is valid. This parameter provides a graceful transition from one MD5 key to another without disturbing the network. All new packets transmitted after the key activation wait time interval use the newly configured MD5 key. OSPF packets that contain the old MD5 key are accepted for up to five minutes after the new MD5 key is in operation. The range for the key activation wait time is from 0 through 14400 seconds. Default: 300 seconds
snOspfIf2AreaIdFormat brcdIp.1.2.4.4.2.1.16 Syntax: Integer	Read-only	Specifies the format of how Area ID will be entered in the OSPF interface configuration table on page 451 object: • integer(0) - Integer • ipAddress(1) - IP Address
snOspfIf2PassiveMode brcdIp.1.2.4.4.2.1.17 Syntax: Integer	Read-write	Indicates if passive mode is enabled on this interface: • disabled(0)

Name, OID, and syntax	Access	Description
		• enabled(1)
snOspfIf2DatabaseFilterAllOut brcdIp.1.2.4.4.2.1.18 Syntax: Integer	Read-write	Determines if the filtering of an outgoing OSPF LSA on this interface is enabled: • disabled(0) - Filtering is disabled. • enabled(1) - Filtering is enabled.
snOspfIf2MtuIgnore brcdIp.1.2.4.4.2.1.19 Syntax: Integer	Read-write	Determines if the MTU detection mode of this interface is enabled: • disabled(0) - MTU detection mode is disabled. • enabled(1) - MTU detection mode is enabled.
snOspfIf2NetworkP2mp brcdIp.1.2.4.4.2.1.20 Syntax: Integer	Read-write	Determines if the P2MP mode of this interface is enabled: • disabled(0) - P2MP mode is disabled. • enabled(1) - P2MP mode is enabled.
snOspfIf2NetworkP2pt brcdIp.1.2.4.4.2.1.21 Syntax: Integer	Read-write	This object enables and disables OSPF point-to-point mode on an interface: • disabled(0) - Disables the feature. • enabled(1) - Enables the feature.
snOspfIf2NetworkNonBroadcast brcdIp.1.2.4.4.2.1.22 Syntax: Integer	Read-write	This object enables or disables non-broadcast mode of this interface.

OSPF virtual interface table

The OSPF virtual interface table describes the virtual links that the OSPF process is configured to carry.

References:

- RFC 1583 "OSPF Version 2", section C.4 Virtual link parameters
- RFC 1583 "OSPF Version 2", section 9 The Interface Data Structure

Name, OID, and syntax	Access	Description
snOspfVirtIfTable brcdIp.1.2.4.5.1	None	The OSPF virtual interface table.
snOspfVirtIfAreaID brcdIp.1.2.4.5.1.1.1 Syntax: AreaID	Read-only	Specifies the ID of the transit area that the virtual link traverses. A value of 0.0.0.0 is not valid.
snOspfVirtIfNeighbor brcdIp.1.2.4.5.1.1.2 Syntax: RouterID	Read-only	Shows the IP address of the ID of the router that is serving as the virtual neighbor.
snOspfVirtIfTransitDelay brcdIp.1.2.4.5.1.1.3 Syntax: UpToMaxAge	Read-write	Shows the time it takes to transmit link-state update packets on this interface. Valid values: 0 - 3600 seconds Default: 1 second
snOspfVirtIfRetransInterval brcdIp.1.2.4.5.1.1.4	Read-write	Specifies the interval between the retransmission of link-state advertisements to router adjacencies for this interface.

Name, OID, and syntax	Access	Description
Syntax: UpToMaxAge		Valid values: 0 - 3600 seconds Default: 5 seconds This value is also used when retransmitting database description and link-state request packets. This value should be greater than the expected roundtrip time.
snOspfVirtIfHelloInterval brcdIp.1.2.4.5.1.1.5 Syntax: HelloRange	Read-write	Specifies the number of seconds that router waits before it sends the next hello packet on this interface. This value must be the same for all routers attached to a common network. Valid values: 1 - 65535 seconds Default: 10 seconds This value must be the same for the virtual neighbor.
snOspfVirtIfRtrDeadInterval brcdIp.1.2.4.5.1.1.6 Syntax: PositiveInteger	Read-write	Specifies the number of seconds that neighbor routers wait for a router's hello packets before they declare that the router is down. This should be a multiple of the hello interval. This value must be the same for the virtual neighbor. Default: 60 seconds
snOspfVirtIfAuthType brcdIp.1.2.4.5.1.1.7 Syntax: Integer	Read-write	Specifies the authentication type for an interface. Valid values: • none(0) • simplePassword(1) • md5(2) • reserved for specification by IANA(> 2) Additional authentication types may be assigned locally on a per-interface basis. Default: none(0)
snOspfVirtIfAuthKey brcdIp.1.2.4.5.1.1.8 Syntax: Octet String	Read-write	Specifies the authentication key: • If the authentication type selected is simple password, then this object requires an alphanumeric password. If the value is shorter than eight octets, the agent will left-adjust and zero-fill the key to equal eight octets. The simple password setting takes effect immediately. All OSPF packets transmitted on the interface contain this password. Any OSPF packet received on the interface is checked for this password. If the password is not present, then the packet is dropped. The password can be up to eight characters long. • If the authentication type is MD5, then a key ID and an MD5 key are required. The key ID is a number from 1 through 255 and identifies the MD5 key that is being used. The MD5 key can be up to 16 alphanumeric characters long.

Name, OID, and syntax	Access	Description
		When read, OSPF interface configuration table on page 451 always returns a blank. Default: 0000000000000000'h, which is 0.0.0.0.0.0.0.0
snOspfVirtIfRowStatus brcdIp.1.2.4.5.1.1.9 Syntax: Integer	Read-write	Controls the management of the table rows. The following values can be written: • delete(3) - Deletes the row. • create(4) - Creates a new row. • modify(5) - Modifies an existing row. If the row exists, then a SET with a value of create(4) returns a "bad value" error. Deleted rows are removed from the table immediately. The following values can be returned on reads: • noSuch(0) - No such row. • invalid(1) - Row is inoperative. • valid(2) - Row exists and is valid.
snOspfVirtIfMd5AuthKeyId brcdIp.1.2.4.5.1.1.10 Syntax: Integer	Read-write	Specifies the ID of the MD5 authentication key. This object identifies the algorithm and secret key used to create the message digest appended to the OSPF packet. Key identifiers are unique per interface. If the OSPF virtual interface table object is set to MD5, the value of this object must be a number from 1 through 255.
snOspfVirtIfMd5AuthKey brcdIp.1.2.4.5.1.1.11 Syntax: Octet String	Read-write	Specifies the MD5 authentication key. The value of this object is encrypted and included in each OSPF packet transmitted. If the value of this object is shorter than 16 octets, the agent will left-adjust and zero-fill the key to equal 16 octets. When read, snOspfIfMd5AuthKey always returns a blank.
snOspfVirtIfMd5ActivationWaitTime brcdIp.1.2.4.5.1.1.12 Syntax: Integer	Read-write	Determines when a newly configured MD5 authentication key is valid. This parameter provides a graceful transition from one MD5 key to another without disturbing the network. All new packets transmitted after the key activation wait time interval use the newly configured MD5 key. OSPF packets that contain the old MD5 key are accepted for up to five minutes after the new MD5 key is in operation. Valid values: 0 - 14400 seconds Default: 300 seconds
snOspfVirtIfAreaIdFormat brcdIp.1.2.4.5.1.1.13 Syntax: Integer	Read-only	Specifies the format of how area ID is entered in the OSPF virtual interface table object: • integer(0) - Integer. • ipAddress(1) - IP address.

OSPF redistribution of routes table

The OSPF redistribution of routes table contains a list of routes that will be used to decide whether a particular RIP or static route is to be imported into an OSPF domain. Routes will be imported if the parameter "Import Route into OSPF" is enabled. They will be imported as external type 2 routes.

Name, OID, and syntax	Access	Description
snOspfRedisTable brcdIp.1.2.4.6.1	None	The OSPF redistribution of routes table contains a list of routes that could be imported into the OSPF domain.
snOspfRedisIndex brcdIp.1.2.4.6.1.1.1 Syntax: Integer	Read-only	An ID identifying this destination route. There can be up to 64 entries for this object.
snOspfRedisIpAddress brcdIp.1.2.4.6.1.1.2 Syntax: IpAddress	Read-write	Shows the destination IP address that is associated with this particular route.
snOspfRedisMask brcdIp.1.2.4.6.1.1.3 Syntax: IpAddress	Read-write	Shows the subnet mask of this route.
snOspfRedisAction brcdIp.1.2.4.6.1.1.4 Syntax: Integer	Read-write	Specifies what action to be taken if the route matches this entry: • noImport(0) - Do not import the route into the OSPF domain. • import(1) - Import the route into the OSPF domain as an external type 2 route.
snOspfRedisProtocol brcdIp.1.2.4.6.1.1.5 Syntax: Integer	Read-write	Specifies how routes are imported into the OSPF domain: • rip(1) - The RIP route. • all(2) - All protocol route. • static(3) - The static route. • bgp(4) - The BGP route. • connected(5) - The connected route. • isis(6) - The IS-IS route.
snOspfRedisSetOspfMetric brcdIp.1.2.4.6.1.1.6 Syntax: Integer	Read-write	The value indicates whether the route metric matches the OSPF metric field: • disabled(0) - The route metric does not match the OSPF metric field. • enabled(1) - The route metric matches the OSPF metric field.
snOspfRedisOspfMetricValue brcdIp.1.2.4.6.1.1.7 Syntax: Integer	Read-write	Specifies the cost of using this Type of Service (TOS) on this interface. Valid values: 0 - 65535.
snOspfRedisMatchRipMetric brcdIp.1.2.4.6.1.1.8 Syntax: Integer	Read-write	The value indicates whether the route metric matches the RIP metric field: • disabled(0) - The route metric does not match the RIP metric field. • enabled(1) - The route metric matches the RIP metric field.
snOspfRedisRipMetricValue	Read-write	Specifies the cost of using RIP on this interface.

Name, OID, and syntax	Access	Description
brcdIp.1.2.4.6.1.1.9 Syntax: Integer		Valid values: 1 - 15 hops
snOspfRedisRowStatus brcdIp.1.2.4.6.1.1.10 Syntax: Integer	Read-write	Controls the management of the table rows. The following values can be written: • delete(3) - Deletes the row. • create(4) - Creates a new row. • modify(5) - Modifies an existing row. If the row exists, then a SET with a value of create(4) returns a "bad value" error. Deleted rows are removed from the table immediately. The following values can be returned on reads: • noSuch(0) - No such row. • invalid(1) - Row is inoperative. • valid(2) - Row exists and is valid.

OSPF neighbor table

The OSPF neighbor table describes non-virtual neighbors in the locality of the router.

References:

- RFC 1583 “OSPF Version 2”, section 10 The Neighbor Data Structure
- RFC 1583 “OSPF Version 2”, section 12.1.2 Options

Name, OID, and syntax	Access	Description
snOspfNbrTable brcdIp.1.2.4.7.1	None	A table of non-virtual neighbor information.
snOspfNbrEntryIndex brcdIp.1.2.4.7.1.1.1 Syntax: Integer32	Read-only	The table entry index of this neighbor.
snOspfNbrPort brcdIp.1.2.4.7.1.1.2 Syntax: Integer32	Read-only	Shows the physical port ID of this neighbor.
snOspfNbrIpAddr brcdIp.1.2.4.7.1.1.3 Syntax: IpAddress	Read-only	Shows the IP address of this neighbor.
snOspfNbrIndex brcdIp.1.2.4.7.1.1.4 Syntax: Integer32	Read-only	Contains an index of each neighbor's port and IP address.
snOspfNbrRtrId brcdIp.1.2.4.7.1.1.5 Syntax: RouterID	Read-only	Specifies the IP address of the neighboring router in the autonomous system. The value of this object is a 32-bit integer. Default: '00000000'h, which is equal to 0.0.0.0
snOspfNbrOptions brcdIp.1.2.4.7.1.1.6 Syntax: Integer32	Read-only	The bit mask that is set corresponding to the neighbor's options field: • Bit 0 - The system will operate on Type of Service metrics other than

Name, OID, and syntax	Access	Description
		TOS 0. The neighbor will ignore all metrics except for the TOS 0 metric. • Bit 1 - The associated area accepts and operates on external information; it is a stub area. • Bit 2 - The system is capable of routing IP Multicast datagrams. It implements the multicast extensions to OSPF. • Bit 3 - The associated area is an NSSA. These areas are capable of carrying type 7 external advertisements, which are translated into type 5 external advertisements at NSSA borders. Default: Bit 0
snOspfNbrPriority brcdIp.1.2.4.7.1.1.7 Syntax: DesignatedRouterPriority32	Read-only	Specifies the priority of this interface. This object is used in the designated router election algorithm for multi-access networks. Valid values: 0 - 255 Default: 1. A value of 0 signifies that the router is not eligible to become the designated router on this particular network. If two or more routers have the same priority value, then the router with the highest router ID becomes the designated router. The router with the next highest router ID becomes the backup designated router.
snOspfNbrState brcdIp.1.2.4.7.1.1.8 Syntax: Integer	Read-only	Shows the state of the communication between the Layer 3 Switch and the neighbor: • down(1) - There has been no recent information received from the neighbor. • attempt(2) - This state is only valid for neighbors attached to non-broadcast networks. It indicates that no recent information has been received from the neighbor. • init(3) - A hello packet has recently been seen from the neighbor. However, bidirectional communication has not yet been established with the neighbor. (The router itself did not appear in the neighbor's hello packet.) All neighbors in this state (or higher) are listed in the hello packets sent from the associated interface. • twoWay(4) - Communication between the two routers is bidirectional. This is the most advanced state before beginning adjacency establishment. The Designated Router and Backup Designated Router are selected from the set of neighbors in the two-way state or greater.

Name, OID, and syntax	Access	Description
		• exchangeStart(5) - The first step in creating an adjacency between the two neighboring routers. The goal of this step is to decide which router is the master, and to decide upon the initial Database Description (DD) sequence number. Neighbor communications in this state or greater are called adjacencies. • exchange(6) - The router is describing its entire link-state database by sending DD packets to the neighbor. Each DD packet has a DD sequence number, and is explicitly acknowledged. Only one DD packet can be outstanding at any time. In this state, link-state request packets can also be sent asking for the neighbor's more recent advertisements. All adjacencies that are in the exchange state or greater are used by the flooding procedure. In fact, these adjacencies are fully capable of transmitting and receiving all types of OSPF routing protocol packets. • loading(7) - Link-state request packets are sent to the neighbor asking for the more recent advertisements that have been discovered (but not yet received) in the exchange state. • full(8) - The neighboring routers are fully adjacent. These adjacencies will now appear in router links and network link advertisements. Default: down(1)
snOspfNbrEvents brcdIp.1.2.4.7.1.1.9 Syntax: Counter	Read-only	Shows the number of times this neighbor's state has changed state, or the number of times an error occurred.
snOspfNbrLsRetransQLen brcdIp.1.2.4.7.1.1.10 Syntax: Gauge32	Read-only	Specifies the interval between the retransmission of link-state advertisements to router adjacencies for this interface. The range is from 0 through 3600 seconds. Default: 5 seconds

OSPF virtual neighbor table

The OSPF virtual neighbor table describes all virtual neighbors. Because virtual links are configured in the virtual interface table, this table is read-only.

Reference: RFC 1583 "OSPF Version 2", section 15 Virtual Links.

Name, OID, and syntax	Access	Description
snOspfVirtNbrTable brcdIp.1.2.4.8.1	None	The OSPF virtual neighbor table.
snOspfVirtNbrEntryIndex brcdIp.1.2.4.8.1.1.1 Syntax: Integer32	Read-only	The ID of an entry in the OSPF virtual neighbor table.
snOspfVirtNbrArea brcdIp.1.2.4.8.1.1.2 Syntax: AreaID	Read-only	Shows the ID of the transit area. The format is defined in the OSPF virtual neighbor table object.
snOspfVirtNbrRtrId brcdIp.1.2.4.8.1.1.3 Syntax: RouterID	Read-only	Identifies the IP address of the neighboring router in the autonomous system (AS). This is a 32-bit integer.
snOspfVirtNbrIpAddr brcdIp.1.2.4.8.1.1.4 Syntax: IpAddress	Read-only	Shows the IP address of this virtual neighbor.
snOspfVirtNbrOptions brcdIp.1.2.4.8.1.1.5 Syntax: Integer32	Read-only	Shows a bit map that corresponds to the neighbor's options field. Thus, Bit 1, if set, indicates that the neighbor supports Type of Service routing; if zero, no metrics other than TOS 0 are in use by the neighbor.
snOspfVirtNbrState brcdIp.1.2.4.8.1.1.6 Syntax: Integer	Read-only	Shows the state of the communication between the Layer 3 Switch and the virtual neighbor: • down(1) - There has been no recent information received from the neighbor. • attempt(2) - This state is only valid for neighbors attached to non-broadcast networks. It indicates that no recent information has been received from the neighbor. • init(3) - A hello packet has recently been seen from the neighbor. However, bidirectional communication has not yet been established with the neighbor. (The router itself did not appear in the neighbor's hello packet.) All neighbors in this state (or higher) are listed in the hello packets sent from the associated interface. • twoWay(4) - Communication between the two routers is bidirectional. This is the most advanced state before beginning adjacency establishment. The Designated Router and Backup Designated Router are selected from the set of neighbors in the two-way state or greater. • exchangeStart(5) - The first step in creating an adjacency between the two neighboring routers. The goal of this step is to decide which router is the master, and to decide upon the initial DD sequence number. Neighbor communications in this state or greater are called adjacencies.

Name, OID, and syntax	Access	Description
		• exchange(6) - The router is describing its entire link-state database by sending DD packets to the neighbor. Each DD packet has a DD sequence number, and is explicitly acknowledged. Only one DD packet can be outstanding at any time. In this state, link-state request packets can also be sent asking for the neighbor's more recent advertisements. All adjacencies in the exchange state or greater are used by the flooding procedure. In fact, these adjacencies are fully capable of transmitting and receiving all types of OSPF routing protocol packets. • loading(7) - Link-state request packets are sent to the neighbor asking for the more recent advertisements that have been discovered (but not yet received) in the exchange state. • full(8) - The neighboring routers are fully adjacent. These adjacencies will now appear in router links and network link advertisements.
snOspfVirtNbrEvents brcdIp.1.2.4.8.1.1.7 Syntax: Counter32	Read-only	Shows the number of times the state of this virtual link has changed or an error has occurred.
snOspfVirtNbrLSRetransQLen brcdIp.1.2.4.8.1.1.8 Syntax: Gauge32	Read-only	Shows the current length of the retransmission queue.
snOspfVirtNbrAreaIdFormat brcdIp.1.2.4.8.1.1.9 Syntax: Integer	Read-only	Specifies the format of how Area ID will be entered in the OSPF virtual neighbor table object: • integer(0) - Integer • ipAddress(1) - IP address

OSPF link-state database

The OSPF link-state database contains the link-state advertisement from all the areas to which the device is attached.

Reference: RFC 1583 "OSPF Version 2", section 12 Link State Advertisements.

Name, OID, and syntax	Access	Description
snOspfLsdbTable brcdIp.1.2.4.9.1	None	The OSPF process's link-state database.
snOspfLsdbEntryIndex brcdIp.1.2.4.9.1.1.1 Syntax: Integer32	Read-only	The ID of the entry in the link-state database.
snOspfLsdbAreaId brcdIp.1.2.4.9.1.1.2	Read-only	Shows the area from which the LSA was received. The value is in a 32-bit format.

Name, OID, and syntax	Access	Description
Syntax: AreaID		
snOspfLsdbType brcdIp.1.2.4.9.1.1.3 Syntax: Integer	Read-only	Specifies the type of the link-state advertisement. Each link-state type has a separate advertisement format: • routerLink(1) • networkLink(2) • summaryLink(3) • asSummaryLink(4)
snOspfLsdbLsId brcdIp.1.2.4.9.1.1.4 Syntax: IpAddress	Read-only	Specifies the link-state ID. This ID is an LS type-specific field containing either a router ID or an IP address. It identifies the piece of the routing domain that is being described by the advertisement.
snOspfLsdbRouterId brcdIp.1.2.4.9.1.1.5 Syntax: RouterID	Read-only	Identifies the originating router in the autonomous system. This information is in a 32-bit number. The format is determined by the OSPF link-state database object. **NOTE** OSPF sequence number is a 32-bit signed integer. It starts with the value '80000001'h or -'7FFFFFFF'h, and increments until '7FFFFFFF'h. Thus, a typical sequence number will be more negative than a negative number.
snOspfLsdbSequence brcdIp.1.2.4.9.1.1.6 Syntax: Integer32	Read-only	Shows the sequence number of this entry. The OSPF neighbor that sent the LSA stamps the LSA with a sequence number to enable the Layer 3 Switch and other OSPF routers to determine which LSA for a given route is the most recent. This object can be used to detect old and duplicate link-state advertisements. The higher the sequence number, the more recent the advertisement.
snOspfLsdbAge brcdIp.1.2.4.9.1.1.7 Syntax: Integer32	Read-only	Shows the age of the link-state advertisement in seconds.
snOspfLsdbChecksum brcdIp.1.2.4.9.1.1.8 Syntax: Integer32	Read-only	Indicates the checksum for the LSA packet. The checksum is based on all the fields in the packet except the age field. The Layer 3 Switch uses the checksum to verify that the packet is not corrupted.
snOspfLsdbAdvertisement brcdIp.1.2.4.9.1.1.9 Syntax: Octet String	Read-only	Shows the data in the link-state advertisement, including its header in octets. Reference: RFC 1583 "OSPF Version 2", section Section 12 Link State Advertisements
snOspfLsdbAreaIdFormat brcdIp.1.2.4.9.1.1.10 Syntax: Integer	Read-only	Specifies the format of how RouterId will be entered in the OSPF link-state database object: • integer(0) - Integer • ipAddress(1) - IP address

OSPF link-state database (external)

The following table is identical to the OSPF LSDB table in format, but contains only external link-state advertisements. The purpose is to allow external LSAs to be displayed once for the router rather than once in each non-stub area.

Name, OID, and syntax	Access	Description
snOspfExtLsdbTable brcdIp.1.2.4.10.1	None	The link-state external database table.
snOspfExtLsdbEntryIndex brcdIp.1.2.4.10.1.1.1 Syntax: Integer32	Read-only	The table entry index of this link-state database.
snOspfExtLsdbType brcdIp.1.2.4.10.1.1.2 Syntax: Integer	Read-only	Shows the type of the link-state advertisement. Each link-state type has a separate advertisement format.
snOspfExtLsdbLsId brcdIp.1.2.4.10.1.1.3 Syntax: Integer	Read-only	Specifies the external link-state ID. This ID is an LS type-specific field containing either a router ID or an IP address. It identifies the piece of the routing domain that is being described by the advertisement.
snOspfExtLsdbRouterId brcdIp.1.2.4.10.1.1.4 Syntax: Integer	Read-only	Identifies the originating router in the autonomous system. This information is in a 32-bit number. NOTE OSPF Sequence Number is a 32-bit signed integer. It starts with the value '80000001'h, or -'7FFFFFFF'h. It increments until '7FFFFFFF'h Thus, a typical sequence number will be more negative.
snOspfExtLsdbSequence brcdIp.1.2.4.10.1.1.5 Syntax: Integer32	Read-only	Shows the sequence number of this entry. The OSPF neighbor that sent the LSA stamps it with a sequence number to enable the Layer 3 Switch and other OSPF routers to determine which LSA for a given route is the most recent. This object can be used to detect old and duplicate link-state advertisements. The higher the sequence number, the more recent the advertisement.
snOspfExtLsdbAge brcdIp.1.2.4.10.1.1.6 Syntax: Integer32	Read-only	Shows the age of the link-state advertisement in seconds.
snOspfExtLsdbChecksum brcdIp.1.2.4.10.1.1.7 Syntax: Integer32	Read-only	Indicates the checksum for the LSA packet. The checksum is based on all the fields in the packet except the age field. The Layer 3 Switch uses the checksum to verify that the packet is not corrupted.
snOspfExtLsdbAdvertisement brcdIp.1.2.4.10.1.1.8 Syntax: Octet String	Read-only	Shows the data in the link-state advertisement, including its header in octets. There can be up to 36 octets in this object.

OSPF area status table

The OSPF area status data structure contains information regarding the configured parameters and cumulative statistics of the router's attached areas. The interfaces and virtual links are configured as part of these areas. Area 0.0.0.0 is the Backbone Area.

Reference: RFC 1583 "OSPF Version 2", section 6 The Area Data Structure.

Name, OID, and syntax	Access	Description
snOspfAreaStatusTable brcdIp.1.2.4.11.1	None	The OSPF area status table.
snOspfAreaStatusEntryIndex brcdIp.1.2.4.11.1.1.1 Syntax: Integer32	Read-only	The ID of an entry in the OSPF area status table.
snOspfAreaStatusAreaId brcdIp.1.2.4.11.1.1.2 Syntax: AreaID	Read-only	Specifies the ID of an area. The format of this 32-bit integer is determined by the value of the OSPF area status table object. Area ID 0.0.0.0 is used for the OSPF backbone.
snOspfAreaStatusImportASExtern brcdIp.1.2.4.11.1.1.3 Syntax: Integer32	Read-only	The area's support for importing AS external link-state advertisements. Default: 1
snOspfAreaStatusStubMetric brcdIp.1.2.4.11.1.1.4 Syntax: BigMetric	Read-only	The metric value applied at the default type of service (ospfMetric). By default, this equals the least metric at the type of service among the interfaces to other areas. This object exists only if the value of snOspfAreaSummary is snOspfAreaSummary(2); otherwise, an SNMP_GET or GET_NEXT attempt of this object will return NO_SUCH_NAME.
snOspfAreaStatusSpfRuns brcdIp.1.2.4.11.1.1.5 Syntax: Counter32	Read-only	Shows the number of times that the intra-area route table has been recalculated using this area's link-state database.
snOspfAreaStatusAreaBdrRtrCount brcdIp.1.2.4.11.1.1.6 Syntax: Gauge32	Read-only	Shows the number of area border routers that are reachable within this area. This is initially zero, the default, and is calculated in each shortest path first (SPF) pass.
snOspfAreaStatusASBdrRtrCount brcdIp.1.2.4.11.1.1.7 Syntax: Gauge32	Read-only	Shows the total number of Autonomous System border routers that are reachable within this area. This is initially zero, the default, and is calculated in each SPF pass.
snOspfAreaStatusLSACount brcdIp.1.2.4.11.1.1.8 Syntax: Gauge32	Read-only	Shows the total number of link-state advertisements in this area's link-state database, excluding AS external LSAs. Default: 0
snOspfAreaStatusLSACksumSum brcdIp.1.2.4.11.1.1.9 Syntax: Integer32	Read-only	Shows the total link-state advertisements of area's link-state database. This number is a 32-bit unsigned sum of the LS checksums, excluding external (LS type 5) link-state advertisements. The value 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. Default: 0

Name, OID, and syntax	Access	Description
snOspfAreaStatusAreaIdFormat brcdIp.1.2.4.11.1.1.10 Syntax: Integer	Read-only	Specifies the format of how Area ID will be entered in the OSPF area status table object: • integer(0) - Integer. • ipAddress(1) - IP address.

OSPF interface status table

The OSPF interface status table describes the interfaces from the viewpoint of OSPF. It augments the ifStatusTable with OSPF-specific information.

Name, OID, and syntax	Access	Description
snOspfIfStatusTable brcdIp.1.2.4.12.1	None	The OSPF interface status table.
snOspfIfStatusEntryIndex brcdIp.1.2.4.12.1.1.1 Syntax: Integer32	Read-only	The ID of an entry in the OSPF interface status table.
snOspfIfStatusPort brcdIp.1.2.4.12.1.1.2 Syntax: Integer32	Read-only	Shows the ID of the physical router port of this OSPF interface.
snOspfIfStatusIpAddress brcdIp.1.2.4.12.1.1.3 Syntax: IpAddress	Read-only	Shows the IP address of this OSPF interface.
snOspfIfStatusAreaId brcdIp.1.2.4.12.1.1.4 Syntax: AreaID	Read-only	Identifies the area to which the interface connects. This ID is a 32-bit integer. Area ID 0.0.0.0 (in the '00000000'h format) is used for the OSPF backbone. The format of this ID is determined by the value of the OSPF interface status table object.
snOspfIfStatusType brcdIp.1.2.4.12.1.1.5 Syntax: Integer	Read-only	Identifies the OSPF interface type. (By way of a default, this field may be derived from the corresponding value of ifType.) • broadcast(1) - For broadcast LANs such as Ethernet and IEEE 802.5. • nbma(2) - For X.25, Frame Relay, and similar technologies. • pointToPoint(3) - For point-to-point interfaces.
snOspfIfStatusAdminStat brcdIp.1.2.4.12.1.1.6 Syntax: Integer	Read-only	Shows if OSPF has been enabled to form neighbor relationships on the interface: • disabled(0) - The interface is external to OSPF. • enabled(1) - OSPF has been enabled to form neighbor relationships and the interface will be advertised as an internal route to some area.
snOspfIfStatusRtrPriority brcdIp.1.2.4.12.1.1.7 Syntax: DesignatedRouterPriority	Read-only	Specifies the priority of this interface. This object is used in the designated router election algorithm for multi-access networks.

Name, OID, and syntax	Access	Description
		Valid values: 0 - 255 Default: 1. A value of 0 means that the router is not eligible to become the designated router on this particular network. If two or more routers have the same priority value, then the router with the highest router ID becomes the designated router. The router with the next highest router ID becomes the backup designated router.
snOspfIfStatusTransitDelay brcdIp.1.2.4.12.1.1.8 Syntax: UpToMaxAge	Read-only	Shows the time it takes to transmit link-state update packets on this interface. Valid values: 0 - 3600 seconds Default: 1 second
snOspfIfStatusRetransInterval brcdIp.1.2.4.12.1.1.9 Syntax: UpToMaxAge	Read-only	Shows the number of seconds between retransmissions of link-state advertisements, to adjacencies that belong to this interface. This value is also used when retransmitting database description and link-state request packets. Valid values: 0 - 3600 seconds Default: 5 seconds
snOspfIfStatusHelloInterval brcdIp.1.2.4.12.1.1.10 Syntax: HelloRange	Read-only	Specifies the number of seconds that router waits before it sends the next hello packet on this interface. This value must be the same for all routers attached to a common network. Valid values: 1 - 65535 seconds Default: 10 seconds
snOspfIfStatusRtrDeadInterval brcdIp.1.2.4.12.1.1.11 Syntax: PositiveInteger	Read-only	Specifies the number of seconds that neighbor routers wait for a router's hello packets before they declare that the router is down. This should be a multiple of the hello interval and must be the same for all routers attached to a common network. Default: 40 seconds
snOspfIfStatusState brcdIp.1.2.4.12.1.1.12 Syntax: Integer	Read-only	Shows the OSPF interface state: • down(1) • loopback(2) • waiting(3) • pointToPoint(4) • designatedRouter(5) • backupDesignatedRouter(6) • otherDesignatedRouter(7) Default: down(1)
snOspfIfStatusDesignatedRouter brcdIp.1.2.4.12.1.1.13 Syntax: IpAddress	Read-only	Shows the IP address of the designated router. Default: '00000000'h, which is equal to 0.0.0.0
snOspfIfStatusBackupDesignatedRouter brcdIp.1.2.4.12.1.1.14 Syntax: IpAddress	Read-only	Shows the IP address of the backup router. Default: '00000000'h, which is equal to 0.0.0.0

Name, OID, and syntax	Access	Description
snOspfIfStatusEvents brcdIp.1.2.4.12.1.1.15 Syntax: Counter32	Read-only	Shows the following: • The number of times that the state of this OSPF interface has changed • The number of times an error has occurred
snOspfIfStatusAuthType brcdIp.1.2.4.12.1.1.16 Syntax: Integer32	Read-only	Specifies the authentication type for an interface. Valid values: • none(0) • simplePassword(1) • md5(2) • reserved for specification by IANA(> 2) Additional authentication types may be assigned locally on a per-interface basis. Default: none(0)
snOspfIfStatusAuthKey brcdIp.1.2.4.12.1.1.17 Syntax: Octet String	Read-only	Indicates the area's authentication key: • If the authentication type selected is a simple password, then this object requires an alphanumeric password. If the value is shorter than eight octets, the agent will left-adjust and zero-fill the key to equal eight octets. The simple password setting takes effect immediately. All OSPF packets transmitted on the interface contain this password. Any OSPF packet received on the interface is checked for this password. If the password is not present, then the packet is dropped. The password can be up to eight characters long. • If the authentication type is MD5, then a key ID and an MD5 key are required. The key ID is a number from 1 through 255 and identifies the MD5 key that is being used. The MD5 key can be up to 16 alphanumeric characters long. When read, OSPF interface configuration table on page 451 always returns a blank. Default: '0000000000000000'h, which is 0.0.0.0.0.0.0.0
snOspfIfStatusMetricValue brcdIp.1.2.4.12.1.1.18 Syntax: Integer	Read-only	Specifies the cost of using this TOS on this interface. The default value of the TOS 0 Metric is 10^8 or ifSpeed. Valid values: 0 - 65535
snOspfIfStatusMd5AuthKeyId brcdIp.1.2.4.12.1.1.19 Syntax: Integer	Read-only	Specifies the ID of the MD5 authentication key. This object identifies the algorithm and secret key used to create the message digest appended to the OSPF packet. Key identifiers are unique per interface. If the OSPF virtual interface table on page 458 object is set to MD5, the value of this object must be a number from 1 through 255.

Name, OID, and syntax	Access	Description
snOspfIfStatusMd5AuthKey brcdIp.1.2.4.12.1.1.20 Syntax: Octet String	Read-only	Specifies the MD5 authentication key. The value of this object is encrypted and included in each OSPF packet transmitted. If the value of this object is shorter than 16 octets, the agent will left-adjust and zero-fill the key to equal 16 octets. When read, snOspfIfMd5AuthKey always returns a blank.
snOspfIfStatusMd5ActivationWaitTime brcdIp.1.2.4.12.1.1.21 Syntax: Integer	Read-only	Determines when a newly configured MD5 authentication key is valid. This parameter provides a graceful transition from one MD5 key to another without disturbing the network. All new packets transmitted after the key activation wait time interval use the newly configured MD5 key. OSPF packets that contain the old MD5 key are accepted for up to five minutes after the new MD5 key is in operation. The range for the key activation wait time is from 0 through 14400 seconds.
snOspfIfStatusAreaIdFormat brcdIp.1.2.4.12.1.1.22 Syntax: Integer	Read-only	Specifies the format of how Area ID will be entered in the OSPF interface status table object: • integer(0) - Integer. • ipAddress(1) - IP address

OSPF virtual interface status table

The OSPF virtual interface status table contains information about this router's virtual interfaces.

Reference: RFC 1583 "OSPF Version 2", section C.4 Virtual link parameters.

Name, OID, and syntax	Access	Description
snOspfVirtIfStatusTable brcdIp.1.2.4.13.1	None	The OSPF virtual interface status table.
snOspfVirtIfStatusEntryIndex brcdIp.1.2.4.13.1.1.1 Syntax: Integer32	Read-only	The ID of the entry in this table.
snOspfVirtIfStatusAreaID brcdIp.1.2.4.13.1.1.2 Syntax: AreaID	Read-only	Shows the ID of the transit area that the virtual link traverses. The value of this object cannot be 0.0.0.0. The format of this object is determined by the value of the OSPF virtual interface status table object.
snOspfVirtIfStatusNeighbor brcdIp.1.2.4.13.1.1.3 Syntax: RouterID	Read-only	Shows the ID or IP address of the router that is serving as the virtual neighbor.
snOspfVirtIfStatusTransitDelay brcdIp.1.2.4.13.1.1.4 Syntax: UpToMaxAge	Read-only	Shows the time it takes to transmit link-state update packets on this interface. Valid values: 0 - 3600 seconds Default: 1 second

Name, OID, and syntax	Access	Description
snOspfVirtIfStatusRetransInterval brcdIp.1.2.4.13.1.1.5 Syntax: UpToMaxAge	Read-only	Specifies the interval between the retransmission of link-state advertisements to router adjacencies for this interface. Valid values: 0 - 3600 seconds Default: 5 seconds
snOspfVirtIfStatusHelloInterval brcdIp.1.2.4.13.1.1.6 Syntax: HelloRange	Read-only	Specifies the number of seconds that the router waits before it sends the next hello packet on this interface. This value must be the same for all routers attached to a common network. Valid values: 1 - 65535 seconds Default: 10 seconds
snOspfVirtIfStatusRtrDeadInterval brcdIp.1.2.4.13.1.1.7 Syntax: PositiveInteger	Read-only	Specifies the number of seconds that neighbor routers wait for a router's hello packets before they declare that the router is down. This should be a multiple of the hello interval. This value must be the same for all routers attached to a common network. Default: 60 seconds
snOspfVirtIfStatusState brcdIp.1.2.4.13.1.1.8 Syntax: Integer	Read-only	Shows the state of the OSPF virtual interface: • down(1) • pointToPoint(4) Default: down(1)
snOspfVirtIfStatusEvents brcdIp.1.2.4.13.1.1.9 Syntax: Counter32	Read-only	Shows the following: • The number of times that the state of this OSPF interface has changed • The number of times an error has occurred
snOspfVirtIfStatusAuthType brcdIp.1.2.4.13.1.1.10 Syntax: Integer32	Read-only	Specifies the authentication type for an interface. Valid values: • none(0) • simplePassword(1) • reserved for specification by IANA(> 1) Additional authentication types may be assigned locally on a per-interface basis. Default: none(0)
snOspfVirtIfStatusAuthKey brcdIp.1.2.4.13.1.1.11 Syntax: Octet String	Read-only	Specifies the authentication key: • If the authentication type selected is a simple password, then this object requires an alphanumeric password. If the value is shorter than eight octets, the agent will left-adjust and zero-fill the key to equal eight octets. The simple password setting takes effect immediately. All OSPF packets transmitted on the interface contain this password. Any OSPF packet received on the interface is checked for this password. If the password is not present,

Name, OID, and syntax	Access	Description
		then the packet is dropped. The password can be up to eight characters long. • If the authentication type is MD5, then a key ID and an MD5 key are required. The key ID is a number from 1 through 255 and identifies the MD5 key that is being used. The MD5 key can be up to 16 alphanumeric characters long. When read, OSPF interface configuration table on page 451 always returns a blank. Default: '0000000000000000'h, which is 0.0.0.0.0.0.0.0
snOspfVirtIfStatusMd5AuthKeyId brcdIp.1.2.4.13.1.1.12 Syntax: Integer	Read-only	Specifies the ID of the MD5 authentication key. This object identifies the algorithm and secret key used to create the message digest appended to the OSPF packet. Key identifiers are unique per interface. If the OSPF virtual interface table on page 458 object is set to MD5, the value of this object must be a number from 1 through 255.
snOspfVirtIfStatusMd5AuthKey brcdIp.1.2.4.13.1.1.13 Syntax: Octet String	Read-only	Specifies the MD5 authentication key. The value of this object is encrypted and included in each OSPF packet transmitted. If the value of this object is shorter than 16 octets, the agent will left-adjust and zero-fill the key to equal 16 octets. When read, snOspfIfMd5AuthKey always returns a blank.
snOspfVirtIfStatusMd5ActivationWaitTime brcdIp.1.2.4.13.1.1.14 Syntax: Integer	Read-only	Determines when a newly configured MD5 authentication key is valid. This parameter provides a graceful transition from one MD5 key to another without disturbing the network. All new packets transmitted after the key activation wait time interval use the newly configured MD5 key. OSPF packets that contain the old MD5 key are accepted for up to five minutes after the new MD5 key is in operation. The range for the key activation wait time is from 0 through 14400 seconds.
snOspfVirtIfStatusAreaIdFormat brcdIp.1.2.4.13.1.1.15 Syntax: Integer	Read-only	Specifies the format of how Area ID will be entered in the OSPF virtual interface status table object: • integer(0) - Integer • ipAddress(1) - IP address

OSPF routing information table

The OSPF routing information table contains information on the OSPF Area Border Router (ABR) or Autonomous System Boundary Router (ASBR) routing.

Name, OID, and syntax	Access	Description
snOspfRoutingInfoTable brcdIp.1.2.4.14.1	None	The OSPF routing information table.
snOspfRoutingInfoIndex brcdIp.1.2.4.14.1.1.1 Syntax: Integer32	Read-only	The ID of an entry in this table.
snOspfRoutingInfoRouterID brcdIp.1.2.4.14.1.1.2 Syntax: RouterID	Read-only	Shows the ID or IP address of the destination router.
snOspfRoutingInfoRouterType brcdIp.1.2.4.14.1.1.3 Syntax: Integer	Read-only	Shows what router type the destination router is: • abr(1) - Area Border Router • asbr(2) - Autonomous System Border Router • abrANDasbr(3) - Area Border and Autonomous System Border Router
snOspfRoutingInfoNextHopRouterID brcdIp.1.2.4.14.1.1.4 Syntax: RouterID	Read-only	Shows the ID or IP address of the next-hop destination router.
snOspfRoutingInfoOutgoingInterface brcdIp.1.2.4.14.1.1.5 Syntax: Integer32	Read-only	Shows the outgoing interface of the destination router.

Trap support objects

The following table contains the support objects for the OSPF traps.

Name, OID, and syntax	Access	Description
snOspfSetTrap brcdIp.1.2.4.15.1 Syntax: Octet String	Read-write	Indicates if specific OSPF traps are enabled. The four octets serves as a bit map for the trap events defined by the OSPF traps. A value of 1 in the bit field indicates that the trap is enabled. The right-most bit (least significant) represents Trap 0.
snOspfConfigErrorType brcdIp.1.2.4.15.2 Syntax: Integer	Read-only	Indicates the potential types of configuration conflicts used by the ospfConfigError and ospfConfigVirtError traps: • badVersion(1) • areaMismatch(2) • unknownNbmaNbr(3) - Router is eligible. • unknownVirtualNbr(4) • authTypeMismatch(5) • authFailure(6) • netMaskMismatch(7) • helloIntervalMismatch(8) • deadIntervalMismatch(9) • optionMismatch(10)}

Name, OID, and syntax	Access	Description
snOspfPacketType brcdIp.1.2.4.15.3 Syntax: Integer	Read-only	Indicates the OSPF packet type in the trap: • hello(1) • dbDescript(2) • lsReq(3) • lsUpdate(4) • lsAck(5)}
snOspfPacketSrc brcdIp.1.2.4.15.4 Syntax: IpAddress	Read-only	Shows the IP address of an inbound packet that cannot be identified by a neighbor instance.
snOspfTrapsGenerationMode brcdIp.1.2.4.15.5 Syntax: RtrStatus	Read-write	Indicates if this router has been enabled to generate OSPF traps: • disabled(0) - OSPF traps cannot be generated by this router, even if the Trap support objects object is set to generate traps. • enabled(1) - OSPF traps can be generated by the router. This object provides global control on the generation of traps.

Broadcast Forwarding Group

General UDP broadcast forwarding group

NOTE
The following table is not supported on the MLX Series, MLX Series, and XMR Series devices.

Name, OID, and syntax	Access	Description
snRtUdpBcastFwdEnable brcdIp.1.2.2.9 Syntax: RtrStatus	Read-write	Indicates if the UDP broadcast forwarding feature is enabled: • disabled(0) - When this object is set to disabled, entries in the UDP broadcast forwarding port table are deleted. • enabled(1) - When UDP broadcast forwarding is enabled, default entries are added to the UDP broadcast forwarding port table. Default: enabled(1)

UDP broadcast forwarding port table

NOTE
The following table is not supported on the MLX Series, MLX Series, and XMR Series devices.

The following table contains a list of UDP port numbers for which forwarding UDP broadcast is enabled.

Name, OID, and syntax	Access	Description
snRtUdpBcastFwdPortTable brcdIp.1.2.2.9.2.1	None	The UDP broadcast forwarding port table.
snRtUdpBcastFwdPortIndex brcdIp.1.2.2.9.2.1.1.1 Syntax: Integer	Read-only	The index of an entry in the UDP broadcast forwarding port table. There can be up to 20 entries.
snRtUdpBcastFwdPortNumber brcdIp.1.2.2.9.2.1.1.2 Syntax: Integer	Read-write	Shows the port number for which the UDP broadcast forwarding feature has been enabled. Possible port numbers are: • port(68) - bootpc • port(67) - bootps • port(9) - discard • port(53) - dns • port(90) - dnsix • port(7) - echo • port(434) - mobile-ip

Name, OID, and syntax	Access	Description
		• port(138) - netbios-dgm • port(137) - netbios-ns • port(123) - ntp • port(65) - tacacs • port(517) - talk • port(37) - time • port(69) - tftp Other application port numbers can also be specified.
snRtUdpBcastFwdPortRowStatus brcdIp.1.2.2.9.2.1.1.3 Syntax: RowStatus	Read-write	Controls the management of the table rows. The following values can be written: • delete(3) - Deletes the rows • create(4) - Creates a new row. • modify(5) - Modifies an existing row. If the row exists, then a SET with a value of create(4) returns a "bad value" error. Deleted rows are removed from the table immediately. The following values can be returned on reads: • noSuch(0) - No such row. • invalid(1) - Row is inoperative. • valid(2) - Row exists and is valid.

UDP helper table

NOTE
The following table is not supported on the MLX Series, MLX Series, and XMR Series devices.

A UDP helper table contains addresses that are used to forward a client's broadcast request for a UDP application when the client and server are on different networks. There can be up to four helper addresses on each interface. Helper addresses can be configured on an Ethernet port or a virtual interface.

Name, OID, and syntax	Access	Description
snRtUdpHelperTable brcdIp.1.2.2.9.3.1	None	The UDP helper table.
snRtUdpHelperPortIndex brcdIp.1.2.2.9.3.1.1.1 Syntax: PortIndex	Read-only	Indicates the port index for a UDP helper address. For Extreme NetIron products, the value of this object is from 1 through 42.
snRtUdpHelperIndex brcdIp.1.2.2.9.3.1.1.2 Syntax: Integer	Read-only	An index in the UDP helper table for this entry. Valid values: 1- 4
snRtUdpHelperAddrType brcdIp.1.2.2.9.3.1.1.3 Syntax: IpAddress	Read-write	Indicates if the address is unicast or subnet broadcast address. Valid values: • unicast(1) • broadcast(2)

Name, OID, and syntax	Access	Description
snRtUdpHelperAddr brcdIp.1.2.2.9.3.1.1.4 Syntax: IpAddress	Read-write	Shows the IP address of the UDP helper. UDP packets will be forwarded to this address. It can be a helper address or a subnet broadcast address, but it cannot be 255.255.255.255 or 0.0.0.0.
snRtUdpHelperRowStatus brcdIp.1.2.2.9.3.1.1.5 Syntax: Integer	Read-write	Controls the management of the table rows. The following values can be written: • delete(3) - Deletes the row. • create(4) - Creates a new row. • modify(5) - Modifies an existing row. If the row exists, then a SET with a value of create(4) returns a "bad value" error. Deleted rows are removed from the table immediately. The following values can be returned on reads: • noSuch(0) - No such row. • invalid(1) - Row is inoperative. • valid(2) - Row exists and is valid.

Router IP MIB Definition

IP RIP general group

The Routing Information Protocol (RIP) is an IP route exchange protocol that uses a distance vector (a number representing distance) to measure the cost of a given route. The cost is a distance vector because the cost often is equivalent to the number of hops between the Layer 3 Switch and the destination network.

A Layer 3 Switch can receive multiple paths to a destination. A RIP route can have a maximum cost of 15.

The following objects are general objects for RIP. Beginning with NetIron 05.9.00 release, the following MIB objects have VRF support.

Name, OID, and syntax	Access	Description
snRtIpRipEnable brcdIp.1.2.3.1.1 Syntax: Integer	Read-write	Indicates if IP RIP routing is enabled: • disabled(0) • enabled(1) Default: disabled(0)
snRtIpRipUpdateTime brcdIp.1.2.3.1.2 Syntax: Integer	Read-write	Specifies the RIP update interval in seconds. Valid values: 1 - 21845 seconds
snRtIpRipRedisDefMetric brcdIp.1.2.3.1.4 Syntax: Integer	Read-write	Shows the default metric to be used when static routes are redistributed to RIP. Valid values: 1 - 15
snRtIpRipDistance brcdIp.1.2.3.1.8 Syntax: Integer	Read-write	Shows the administrative distance of this filter. Valid values: 1 - 255

IP RIP port configuration table

The IP RIP port configuration table contains the configuration of RIP on a particular interface. Before you can use this table, RIP must be enabled in the device and must be configured with permit and deny commands.

NOTE
The IP RIP MIBs are not supported on the MLX Series, MLX Series, XMR Series, CES 2000 Series, and CER 2000 Series devices.

Name, OID, and syntax	Access	Description
snRtIpRipPortConfigTable	None	The IP RIP port configuration table.

Name, OID, and syntax	Access	Description
brcdIp.1.2.3.2		
snRtIpRipPortConfigPortIndex brcdIp.1.2.3.2.1.1 Syntax: PortIndex	Read-only	The port index for an entry in the IP RIP port configuration table.
snRtIpRipPortVersion brcdIp.1.2.3.2.1.2 Syntax: Integer	Read-write	Specifies the IP RIP version on this port: • disabled(0) - RIP is disabled on this port. • v1Only(1) - RIP version 1 only. • v2Only(2) - RIP version 2 only. • v1CompatibleV2(3) - RIP version 2 is compatible with version 1.
snRtIpRipPortPoisonReverse brcdIp.1.2.3.2.1.3 Syntax: Integer	Read-write	Indicates if poison reverse is enabled: • disabled(0) • enabled(1) Poison reverse prevents routing loops and slow convergence within the network.
snRtIpRipPortLearnDefault brcdIp.1.2.3.2.1.4 Syntax: Integer	Read-write	Indicates if the ability to learn advertised routes is enabled on the interface: • disabled(0) • enabled(1)

IP RIP redistribution table

The IP RIP redistribution table contains routes where RIP routes are redistributed. RIP can redistribute routes from other routing protocols such as OSPF and BGP4 into RIP. A redistributed route means that a Layer 3 Switch learns through another protocol, and then distributes into RIP.

NOTE
Beginning with NetIron 05.9.00 release, the following MIB objects have VRF support.

Name, OID, and syntax	Access	Description
snRtIpRipRedisTable brcdIp.1.2.3.3	None	The IP RIP redistribution table.
snRtIpRipRedisIndex brcdIp.1.2.3.3.1.1 Syntax: Integer	Read-only	The table index for a IP RIP redistribution entry. There can be up to 64 entries in this table.
snRtIpRipRedisAction brcdIp.1.2.3.3.1.2 Syntax: Integer NOTE This object is not supported on the Extreme NetIron devices.	Read-write	Indicates what to do if routes match this IP RIP redistribution entry. • deny(0) • permit(1)
snRtIpRipRedisProtocol brcdIp.1.2.3.3.1.3 Syntax: Integer	Read-write	Indicates which protocol is to be distributed: • other(1) - Cannot be used for SNMP-SET. • all(2)

Name, OID, and syntax	Access	Description
		• static(3) • ospf(4) • bgp(5) • isis(6)
snRtIpRipRedisSetMetric brcdIp.1.2.3.3.1.7 Syntax: Integer	Read-write	Specifies the new metric of the route to be advertised. Valid values: 0 - 15. A value of 0 indicates that the default metric will be used.
snRtIpRipRedisRowStatus brcdIp.1.2.3.3.1.8 Syntax: Integer	Read-write	Controls the management of the table rows. The following values can be written: • delete(3) - Deletes the row. • create(4) - Creates a new row. • modify(5) - Modifies an existing row. If the row exists, then a SET with a value of create(4) returns a "bad value" error. Deleted rows are removed from the table immediately. The following values can be returned on reads: • noSuch(0) - No such row. • invalid(1) - Row is inoperative. • valid(2) - Row exists and is valid.
snRtIpRipRedisRouteMapName brcdIp.1.2.3.3.1.9 Syntax: DisplayString	Read-write	Indicates the name of the route map used for this redistribution entry.

IP RIP route filter table

The IP RIP route filter table defines the IP network numbers the router will learn from RIP. The numbers are stored in the router's IP routing table. Once RIP filters are defined, you can assign them to individual interfaces.

NOTE
The IP RIP route filter MIBs are not supported on the MLX Series, MLX Series, XMR Series, CES 2000 Series, and CER 2000 Series devices.

Name, OID, and syntax	Access	Description
snRtIpRipRouteFilterTable brcdIp.1.2.3.4	None	The IP RIP route filter table.
snRtIpRipRouteFilterId brcdIp.1.2.3.4.1.1 Syntax: Integer	Read-only	Shows the filter ID to identify a filter entry. There can be up to 64 entries in this table.
snRtIpRipRouteFilterAction brcdIp.1.2.3.4.1.2 Syntax: Integer	Read-write	Indicates what action to take if the IP RIP packet matches this filter: • deny(0) • permit(1)
snRtIpRipRouteFilterIpAddr brcdIp.1.2.3.4.1.3 Syntax: IpAddress	Read-write	Indicates the route IP address that needs to be matched by any IP address in a RIP packet. A value of 0.0.0.0 means that any IP address in any RIP packets will be matched.

Name, OID, and syntax	Access	Description
snRtIpRipRouteFilterSubnetMask brcdIp.1.2.3.4.1.4 Syntax: IpAddress	Read-write	If IP RIP route filter table is 0, this value is ignored, and all IP RIP packets will be matched. Otherwise, this mask is applied to the IP RIP packet and then compared to IP RIP route filter table to determine a match.
snRtIpRipRouteFilterRowStatus brcdIp.1.2.3.4.1.5 Syntax: Integer	Read-write	Controls the management of the table rows. The following values can be written: • delete(3) - Deletes the row. • create(4) - Creates a new row. • modify(5) - Modifies an existing row. If the row exists, then a SET with a value of create(4) returns a "bad value" error. Deleted rows are removed from the table immediately. The following values can be returned on reads: • noSuch(0) - No such row. • invalid(1) - Row is inoperative. • valid(2) - Row exists and is valid.

IP RIP neighbor filter table

The IP RIP neighbor filter table specifies the routers from which a router will receive RIP routes. By default, RIP routes will be learned from all neighbors.

NOTE

Beginning with NetIron 05.9.00 release, the following MIB objects have VRF support.

Name, OID, and syntax	Access	Description
snRtIpRipNbrFilterTable brcdIp.1.2.3.5	None	The IP RIP neighbor filter table.
snRtIpRipNbrFilterId brcdIp.1.2.3.5.1.1 Syntax: Integer	Read-only	Indicates the ID of this entry in the table. There can be up to 64 entries in this table.
snRtIpRipNbrFilterAction brcdIp.1.2.3.5.1.2 Syntax: Integer	Read-write	Indicates what action to take if the source IP address in a packet matches the source IP address in this filter. The IP address to be matched is defined by the IP RIP neighbor filter table object: • deny(0) • permit(1)
snRtIpRipNbrFilterSourceIp brcdIp.1.2.3.5.1.3 Syntax: IpAddress	Read-write	Shows the source IP address that needs to be matched by the RIP packet. An IP address of 0.0.0.0 always matches any source IP addresses in any IP RIP packets.
snRtIpRipNbrFilterRowStatus brcdIp.1.2.3.5.1.4 Syntax: Integer	Read-write	Controls the management of the table rows. The following values can be written: • delete(3) - Deletes the row. • create(4) - Creates a new row. • modify(5) - Modifies an existing row.

Name, OID, and syntax	Access	Description
		If the row exists, then a SET with a value of create(4) returns a "bad value" error. Deleted rows are removed from the table immediately. The following values can be returned on reads: • noSuch(0) - No such row. • invalid(1) - Row is inoperative. • valid(2) - Row exists and is valid.

IP RIP port access table

The IP RIP port access table allows a group of RIP filters to be applied to an IP interface. The filters can be applied to either incoming or outgoing traffic.

NOTE
The IP RIP port access MIBs are not supported on the MLX Series, MLX Series, XMR Series, CES 2000 Series, and CER 2000 Series devices.

Name, OID, and syntax	Access	Description
snRtIpRipPortAccessTable brcdIp.1.2.3.6	None	The IP interface RIP access table.
snRtIpRipPortAccessPort brcdIp.1.2.3.6.1.1 Syntax: PortIndex	Read-only	The port number to which the IP RIP filter applies.
snRtIpRipPortAccessDir brcdIp.1.2.3.6.1.2 Syntax: Integer	Read-only	Specifies if the filter is for incoming or outgoing packets: • in(1) - Incoming packet • out(2) - Outgoing packet
snRtIpRipPortAccessFilterList brcdIp.1.2.3.6.1.3 Syntax: OCTET STRING	Read-write	Contains an IP RIP filter list. Valid values: Up to 64 octets. Each octet contains a filter ID number that consists of a group of filters. Before a filter list can be created, there must be valid entries in the IP RIP route filter table (IP RIP route filter table on page 485 object) with the corresponding filter ID number entered in the IP RIP route filter table on page 485 object.
snRtIpRipPortAccessRowStatus brcdIp.1.2.3.6.1.4 Syntax: Integer	Read-write	Controls the management of the table rows. The following values can be written: • delete(3) - Deletes the row. • create(4) - Creates a new row. • modify(5) - Modifies an existing row. If the row exists, then a SET with a value of create(4) returns a "bad value" error. Deleted rows are removed from the table immediately. The following values can be returned on reads: • noSuch(0) - No such row. • invalid(1) - Row is inoperative. • valid(2) - Row exists and is valid.

Global RIP statistics

The following objects provide global RIP statistics.

NOTE
The global RIP statistics MIBs are not supported on the MLX Series, MLX Series, XMR Series, CES 2000 Series, and CER 2000 Series devices.

Name, OID, and syntax	Access	Description
snRtIpRipStats brcdIp.1.2.3.9	None	The RIP statistics group table.
snRtIpRipStatsOutRequest brcdIp.1.2.3.9.1 Syntax: Integer	Read-only	The number of outgoing RIP requests.
snRtIpRipStatsOutResponse brcdIp.1.2.3.9.2 Syntax: Integer	Read-only	The number of outgoing RIP responses.
snRtIpRipStatsInRequest brcdIp.1.2.3.9.3 Syntax: Integer	Read-only	The number of incoming RIP requests.
snRtIpRipStatsInResponse brcdIp.1.2.3.9.4 Syntax: Integer	Read-only	The number of incoming RIP responses.
snRtIpRipStatsUnrecognized brcdIp.1.2.3.9.5 Syntax: Integer	Read-only	The number of unrecognized RIP packets.
snRtIpRipStatsBadVersion brcdIp.1.2.3.9.6 Syntax: Integer	Read-only	The number of RIP packets with bad version numbers.
snRtIpRipStatsBadAddrFamily brcdIp.1.2.3.9.7 Syntax: Integer	Read-only	The number of RIP packets with bad address family values.
snRtIpRipStatsBadRequestFormat brcdIp.1.2.3.9.8 Syntax: Integer	Read-only	The number of RIP packets with bad request format.
snRtIpRipStatsBadMetrics brcdIp.1.2.3.9.9 Syntax: Integer	Read-only	The number of RIP packets with bad metric values.
snRtIpRipStatsBadRespFormat brcdIp.1.2.3.9.10 Syntax: Integer	Read-only	The number of RIP packets with bad response format.
snRtIpRipStatsRespFromNonRipPort brcdIp.1.2.3.9.11 Syntax: Integer	Read-only	The number of RIP packet responses coming from non-RIP-configured ports.
snRtIpRipStatsResponseFromLoopback brcdIp.1.2.3.9.12 Syntax: Integer	Read-only	The number of RIP packet responses coming from loopback ports.

Name, OID, and syntax	Access	Description
snRtIpRipStatsPacketRejected brcdIp.1.2.3.9.13 Syntax: Integer	Read-only	The number of RIP packets rejected.

IPSec MIB Definition

Global IPSec MIB objects

The following MIB objects display the objects supported for IPSec tunnels.

NOTE
The objects in the following table are supported only on the MLX Series devices.

Name, OID, and syntax	Access	Description
brcdIPSecSPIValue brcdIp.1.1.15.1.1.1 Syntax: Unsigned32	accessible-for-notify	Specifies a 4-byte field at the beginning of Encapsulating Security Payload Packet.
brcdIPSecSequenceNumber brcdIp.1.1.15.1.1.2 Syntax: Unsigned32	accessible-for-notify	Denotes the ESP sequence number used for anti-replay check for the IPSec packets.
brcdIKEMessageType brcdIp.1.1.15.1.1.3 Syntax: Unsigned32	accessible-for-notify	Specifies the type of notification message. Only IKE_SA_INIT(34), IKE_AUTH(35), CREATE_CHILD_SA(36) and INFORMATIONAL(37) are currently supported as per RFC5996.
brcdIKEPayloadType brcdIp.1.1.15.1.1.4 Syntax: Unsigned32	accessible-for-notify	Specifies the type of IKE payload. As per RFC5996 current valid values are {0, 32 to 48}.
brcdIPSecSlotNumber brcdIp.1.1.15.1.1.5 Syntax: Unsigned32	accessible-for-notify	Indicates the Slot ID of the LP.
brcdIPSecUnitNumber brcdIp.1.1.15.1.1.6 Syntax: Unsigned32	accessible-for-notify	Indicates the unit number.
brcdIPSecVRFValue brcdIp.1.1.15.1.1.7 Syntax: Unsigned32	accessible-for-notify	Indicates the VRF value.
brcdIPSecSessionState brcdIp.1.1.15.1.1.8 Syntax: DisplayString	accessible-for-notify	Indicates the state of IPsec/IKE session.
brcdIPSecModuleState brcdIp.1.1.15.1.1.9 Syntax: DisplayString	accessible-for-notify	Indicates the state of IPsec module.

IPSec notifications

By default, IPSec (ESP) and IKEv2 notifications are enabled. To disable notification, issue the **no snmp-server enable traps ipsec** and **no snmp-server enable traps ikev2** commands at the device CLI.

The following traps are generated for the IPSec objects supported only on the MLX Series and devices.

Trap name and number	Varbinds	Severity	Description and trap message
brcdIPSecInvalidSANotification brcdIp.1.1.15.1.0.1	spdIPSourceType, spdIPSourceAddress, spdIPDestinationType, spdIPDestinationAddress, brcdIPSecSPIValue	Informational	The SNMP trap that is generated when no valid security association exists for a session. Sample format: Extreme trap: No IPsec SA Found for Received Packet with Source <source-address> Destination <destination-address> SPI <SPI-ID>
brcdIPSecFragmentedPacketNotification brcdIp.1.1.15.1.0.2	spdIPSourceType, spdIPSourceAddress, spdIPDestinationType, spdIPDestinationAddress, brcdIPSecSPIValue	Informational	The SNMP trap that is generated when a packet offered to ESP for processing appears to be an IP fragment, the OFFSET field is non-zero or the MORE FRAGMENTS flag is set. Sample format: Extreme trap: Received Fragmented Packet with Source <source address> Destination <destination address> SPI <SPI-ID>
brcdIPSecSequenceOverflowNotification brcdIp.1.1.15.1.0.3	spdIPSourceType, spdIPSourceAddress, spdIPDestinationType, spdIPDestinationAddress, brcdIPSecSPIValue	Informational	The SNMP trap that is generated when there is an attempt to transmit a packet that result in sequence number overflow. Sample format: Extreme trap:Sequence Number Overflow When Trying to Send Packet with SPI <SPI-ID> Source <source-address> Destination <destination address> .
brcdIPSecFailedAntiReplay CheckNotification brcdIp.1.1.15.1.0.4	spdIPSourceType, spdIPSourceAddress, spdIPDestinationType, spdIPDestinationAddress, brcdIPSecSPIValue,brcdIPSecSequenceNumber	Informational	The SNMP trap that is generated when the received packet fails the anti-replay checks. Sample format: Extreme trap: Anti-Replay Check Failed for Received Packet with Source <source-address> Destination <destination-address> SPI <SPI-ID> Sequence Number <sequence-number>
brcdIPSecFailedIntegrity CheckNotification brcdIp.1.1.15.1.0.5	spdIPSourceType, spdIPSourceAddress, spdIPDestinationType, spdIPDestinationAddress, brcdIPSecSPIValue,brcdIPSecSequenceNumber	Informational	The SNMP trap that is generated when the received packet fails the integrity check. Sample format: Extreme trap: Integrity Check Failed for Received Packet with Source

Trap name and number	Varbinds	Severity	Description and trap message
			<source-address> Destination <destination-address> SPI <SPI-ID> Sequence Number <sequence-number>.
brcdIPSecDeencapsulation FailedNotification brcdIp.1.1.15.1.0.6	spdIPSourceType, spdIPSourceAddress, spdIPDestinationType, spdIPDestinationAddress, brcdIPSecSPIValue, brcdIPSecSequenceNumber	Informational	The SNMP trap that is generated when the deencapsulation of received packet failed. Sample format: Extreme trap: Deencapsulation Failed for Received Packet with Source <source-address> Destination <destination-address> SPI <SPI-ID> Sequence Number <sequence-number>.
brcdIPSecLengthErrorNotification brcdIp.1.1.15.1.0.7	spdIPSourceType, spdIPSourceAddress, spdIPDestinationType, spdIPDestinationAddress, brcdIPSecSPIValue	Informational	The SNMP trap that is generated when the check on IP packet length fails for the received packet. The SPI value is always zero for this trap. Sample format: Extreme trap: Length Error Detected for Received Packet with SPI <SPI-ID> Source <source-address> Destination <destination-address>.
brcdIKEInvalidMsgTypeNotification brcdIp.1.1.15.1.0.8	spdIPSourceType, spdIPSourceAddress, spdIPDestinationType, spdIPDestinationAddress, brcdIPSecSPIValue, brcdIKEMessageType	Informational	The SNMP trap that is generated when an invalid IKE message Type is received. Sample format: Extreme trap: IKEv2: Invalid Message Type Received with Source <source-address> Destination <destination-address> SPI <SPI-ID> MessageType <x>. Where <x> is the value of unsupported message type in IKEv2 packet. It is UINT8 value. The value will not be one of the following (from RFC 5996): • IKE_SA_INIT - 34 • IKE_AUTH - 35 • CREATE_CHILD_SA - 36 • INFORMATIONAL - 37
brcdIKEInvalidPayloadNotification brcdIp.1.1.15.1.0.9	spdIPSourceType, spdIPSourceAddress, spdIPDestinationType, spdIPDestinationAddress, brcdIPSecSPIValue,brcdIKEPayloadType	Informational	The SNMP trap that is generated when an invalid IKE payload is received. Sample format: Extreme `trap: IKEv2: Invalid Payload Type Received with Source`

Trap name and number	Varbinds	Severity	Description and trap message
			`<source-address> Destination address type <type> Destination <destination-address> SPI <SPI-ID> PayloadType <x>.` Where <x> is the value of unsupported payload type in IKEv2 packet. It is UINT8 value. The value will not be 0, and 32 - 42 that are current valid payload type.
brcdIKEMaxPeerReachedNotification brcdIp.1.1.15.1.0.10	brcdIPSecSlotNumber	Warning	The SNMP trap that is generated when maximum IKE peer limit is reached a LP. Sample format: Extreme trap: IKEv2: Maximum IKE Peers Limit Reached on LP <n>.
brcdIKERecoveredMaxPeer LimitNotification brcdIp.1.1.15.1.0.11	brcdIPSecSlotNumber	Warning	The SNMP trap that is generated when the system recovers from the maximum IKE peer limit condition on a LP. Sample format: Extreme trap: IKEv2: Recovered from Maximum IKE Peers Limit Condition on LP <n>.

Counters support for IPSec

The following table lists the MIB counters supported for IPSec.

Object name	Object identifier	Access/Description
ifInOctets	1.3.6.1.2.1.2.2.1.10	Read-only
ifInUcastPkts	1.3.6.1.2.1.2.2.1.11	Read-only
ifOutOctets	1.3.6.1.2.1.2.2.1.16	Read-only
ifOutUcastPkts	1.3.6.1.2.1.2.2.1.17	Read-only
ifHCInOctets	1.3.6.1.2.1.31.1.1.1.6	Read-only
ifHCInUcastPkts	1.3.6.1.2.1.31.1.1.1.7	Read-only
ifHCOutOctets	1.3.6.1.2.1.31.1.1.1.10	Read-only
ifHCOutUcastPkts	1.3.6.1.2.1.31.1.1.1.11	Read-only

The following MIB objects or tables are updated to extend support for IPSec.

Object name	Object Identifier	Description
tunnelIfSecurity	1.3.6.1.2.1.10.131.1.1.1.1.5	Read-only. Returns ipsec(2) value for IPSec tunnels.
Counters support for IPSec	1.3.6.1.2.1.153.1.2	This table maps policies (groupings) onto an endpoint (interface). A new row is added for ipsec tunnel policy to an endpoint mapping. The

Object name	Object Identifier	Description
		"spdEndGroupName" is formed by vrf_id, tunnel_id, dir, ip protocol name, spi value, authentication algorithm, and encryption algorithm. **show ipsec sa** and **show ipsec policy** commands can be used to see the corresponding entries from CLI.
Counters support for IPSec	1.3.6.1.2.1.153.1.3	This table contains a list of rules and/or subgroups contained within a given policy group. A new row is added to this table for each rule (or subgroup or a subgroup of rules) within a policy group for ipsec tunnel. The "spdGroupContComponentName" is formed by vrf_id, tunnel_id, dir, and priority. **show ipsec sa** and **show ipsec policy** commands can be used to see the corresponding entries from CLI.
Counters support for IPSec	1.3.6.1.2.1.153.1.4	This table defines a rule by associating a filter or a set of filters to an action to be executed. A new row is added to this table for each spdRuleDefName that is the administrative assigned name of the rule referred to by the spdGroupContComponentName. The "spdRuleDefDescription" is formed by vrf_id, tunnel_id, dir, and priority. **show ipsec sa** and **show ipsec policy** commands can be used to see the corresponding entries from CLI.

Extreme Entity OID MIB Definition

brcd-entity-oid MIB objects

Defined these MIB objects for assigning vendor type OIDs to various physical entities (Chassis, Power supply, Fan, sensor, various types of modules, port etc.). The following table objects are supported on the Extreme NetIron devices.

Object groups	Object Identifier
brcdEntityOIDMIB	brcdIp.1.17
brcdEntityOIDMIBObjects	brcdIp.1.17.1
brcdEntityOIDOther	brcdIp.1.17.1.1
brcdEntityOIDUnknown	brcdIp.1.17.1.2

Chassis OID assignments

Object group	Object Identifier
brcdEntityOIDChassis	brcdIp.1.17.1.3
brcdEntityOIDChassisUnknown	brcdIp.1.17.1.3.1
brcdEntityOIDChassisNetIronCes2000Family	brcdIp.1.17.1.3.2
brcdEntityOIDChassisNetIronCes2024F	brcdIp.1.17.1.3.2.1
brcdEntityOIDChassisNetIronCes2024C	brcdIp.1.17.1.3.2.2
brcdEntityOIDChassisNetIronCes2048F	brcdIp.1.17.1.3.2.3
brcdEntityOIDChassisNetIronCes2048C	brcdIp.1.17.1.3.2.4
brcdEntityOIDChassisNetIronCes2048FX	brcdIp.1.17.1.3.2.5
brcdEntityOIDChassisNetIronCes2048CX	brcdIp.1.17.1.3.2.6
brcdEntityOIDChassisNetIronCes2024F4X	brcdIp.1.17.1.3.2.7
brcdEntityOIDChassisNetIronCes2024C4X	brcdIp.1.17.1.3.2.8
brcdEntityOIDChassisNetIronCer2000Family	brcdIp.1.17.1.3.3
brcdEntityOIDChassisNetIronCer2024F	brcdIp.1.17.1.3.3.1
brcdEntityOIDChassisNetIronCer2024C	brcdIp.1.17.1.3.3.2
brcdEntityOIDChassisNetIronCer2048F	brcdIp.1.17.1.3.3.3
brcdEntityOIDChassisNetIronCer2048C	brcdIp.1.17.1.3.3.4
brcdEntityOIDChassisNetIronCer2048FX	brcdIp.1.17.1.3.3.5
brcdEntityOIDChassisNetIronCer2048CX	brcdIp.1.17.1.3.3.6
brcdEntityOIDChassisNetIronCer2024F4X	brcdIp.1.17.1.3.3.7
brcdEntityOIDChassisNetIronCer2024C4X	brcdIp.1.17.1.3.3.8
brcdEntityOIDChassisNetIronXMRFamily	brcdIp.1.17.1.3.4
brcdEntityOIDChassisNetIronXMR4000	brcdIp.1.17.1.3.4.1
brcdEntityOIDChassisNetIronXMR8000	brcdIp.1.17.1.3.4.2
brcdEntityOIDChassisNetIronXMR16000	brcdIp.1.17.1.3.4.3
brcdEntityOIDChassisNetIronXMR32000	brcdIp.1.17.1.3.4.4
brcdEntityOIDChassisMLXFamily	brcdIp.1.17.1.3.5
brcdEntityOIDChassisMLX4	brcdIp.1.17.1.3.5.1
brcdEntityOIDChassisMLX8	brcdIp.1.17.1.3.5.2

Object group	Object Identifier
brcdEntityOIDChassisMLX16	brcdIp.1.17.1.3.5.3
brcdEntityOIDChassisMLX32	brcdIp.1.17.1.3.5.4
brcdEntityOIDChassisMLXeFamily	brcdIp.1.17.1.3.6
brcdEntityOIDChassisMLXe4	brcdIp.1.17.1.3.6.1
brcdEntityOIDChassisMLXe8	brcdIp.1.17.1.3.6.2
brcdEntityOIDChassisMLXe16	brcdIp.1.17.1.3.6.3
brcdEntityOIDChassisMLXe32	brcdIp.1.17.1.3.6.4
brcdEntityOIDChassisICX7250Family	brcdIp.1.17.1.3.7
brcdEntityOIDChassisICX725024	brcdIp.1.17.1.3.7.1
brcdEntityOIDChassisICX725024HPOE	brcdIp.1.17.1.3.7.2
brcdEntityOIDChassisICX725024G	brcdIp.1.17.1.3.7.3
brcdEntityOIDChassisICX725048	brcdIp.1.17.1.3.7.4
brcdEntityOIDChassisICX725048HPOE	brcdIp.1.17.1.3.7.5
brcdEntityOIDChassisICX7450Family	brcdIp.1.17.1.3.8
brcdEntityOIDChassisICX745024	brcdIp.1.17.1.3.8.1
brcdEntityOIDChassisICX745024HPOE	brcdIp.1.17.1.3.8.2
brcdEntityOIDChassisICX745032ZP	brcdIp.1.17.1.3.8.3
brcdEntityOIDChassisICX745048	brcdIp.1.17.1.3.8.4
brcdEntityOIDChassisICX745048HPOE	brcdIp.1.17.1.3.8.5
brcdEntityOIDChassisICX745048F	brcdIp.1.17.1.3.8.6
brcdEntityOIDChassisICX7750Family	brcdIp.1.17.1.3.9
brcdEntityOIDChassisICX775048C	brcdIp.1.17.1.3.9.1
brcdEntityOIDChassisICX775048F	brcdIp.1.17.1.3.9.2
brcdEntityOIDChassisICX775026Q	brcdIp.1.17.1.3.9.3
brcdEntityOIDBackplane	brcdIp.1.17.1.4
brcdEntityOIDBackplaneUnknown	brcdIp.1.17.1.4.1
brcdEntityOIDBackplaneNetIronFamily	brcdIp.1.17.1.4.2
brcdEntityOIDBackplaneNetIronCes2000	brcdIp.1.17.1.4.2.1
brcdEntityOIDBackplaneNetIronCer2000	brcdIp.1.17.1.4.2.2
brcdEntityOIDBackplaneNetIronXMR	brcdIp.1.17.1.4.2.3
brcdEntityOIDBackplaneMlxFamily	brcdIp.1.17.1.4.3
brcdEntityOIDBackplaneMLX	brcdIp.1.17.1.4.3.1
brcdEntityOIDBackplaneMLXe	brcdIp.1.17.1.4.3.2
brcdEntityOIDContainer	brcdIp.1.17.1.5
brcdEntityOIDContainerUnknown	brcdIp.1.17.1.5.1
brcdEntityOIDContainerPowerSupply	brcdIp.1.17.1.5.2
brcdEntityOIDContainerFanTray	brcdIp.1.17.1.5.3
brcdEntityOIDContainerMgmtModuleSlot	brcdIp.1.17.1.5.4
brcdEntityOIDContainerSwitchFabricModuleSlot	brcdIp.1.17.1.5.5
brcdEntityOIDContainerIntfModuleSlot	brcdIp.1.17.1.5.6

Object group	Object Identifier
brcdEntityOIDPowerSupply	brcdIp.1.17.1.6
brcdEntityOIDPowerSupplyUnknown	brcdIp.1.17.1.6.1
brcdEntityOIDPowerSupplyAC500W	brcdIp.1.17.1.6.2
brcdEntityOIDPowerSupplyDC500W	brcdIp.1.17.1.6.3
brcdEntityOIDPowerSupplyAC1200W	brcdIp.1.17.1.6.4
brcdEntityOIDPowerSupplyDC1200W	brcdIp.1.17.1.6.5
brcdEntityOIDPowerSupplyAC1200WA	brcdIp.1.17.1.6.6
brcdEntityOIDPowerSupplyDC1200WA	brcdIp.1.17.1.6.7
brcdEntityOIDPowerSupplyAC1800W	brcdIp.1.17.1.6.8
brcdEntityOIDPowerSupplyDC1800W	brcdIp.1.17.1.6.9
brcdEntityOIDPowerSupplyAC2100W	brcdIp.1.17.1.6.10
brcdEntityOIDPowerSupplyDC2100W	brcdIp.1.17.1.6.11
brcdEntityOIDPowerSupplyAC2400W	brcdIp.1.17.1.6.12
brcdEntityOIDPowerSupplyDC2400W	brcdIp.1.17.1.6.13
brcdEntityOIDPowerSupplyAC3000W	brcdIp.1.17.1.6.14
brcdEntityOIDPowerSupplyDC3000W	brcdIp.1.17.1.6.15
brcdEntityOIDPowerSupplyACPOE	brcdIp.1.17.1.6.16
brcdEntityOIDPowerSupplyACRegular	brcdIp.1.17.1.6.17
brcdEntityOIDPowerSupplyDCPOE	brcdIp.1.17.1.6.18
brcdEntityOIDPowerSupplyDCRegular	brcdIp.1.17.1.6.19
brcdEntityOIDFan	brcdIp.1.17.1.7
brcdEntityOIDFanUnknown	brcdIp.1.17.1.7.1
brcdEntityOIDChassisFanTray	brcdIp.1.17.1.7.2
brcdEntityOIDChassisFan	brcdIp.1.17.1.7.3
brcdEntityOIDSensor	brcdIp.1.17.1.8
brcdEntityOIDSensorUnknown	brcdIp.1.17.1.8.1
brcdEntityOIDSensorChipTemp	brcdIp.1.17.1.8.2
brcdEntityOIDSensorModuleTemp	brcdIp.1.17.1.8.3
brcdEntityOIDModule	brcdIp.1.17.1.9
brcdEntityOIDModuleUnknown	brcdIp.1.17.1.9.1
brcdEntityOIDModuleMgmt	brcdIp.1.17.1.9.2
brcdEntityOIDModuleMgmtUnknown	brcdIp.1.17.1.9.2.1
brcdEntityOIDModuleMgmtNetIronFamily	brcdIp.1.17.1.9.2.2
brcdEntityOIDModuleMgmtNiMlxMr	brcdIp.1.17.1.9.2.2.1
brcdEntityOIDModuleMgmtNiMlx32Mr	brcdIp.1.17.1.9.2.2.2
brcdEntityOIDModuleMgmtNiXmrMr	brcdIp.1.17.1.9.2.2.3
brcdEntityOIDModuleMgmtNiXmr32Mr	brcdIp.1.17.1.9.2.2.4
brcdEntityOIDModuleMgmtMlxFamily	brcdIp.1.17.1.9.2.3
brcdEntityOIDModuleMgmtBrMlxMr2M	brcdIp.1.17.1.9.2.3.1
brcdEntityOIDModuleMgmtBrMlxMr2X	brcdIp.1.17.1.9.2.3.2
brcdEntityOIDModuleMgmtBrMlx32Mr2M	brcdIp.1.17.1.9.2.3.3

Object group	Object Identifier
brcdEntityOIDModuleMgmtBrMlx32Mr2X	brcdIp.1.17.1.9.2.3.4
brcdEntityOIDModuleMgmtIcx7250Family	brcdIp.1.17.1.9.2.4
brcdEntityOIDModuleMgmtIcx7250624BaseModule	brcdIp.1.17.1.9.2.4.1
brcdEntityOIDModuleMgmtIcx7250648BaseModule	brcdIp.1.17.1.9.2.4.2
brcdEntityOIDModuleMgmtIcx7250624GBaseModule	brcdIp.1.17.1.9.2.4.3
brcdEntityOIDModuleMgmtIcx7250624PoeBaseModule	brcdIp.1.17.1.9.2.4.4
brcdEntityOIDModuleMgmtIcx7250648PoeBaseModule	brcdIp.1.17.1.9.2.4.5
brcdEntityOIDModuleMgmtIcx7450Family	brcdIp.1.17.1.9.2.5
brcdEntityOIDModuleMgmtIcx7450624BaseModule	brcdIp.1.17.1.9.2.5.1
brcdEntityOIDModuleMgmtIcx7450648BaseModule	brcdIp.1.17.1.9.2.5.2
brcdEntityOIDModuleMgmtIcx7450648FBaseModule	brcdIp.1.17.1.9.2.5.3
brcdEntityOIDModuleMgmtIcx7450624PoeBaseModule	brcdIp.1.17.1.9.2.5.4
brcdEntityOIDModuleMgmtIcx7450648PoeBaseModule	brcdIp.1.17.1.9.2.5.5
brcdEntityOIDModuleMgmtIcx7450632ZPBaseModule	brcdIp.1.17.1.9.2.5.6
brcdEntityOIDModuleMgmtIcx7750Family	brcdIp.1.17.1.9.2.6
brcdEntityOIDModuleMgmtIcx775048CBaseModule	brcdIp.1.17.1.9.2.6.1
brcdEntityOIDModuleMgmtIcx775048FBaseModule	brcdIp.1.17.1.9.2.6.2
brcdEntityOIDModuleMgmtIcx775026QBaseModule	brcdIp.1.17.1.9.2.6.3
brcdEntityOIDModuleSfm	brcdIp.1.17.1.9.3
brcdEntityOIDModuleSfmUnknown	brcdIp.1.17.1.9.3.1
brcdEntityOIDModuleSfmNetIronFamily	brcdIp.1.17.1.9.3.2
brcdEntityOIDModuleSfmNiXSf1	brcdIp.1.17.1.9.3.2.1
brcdEntityOIDModuleSfmNiXSf3	brcdIp.1.17.1.9.3.2.2
brcdEntityOIDModuleSfmNiX32Sf	brcdIp.1.17.1.9.3.2.3
brcdEntityOIDModuleSfmNiX4Hsf	brcdIp.1.17.1.9.3.2.4
brcdEntityOIDModuleSfmNiX16n8Hsf	brcdIp.1.17.1.9.3.2.5
brcdEntityOIDModuleSfmNiX32Hsf	brcdIp.1.17.1.9.3.2.6
brcdEntityOIDModuleIntf	brcdIp.1.17.1.9.4
brcdEntityOIDModuleIntfUnknown	brcdIp.1.17.1.9.4.1
brcdEntityOIDModuleIntfNetIronFamily	brcdIp.1.17.1.9.4.2
brcdEntityOIDModuleIntfNiMlx1Gx20Gc	brcdIp.1.17.1.9.4.2.1
brcdEntityOIDModuleIntfNiXmr1Gx20Gc	brcdIp.1.17.1.9.4.2.2
brcdEntityOIDModuleIntfNiMlx1Gx48Ta	brcdIp.1.17.1.9.4.2.3
brcdEntityOIDModuleIntfNiMlx1Gx20Sfp	brcdIp.1.17.1.9.4.2.4
brcdEntityOIDModuleIntfNiXmr1Gx20Sfp	brcdIp.1.17.1.9.4.2.5
brcdEntityOIDModuleIntfNiMlx10Gx2	brcdIp.1.17.1.9.4.2.6
brcdEntityOIDModuleIntfNiXmr10Gx2	brcdIp.1.17.1.9.4.2.7
brcdEntityOIDModuleIntfNiMlx10Gx4	brcdIp.1.17.1.9.4.2.8
brcdEntityOIDModuleIntfNiXmr10Gx4	brcdIp.1.17.1.9.4.2.9
brcdEntityOIDModuleIntfNiMlx10Gx8D	brcdIp.1.17.1.9.4.2.10
brcdEntityOIDModuleIntfNiMlx10Gx8M	brcdIp.1.17.1.9.4.2.11

Object group	Object Identifier
brcdEntityOIDModuleIntfMlxFamily	brcdIp.1.17.1.9.4.3
brcdEntityOIDModuleIntfBrMlx1Gcx24X	brcdIp.1.17.1.9.4.3.1
brcdEntityOIDModuleIntfBrMlx1Gcx24xMl	brcdIp.1.17.1.9.4.3.2
brcdEntityOIDModuleIntfBrMlx1Gfx24X	brcdIp.1.17.1.9.4.3.3
brcdEntityOIDModuleIntfBrMlx1Gfx24xMl	brcdIp.1.17.1.9.4.3.4
brcdEntityOIDModuleIntfBrMlx10Gx4X	brcdIp.1.17.1.9.4.3.5
brcdEntityOIDModuleIntfBrMlx10Gx4xMl	brcdIp.1.17.1.9.4.3.6
brcdEntityOIDModuleIntfBrMlx10Gx8X	brcdIp.1.17.1.9.4.3.7
brcdEntityOIDModuleIntfBrMlx10Gx24Dm	brcdIp.1.17.1.9.4.3.8
brcdEntityOIDModuleIntfBrMlx40Gx2	brcdIp.1.17.1.9.4.3.9
brcdEntityOIDModuleIntfBrMlx40Gx4	brcdIp.1.17.1.9.4.3.10
brcdEntityOIDModuleIntfBrMlx100Gx1	brcdIp.1.17.1.9.4.3.11
brcdEntityOIDModuleIntfBrMlx100Gx2	brcdIp.1.17.1.9.4.3.12
brcdEntityOIDModuleIntfBrMlx100Gx2CFP2	brcdIp.1.17.1.9.4.3.13
brcdEntityOIDModuleIntfBrMlx10Gx20	brcdIp.1.17.1.9.4.3.14
brcdEntityOIDModuleIntfBrMlx10Gx4IPSecModule	brcdIp.1.17.1.9.4.3.15
brcdEntityOIDModuleOptics	brcdIp.1.17.1.9.5
brcdEntityOIDModuleOpticsUnknown	brcdIp.1.17.1.9.5.1
brcdEntityOIDModuleOpticsSFP	brcdIp.1.17.1.9.5.2
brcdEntityOIDModuleOpticsSFPP	brcdIp.1.17.1.9.5.3
brcdEntityOIDModuleOpticsXFP	brcdIp.1.17.1.9.5.4
brcdEntityOIDModuleOpticsCFP	brcdIp.1.17.1.9.5.5
brcdEntityOIDModuleOpticsQSFPP	brcdIp.1.17.1.9.5.6
brcdEntityOIDModuleOpticsCFP2	brcdIp.1.17.1.9.5.7
brcdEntityOIDModuleOpticsGBIC	brcdIp.1.17.1.9.5.8
brcdEntityOIDModuleService	brcdIp.1.17.1.9.6
brcdEntityOIDModuleServiceUnknown	brcdIp.1.17.1.9.6.1
brcdEntityOIDModuleServiceIcx7250Family	brcdIp.1.17.1.9.6.2
brcdEntityOIDModuleServiceIcx7250sfpplus8Port80gModule	brcdIp.1.17.1.9.6.2.1
brcdEntityOIDModuleServiceIcx7250sfpplus4Port4gModule	brcdIp.1.17.1.9.6.2.2
brcdEntityOIDModuleServiceIcx7450Family	brcdIp.1.17.1.9.6.3
brcdEntityOIDModuleServiceIcx7400sfpplus4Port40gModule	brcdIp.1.17.1.9.6.3.1
brcdEntityOIDModuleServiceIcx7400copper4Port40gModule	brcdIp.1.17.1.9.6.3.2
brcdEntityOIDModuleServiceIcx7400sfp4Port4gModule	brcdIp.1.17.1.9.6.3.3
brcdEntityOIDModuleServiceIcx7400qsfpplus1Port40gModule	brcdIp.1.17.1.9.6.3.4
brcdEntityOIDModuleServiceIcx7400ServiceModule	brcdIp.1.17.1.9.6.3.5
brcdEntityOIDModuleServiceIcx7750Family	brcdIp.1.17.1.9.6.4
brcdEntityOIDModuleServiceIcx7750QSFP6port40gModule	brcdIp.1.17.1.9.6.4.1
brcdEntityOIDModuleServiceIcx77506Q6port40gModule	brcdIp.1.17.1.9.6.4.2
brcdEntityOIDPort	brcdIp.1.17.1.10
brcdEntityOIDPortUnknown	brcdIp.1.17.1.10.1

Object group	Object Identifier
brcdEntityOIDPortMgmtSerial	brcdIp.1.17.1.10.2
brcdEntityOIDPortMgmtEth	brcdIp.1.17.1.10.3
brcdEntityOIDPort100BaseTx	brcdIp.1.17.1.10.4
brcdEntityOIDPort100BaseFx	brcdIp.1.17.1.10.5
brcdEntityOIDPortGigBaseTx	brcdIp.1.17.1.10.6
brcdEntityOIDPortGigBaseFx	brcdIp.1.17.1.10.7
brcdEntityOIDPort10GigBaseFx	brcdIp.1.17.1.10.8
brcdEntityOIDPort40GigBaseFx	brcdIp.1.17.1.10.9
brcdEntityOIDPort100GigBaseFx	brcdIp.1.17.1.10.10
brcdEntityOIDPort10GigBaseTx	brcdIp.1.17.1.10.11
brcdEntityOIDPort2.5GigBaseTx	brcdIp.1.17.1.10.12
brcdEntityOIDPort40GigBaseTx	brcdIp.1.17.1.10.13
brcdEntityOIDStack	brcdIp.1.17.1.11
brcdEntityOIDStackUnknown	brcdIp.1.17.1.11.1
brcdEntityOIDStackICXStackFamily	brcdIp.1.17.1.11.2
brcdEntityOIDStackICXStackIcx7250	brcdIp.1.17.1.11.2.1
brcdEntityOIDStackICXStackIcx7450	brcdIp.1.17.1.11.2.2
brcdEntityOIDStackICXStackIcx7750	brcdIp.1.17.1.11.2.3
brcdEntityOIDStackICXStackIcx7750	brcdIp.1.17.1.11.3
brcdEntityOIDStackICXSPX	brcdIp.1.17.1.11.3.1
brcdEntityOIDCpu	brcdIp.1.17.1.12
brcdEntityOIDCpuUnknown	brcdIp.1.17.1.12.1
brcdEntityOIDCpuPPC7447A	brcdIp.1.17.1.12.2
brcdEntityOIDCpuPPC7448	brcdIp.1.17.1.12.3
brcdEntityOIDCpuPPC7451	brcdIp.1.17.1.12.4
brcdEntityOIDCpuPPC7455	brcdIp.1.17.1.12.5
brcdEntityOIDCpuPPC7457	brcdIp.1.17.1.12.6
brcdEntityOIDCpuPPC8541	brcdIp.1.17.1.12.7
brcdEntityOIDCpuPPC8541E	brcdIp.1.17.1.12.8
brcdEntityOIDCpuPPC8544	brcdIp.1.17.1.12.9
brcdEntityOIDCpuPPC8544E	brcdIp.1.17.1.12.10
brcdEntityOIDCpuPPC8572	brcdIp.1.17.1.12.11
brcdEntityOIDCpuPPC8572E	brcdIp.1.17.1.12.12

History

Release version	History
08.0.50	This MIB was introduced.

QoS Profile Group

QoS profile table

The following table contains the configuration of QoS profile groups.

Name, OID, and syntax	Access	Description
snQosProfileTable brcdIp.1.1.3.14.1	None	The QoS profile table.
snQosProfileIndex brcdIp.1.1.3.14.1.1.1 Syntax: Integer	Read-only	The table index of the QoS Profile. There can be up to four profiles in this table.
snQosProfileName brcdIp.1.1.3.14.1.1.2 Syntax: DisplayString	Read-write	Shows the name of the QoS profile. Valid values: Up to 32 characters
snQosProfileRequestedBandwidth brcdIp.1.1.3.14.1.1.3 Syntax: Integer	Read-write	Shows the requested bandwidth for the QoS profile.
snQosProfileCalculatedBandwidth brcdIp.1.1.3.14.1.1.4 Syntax: Integer	Read-only	Shows the calculated bandwidth of the QoS profile.

QoS bind table

The following table binds 802.1p tags to the entries in the QoS profile table.

Name, OID, and syntax	Access	Description
snQosBindTable brcdIp.1.1.3.14.2	None	The QoS bind table.
snQosBindIndex brcdIp.1.1.3.14.2.1.1 Syntax: Integer	Read-only	The table index of the QoS Bind.
snQosBindPriority brcdIp.1.1.3.14.2.1.2 Syntax: Integer32	Read-only	Shows the QoS bind priority.
snQosBindProfileIndex brcdIp.1.1.3.14.2.1.3	Read-write	An index that serves as a pointer to the index of the QoS profile table on page 505.

Name, OID, and syntax	Access	Description
Syntax: Integer		

DOS attack statistics

The following objects provide denial of service (DOS) attack statistics through SNMP.

Name, OID, and syntax	Access	Description
snDosAttackICMPDropCount brcdIp.1.1.3.14.3.1.1 Syntax: Counter32	Read-only	Provides the contents of the ICMP drop counter.
snDosAttackICMPBlockCount brcdIp.1.1.3.14.3.1.2 Syntax: Counter32	Read-only	Provides the contents of the ICMP block counter.
snDosAttackSYNDropCount brcdIp.1.1.3.14.3.1.3 Syntax: Counter32	Read-only	Provides the contents of the SYN drop counter.
snDosAttackSYNBlockCount brcdIp.1.1.3.14.3.1.4 Syntax: Counter32	Read-only	Provides the contents of the SYN block counter.

DOS attack port table

The following objects have been created to filter traffic for DOS-attacks through SNMP.

NOTE

The DOS attack port MIBs are supported only on the MLX Series, MLX Series, and XMR Series devices.

Name, OID, and syntax	Access	Description
snDosAttackPortTable brcdIp.1.1.3.14.3.2 Syntax: Sequence of snDosAttackPortEntry	None	The denial of service attack port table.
snDosAttackPort brcdIp.1.1.3.14.3.2.1.1 Syntax: Integer32	Read-only	The index value of a port.
snDosAttackPortICMPDropCount brcdIp.1.1.3.14.3.2.1.2 Syntax: Counter32	Read-only	The value of the ICMP drop counter.
snDosAttackPortICMPBlockCount brcdIp.1.1.3.14.3.2.1.3 Syntax: Counter32	Read-only	The value of the ICMP block counter.
snDosAttackPortSYNDropCount brcdIp.1.1.3.14.3.2.1.4 Syntax: Counter32	Read-only	The value of the SYN drop counter.
snDosAttackPortSYNBlockCount	Read-only	The value of the SYN block counter.

Name, OID, and syntax	Access	Description
brcdIp.1.1.3.14.3.2.1.5 Syntax: Counter32		

Authorization and accounting

The following objects are for authorization and accounting functions.

Name, OID, and syntax	Access	Description
snAuthorizationCommand Methods brcdIp.1.1.3.15.2.1 Syntax: Octet String	Read-write	Specifies the sequence of authorization methods. This object can have zero to three octets. Each octet represents a method to authorize the user command. Each octet has the following value: • radius(2) - Authorize by the requesting RADIUS server • tacplus(5) - Authorize by the requesting TACACS+ server • none(6) - Skip authorization Setting a zero length octet string invalidates all previous authorization methods.
snAuthorizationCommandLevel brcdIp.1.1.3.15.2.2 Syntax: IpAddress	Read-write	Specifies the commands that must be authorized. Any command that is equal to or less than the selected level will be authorized: • level(0) - Privilege level 0 • level(4) - Privilege level 4 • level(5) - Privilege level 5
snAuthorizationExec brcdIp.1.1.3.15.2.3 Syntax: Octet String	Read-write	Shows the sequence of authorization methods for EXEC programs. This object can have zero to three octets. Each octet represents a method for Telnet or SSH login authorization. Each octet can have one of the following values: • radius(2) - Send EXEC authorization request to the RADIUS server . • tacplus(5) - Send EXEC authorization request to the TACACS+ server . • none(6) - No EXEC authorization method. Setting a zero length octet string invalidates all authorization methods.
snAccountingCommandMethods brcdIp.1.1.3.15.3.1 Syntax: Octet String	Read-write	Shows a sequence of accounting methods. This object can have zero to three octets. Each octet represents an accounting method. Each octet can have one of the following values: • radius(2) - Send accounting information to the RADIUS server. • tacplus(5) - Send accounting information to the TACACS+ server. • none(6) - No accounting method.

Name, OID, and syntax	Access	Description
		Setting a zero length octet string invalidates all authorization methods.
snAccountingCommandLevel brcdIp.1.1.3.15.3.2 Syntax: Integer	Read-write	Specifies the commands that need to be accounted for. Any command that is equal to or less than the selected level will be accounted for: • level(0) - Privilege level 0 • level(4) - Privilege level 4 • level(5) - Privilege level 5
snAccountingExec brcdIp.1.1.3.15.3.3 Syntax: Octet String	Read-write	Shows the sequence of accounting methods for EXEC programs. This object can have zero to three octets. Each octet represents a method for Telnet or SSH login accounting. Each octet can have one of the following values: • radius(2) - Send accounting information to the RADIUS server. • tacplus(5) - Send accounting information to the TACACS+ server. • none(6) - No accounting method. Setting a zero length octet string invalidates all authorization methods.
snAccountingSystem brcdIp.1.1.3.15.3.4 Syntax: Octet String	Read-write	A sequence of accounting methods. This object can have zero to three octets. Each octet represents a method to account for the system-related events. Each octet has the following values: • radius(2) - Send accounting information to the RADIUS server. • tacplus(5) - Send accounting information to the TACACS+ server. • none(6) - No accounting method. Setting a zero length octet string invalidates all previous accounting methods.

HQoS statistics table

The MLX Series, XMR Series, and MLX Series devices are provided with Simple Network Management Protocol (SNMP) support for the Hierarchical Quality of Service (HQoS) Statistics Management Information Base (MIB).

The **clear hqos statistics** command clears the HQoS statistics for CLI and SNMP. The HQoS statistics is supported for all the HQoS features except the HQoS support for VPLS. The cumulative HQoS statistics for LAG is not supported but the HQoS statistics for member ports of a LAG can be collected.

Name, OID, and syntax	Access	Description
brcdHqosStatsTable brcdIp.1.1.14.1.1.1	None	A list of brcHqosPStats entries. The table contains information of various HQoS counters. The HQoS is supported on NI-MLX-10Gx8-M/D Line Processor (LP) modules.

Name, OID, and syntax	Access	Description
brcdHqosIfIndex brcdIp.1.1.14.1.1.1.1.1 Syntax: InterfaceIndex	None	The interface index where the HQoS is configured. The LP module must be physically present and operationally up.
brcdHqosEndpointType brcdIp.1.1.14.1.1.1.1.2 Syntax: Integer	None	The object specifies the endpoint type for HQoS scheduler. • other(1) • singleTaggedVlan(2) • dougleTaggedVlan(3) • bVlanIsid(4))
brcdHqosEndpointTag brcdIp.1.1.14.1.1.1.1.3 Syntax: Unsigned32	None	The object specifies the HQoS endpoint tag. • If the index brcdHqosEndpointType is other(1), then the object has zero value. • If the index brcdHqosEndpointType is singleTaggedVlan(2), dougleTaggedVlan(3) or bVlanIsid(4), then the object has VLAN ID as value. The valid VLAN ID values ranges from 1 through 4094.
brcdHqosEndpointInnerTag brcdIp.1.1.14.1.1.1.1.4 Syntax: Unsigned32	None	The object specifies the HQoS endpoint inner tag. • If the index brcdHqosEndpointType is other(1) or singleTaggedVlan(2), then the object has zero value. • If the index brcdHqosEndpointType is dougleTaggedVlan(3), then the object has VLAN ID as value. The valid VLAN ID values ranges from 1 through 4094. • If the index brcdHqosEndpointType is bVlanIsid(4), then the object has ISID as value. The valid ISID values ranges from 256 through 16777214.
brcdHqosStatsPriority brcdIp.1.1.14.1.1.1.1.5 Syntax: PortPriorityTC	Read-only	The priority of the packets that is stored in the queue. This is an 1-based index. The HQoS queue with brcdHqosEndpointType value as other(1) has eight priorities. All the other HQoS queues has four priorities, two consecutive priorities are stored in one queue. In this case, the valid values for the object are 1, 3, 5, and 7. The queue with priority 1 has the packets with priority 1 and 2 and the same applies for priorities 3, 5, and 7 as well.
brcdHqosStatsDescription brcdIp.1.1.14.1.1.1.1.6 Syntax: DisplayString	None	The object gives the HQoS scheduler node in full-path format with each node separated by dot(.).
brcdHqosStatsEnquePkts brcdIp.1.1.14.1.1.1.1.7 Syntax: Counter 64	Read-only	A count of all packets entering ingress queues on this queue.
brcdHqosStatsEnqueBytes brcdIp.1.1.14.1.1.1.1.8 Syntax: Counter 64	Read-only	A count of all bytes entering ingress queues on this queue.

Name, OID, and syntax	Access	Description
brcdHqosStatsDequePkts brcdIp.1.1.14.1.1.1.1.9 Syntax: Counter 64	Read-only	A count of all packets dequeued from ingress queues and forwarded on this queue.
brcdHqosStatsDequeBytes brcdIp.1.1.14.1.1.1.1.10 Syntax: Counter 64	Read-only	A count of all bytes dequeued from ingress queues and forwarded on this queue.
brcdHqosStatsTotalDiscardPkts brcdIp.1.1.14.1.1.1.1.11 Syntax: Counter 64	Read-only	A count of all packets failing to enter ingress queues on this queue.
brcdHqosStatsTotalDiscardBytes brcdIp.1.1.14.1.1.1.1.12 Syntax: Counter 64	Read-only	A count of all bytes failing to enter ingress queues on this queue.
brcdHqosStatsOldestDiscardPkts brcdIp.1.1.14.1.1.1.1.13 Syntax: Counter 64	Read-only	A count of all packets entering ingress queues, but deleted due to buffer full.
brcdHqosStatsOldestDiscardBytes brcdIp.1.1.14.1.1.1.1.14 Syntax: Counter 64	Read-only	A count of all bytes entering ingress queues, but deleted due to buffer full.
brcdHqosStats WREDDroppedPkts brcdIp. 1.1.14.1.1.1.1.15 Syntax: Counter 64	Read-only	A count of all packets entering ingress queue, but dropped due to Weighted random early detection (WRED).
brcdHqosStats WREDDroppedBytes brcdIp. 1.1.14.1.1.1.1.16 Syntax: Counter 64	Read-only	A count of all bytes entering ingress queue, but dropped due to WRED.
brcdHqosStatsCurrentQDepth brcdIp.1.1.14.1.1.1.1.17 Syntax: Counter 64	Read-only	The current queue depth.
brcdHqosStatsMaxQDepthSinceLastRead brcdIp.1.1.14.1.1.1.1.18 Syntax: Counter 64	Read-only	The maximum queue depth since last access to read.

CAR MIB Definition

CAR port table

The Common Access Rate (CAR) port table shows the definitions of CAR objects. This table is indexed by the CAR port table, CAR port table, and CAR port table objects.

NOTE

The following table objects are not supported on the MLX Series, MLX Series, XMR Series, CES 2000 Series, and CER 2000 Series devices.

Name, OID, and syntax	Access	Description
snPortCARTable brcdIp.1.1.3.16.1.1	None	The CAR port table.
snPortCARifIndex brcdIp.1.1.3.16.1.1.1.1 Syntax: Integer	Read-only	Shows the ifIndex value for this rate limit entry.
snPortCARDirection brcdIp.1.1.3.16.1.1.1.2 Syntax: Integer	Read-only	Specifies the transmission direction of the rate-limit object: • input(0) - For inbound traffic. • output(1) - For outbound traffic.
snPortCARRowIndex brcdIp.1.1.3.16.1.1.1.3 Syntax: Integer	Read-only	Shows the table index for rate limit objects. Rows are numbered in sequential order. When a row is added, it is assigned the next sequential number. When a row is deleted, the row is skipped.
snPortCARType brcdIp.1.1.3.16.1.1.1.4 Syntax: RateLimitType	Read-only	Shows the type of traffic to which the rate limit is applied: • standardAcc(1) - Traffic matches standard access list. • quickAcc(2) - Traffic matches the rate-limit access list. • all(3) - All traffic.
snPortCARAccIdx brcdIp.1.1.3.16.1.1.1.5 Syntax: Integer32	Read-only	Indicates the index to the access list if the rate limit type is one of the following: • standardAcc(1) - Traffic matches standard access list. • quickAcc(2) - Traffic matches the rate-limit access list.
snPortCARRate brcdIp.1.1.3.16.1.1.1.6 Syntax: Integer32	Read-only	Shows the committed access rate for the long-term average transmission rate in bits per second. Traffic that falls under this rate always conforms to this rate.

Name, OID, and syntax	Access	Description
snPortCARLimit brcdIp.1.1.3.16.1.1.1.7 Syntax: Integer32	Read-only	Shows the normal burst size in bytes. Normal burst size is the number of bytes that are guaranteed to be transported by the network at the average rate under normal conditions during the committed time interval.
snPortCARExtLimit brcdIp.1.1.3.16.1.1.1.8 Syntax: Integer32	Read-only	Shows the extended burst limit in bytes. The extended burst limit determines how large traffic bursts can be before all the traffic exceeds the rate limit.
snPortCARConformAction brcdIp.1.1.3.16.1.1.1.9 Syntax: Integer	Read-only	Indicates what happens to packets when the traffic is within the rate limit: • continue(1) - Continue to evaluate the subsequent rate limits. • drop(2) - Drop the packet. • precedCont(3) - Rewrite the IP precedence and allow it after evaluated by subsequent rate limits. • precedXmit(4) - Rewrite the IP precedence and transmit the packet. • xmit(5) - Transmit the packet.
snPortCARExceedAction brcdIp.1.1.3.16.1.1.1.10 Syntax: Integer	Read-only	Indicates what happens to packets when the traffic exceeds the rate limit: • continue(1) - Continue to evaluate the subsequent rate limits. • drop(2) - Drop the packet. • precedCont(3) - Rewrite the IP precedence and allow it after evaluated by subsequent rate limits. • precedXmit(4) - Rewrite the IP precedence and transmit the packet. • xmit(5) - Transmit the packet.
snPortCARStatSwitchedPkts brcdIp.1.1.3.16.1.1.1.11 Syntax: Counter64	Read-only	Indicates the number of packets permitted by this rate limit.
snPortCARStatSwitchedBytes brcdIp.1.1.3.16.1.1.1.12 Syntax: Counter64	Read-only	Indicates the number of bytes permitted by this interface.
snPortCARStatFilteredPkts brcdIp.1.1.3.16.1.1.1.13 Syntax: Counter64	Read-only	Indicates the number of packets that exceeded this rate limit.
snPortCARStatFilteredBytes brcdIp.1.1.3.16.1.1.1.14 Syntax: Counter64	Read-only	Indicates the number of bytes that exceeded this rate limit.
snPortCARStatCurBurst brcdIp.1.1.3.16.1.1.1.15 Syntax: Gauge32	Read-only	Shows the current burst size of received packets.

Rate limit counter table

The following table shows rate limit counter entries.

Name, OID, and syntax	Access	Description
agRateLimitCounterTable brcdIp.1.1.3.16.1.2	None	The rate limit counter table.
agRateLimitCounterFwdedOctets brcdIp.1.1.3.16.1.2.1.1 Syntax: Counter64	Read-only	The forwarded octet count for this rate limit entry.
agRateLimitCounterDroppedOctets brcdIp.1.1.3.16.1.2.1.2 Syntax: Counter64	Read-only	The dropped octet count for this rate limit entry.
agRateLimitCounterReMarkedOctets brcdIp.1.1.3.16.1.2.1.3 Syntax: Counter64	Read-only	The remarked octet count for this rate limit entry.
agRateLimitCounterTotalOctets brcdIp.1.1.3.16.1.2.1.4 Syntax: Counter64	Read-only	The total octet count for this rate limit entry.

Rate limit counter index table

The following table objects map each rowindexes of rate limit counter table entries to their corresponding ACL or VLAN or VLAN Group ID.

Name, OID, and syntax	Access	Description
agRateLimitCounterIndexTable brcdIp.1.1.3.16.1.3	None	The rate limit counter index table.
agRateLimitCounterIndexRowIndex brcdIp.1.1.3.16.1.3.1.1 Syntax: Integer	Read-only	The table index for rate limit objects. It increases as the rate limit entries are added and skips the number when a row is deleted. Valid values: 1— 2147483647
agRateLimitCounterIndexDirection brcdIp.1.1.3.16.1.3.1.2 Syntax: PacketSource	Read-only	The input or output transmission direction for the rate limit object. • input (0) — For inbound traffic • output(1) — For outbound traffic
agRateLimitCounterIndexACLID brcdIp. 1.1.3.16.1.3.1.3 Syntax: Integer32	Read-only	The corresponding ACL ID to match the row index of the rate limit counter table.
agRateLimitCounterIndexVLANID brcdIp.1.1.3.16.1.3.1.4 Syntax: Integer32	Read-only	The corresponding VLAN ID to match the row index of the rate limit counter table.
agRateLimitCounterIndexVLANGroupID brcdIp. 1.1.3.16.1.3.1.5 Syntax: Integer32	Read-only	The corresponding VLAN Group ID to match the row index of the rate limit counter table.
agRateLimitCounterIndexMACAddress brcdIp. 1.1.3.16.1.3.1.6 Syntax: MAC address	Read-only	The corresponding MAC Address for Source MAC-based rate limit to match the row index of the rate limit counter table.

BUM rate limit counter table

The following table displays the objects supported for BUM rate limit counters.

Name, OID, and syntax	Access	Description
agRateLimitBUMCounterTable brcdIp.1.1.3.16.1.4	None	The table displays: 1 - The number of bytes dropped due to BUM rate-limit on the port, based on configured packet type and VLANID. 2 - Committed Burst Size(CBS) in bits. 3 - Committed Information Rate(CIR) in bits. 4 - Alert low level threshold in bits. 5 - Alert high level threshold in bits. 6 - Shutdown timeout in minutes. The following three parameters are used as the index: • Ifindex • VLANID • Packet-Type
agRateLimitBUMCounterIfindex brcdIp.1.1.3.16.1.4.1.1 Syntax: InterfaceIndex	None	Ifindex, a count that uniquely identifies the ports in the chassis. Valid values ranges from 1 through 2048.
agRateLimitBUMCounterVLANID brcdIp.1.1.3.16.1.4.1.2 Syntax: Integer32	None	An ID that is used to represent the corresponding VLAN in the chassis. Valid values ranges from 1 through 4096. **NOTE** Port-based BUM rate limit uses 4096.
agRateLimitBUMCounterPacketType brcdIp.1.1.3.16.1.4.1.3 Syntax: BUMPacketType	None	Used to represent the type of the packet. For example: U(1), M(2), UM(3), B(4), BU(5), BM(6), BUM(7), U?Unknown-Unicast, B?Broadcast-Broadcast, or M?Multicast-Multicast.
agRateLimitBUMCounterDroppedOctets brcdIp.1.1.3.16.1.4.1.4 Syntax: Counter64	Read-only	A count used to represent the number of bytes dropped due to BUM rate-limit in bytes.
agRateLimitBUMCounterCBS brcdIp.1.1.3.16.1.4.1.5 Syntax: Counter64	Read-only	A count used to represent the Committed Burst Size in bits.
agRateLimitBUMCounterCIR brcdIp.1.1.3.16.1.4.1.6 Syntax: Counter64	Read-only	A count used to represent the Committed Information Rate in bits.
agRateLimitBUMCounterAlertLowLevelThreshold brcdIp.1.1.3.16.1.4.1.7 Syntax: Counter64	Read-only	A count used to represent the configured lower threshold level in bits, to generate the Alert.

Name, OID, and syntax	Access	Description
agRateLimitBUMCounterAlertHighLevelThreshold brcdIp.1.1.3.16.1.4.1.8 Syntax: Counter64	Read-only	A count used to represent the configured Higher threshold level in bits, to generate the Alert.
agRateLimitBUMCounterShutdownTimeout brcdIp.1.1.3.16.1.4.1.9 Syntax: Counter64	Read-only	A count used to represent the Timeout value in terms of minutes that is the time interval after which the shutdown port is enabled.
agRateLimitBUMcounterIncludeControl brcdIp.1.1.3.16.1.4.1.10 Syntax: Enumeration	Read-only	TRUE(1) and FALSE(2) to represent if the option is enabled or disabled.

VLAN CAR objects

The objects in the following table contain the rate limit configuration for VLANs. This table is indexed by the VLAN CAR objects, VLAN CAR objects, and VLAN CAR objects objects.

NOTE

The following table objects are not supported on the MLX Series, MLX Series, XMR Series, CES 2000 Series, and CER 2000 Series devices.

Name, OID, and syntax	Access	Description
snVLanCARTable brcdIp.1.1.3.17.1.1	None	The VLAN rate limit table.
snVLanCARVLanId brcdIp.1.1.3.17.1.1.1.1 Syntax: Integer	Read-only	Shows the VLAN ID. VLAN ID is one of the indices of this table. Each VLAN ID can have a membership of multiple ports. Valid values: 1 - 4095
snVLanCARDirection brcdIp.1.1.3.17.1.1.1.2 Syntax: Integer	Read-only	Specifies the transmission direction of the rate-limit object: • input(0) - For inbound traffic. • output(1) - For outbound traffic.
snVLanCARRowIndex brcdIp.1.1.3.17.1.1.1.3 Syntax: Integer	Read-only	Shows the table index for rate limit objects for the VLAN. Rows are numbered in sequential order. When a row is added, it is assigned the next sequential number. When a row is deleted, the row is skipped.
snVLanCARType brcdIp.1.1.3.17.1.1.1.4 Syntax: Integer	Read-only	Shows the type of traffic to which the rate limit is applied: • standardAcc(1) - Traffic matches standard access list. • quickAcc(2) - Traffic matches the rate limit access list. • all(3) - All traffic.
snVLanCARAccIdx brcdIp.1.1.3.17.1.1.1.5 Syntax: Integer32	Read-only	Indicates the index to the access list if the rate limit type is one of the following: • standardAcc(1) - Traffic matches standard access list. • quickAcc(2) - Traffic matches the rate limit access list.

Name, OID, and syntax	Access	Description
snVLanCARRate brcdIp.1.1.3.17.1.1.1.6 Syntax: Integer32	Read-only	Shows the committed access rate for long-term average transmission for this VLAN in bits per second. Traffic that falls under this rate always conforms to this rate.
snVLanCARLimit brcdIp.1.1.3.17.1.1.1.7 Syntax: Integer32	Read-only	Shows the normal burst size in bytes. Normal burst size is the number of bytes that are guaranteed to be transported by the network at the average rate under normal conditions during the committed time interval.
snVLanCARExtLimit brcdIp.1.1.3.17.1.1.1.8 Syntax: Integer32	Read-only	Shows the extended burst limit in bytes. The extended burst limit determines how large traffic bursts can be before all the traffic exceeds the rate limit.
snVLanCARConformAction brcdIp.1.1.3.17.1.1.1.9 Syntax: Integer	Read-only	Indicates what happens to packets when the traffic is within the rate limit: • continue(1) - Continue to evaluate the subsequent rate limits. • drop(2) - Drop the packet. • precedCont(3) - Rewrite the IP precedence and allow it after evaluated by subsequent rate limits. • precedXmit(4) - Rewrite the IP precedence and transmit the packet. • xmit(5) - Transmit the packet.
snVLanCARExceedAction brcdIp.1.1.3.17.1.1.1.10 Syntax: Integer	Read-only	Indicates what happens to packets when the traffic exceeds the rate limit: • continue(1) - Continue to evaluate the subsequent rate limits. • drop(2) - Drop the packet. • precedCont(3) - Rewrite the IP precedence and allow it after evaluated by subsequent rate limits. • precedXmit(4) - Rewrite the IP precedence and transmit the packet. • xmit(5) - Transmit the packet.
snVLanCARStatSwitchedPkts brcdIp.1.1.3.17.1.1.1.11 Syntax: Counter64	Read-only	Indicates the number of packets permitted by this rate limit.
snVLanCARStatSwitchedBytes brcdIp.1.1.3.17.1.1.1.12 Syntax: Counter64	Read-only	Indicates the number of bytes permitted by this interface.
snVLanCARStatFilteredPkts brcdIp.1.1.3.17.1.1.1.13 Syntax: Counter64	Read-only	Indicates the number of packets that exceeded this rate limit.
snVLanCARStatFilteredBytes brcdIp.1.1.3.17.1.1.1.14 Syntax: Counter64	Read-only	Indicates the number of bytes that exceeded this rate limit.
snVLanCARStatCurBurst brcdIp.1.1.3.17.1.1.1.15 Syntax: Gauge32	Read-only	Shows the current burst size of received packets.

AppleTalk MIB Definition

NOTE

The following AppleTalk MIB tables are supported only on the XMR Series, MLX Series, MLX Series, CES 2000 Series, and CER 2000 Series devices.

AppleTalk general group

The following table contains general objects of AppleTalk routing funtionalities.

Name, OID, and syntax	Access	Description
snRtATRoutingEnable brcdIp.1.2.10.1.1 Syntax: Integer	Read-write	Indicates if AppleTalk routing functions are enabled on this device: • disabled(0) • enabled(1)
snRtATClearArpCache brcdIp.1.2.10.1.2 Syntax: ClearStatus	Read-write	Indicates if the cache will be cleared: • normal(0) - Data in AppleTalk ARP cache table will not be cleared. • clear(1) - Data in AppleTalk ARP cache table will be cleared.
snRtATClearFwdCache brcdIp.1.2.10.1.3 Syntax: ClearStatus	Read-write	Indicates if all learned data from non-local networks that is currently in the AppleTalk forward cache table will be cleared: • normal(0) - Data will not be cleared. • clear(1) - Data will be cleared.
snRtATClearRoute brcdIp.1.2.10.1.4 Syntax: ClearStatus	Read-write	Indicates if all learned routes and zones (non-local routes and zones) that currently resident in the AppleTalk route table will be cleared: • normal(0) - Data will not be cleared. • clear(1) - Data will be cleared.
snRtATClearTrafficCounters brcdIp.1.2.10.1.5 Syntax: ClearStatus	Read-write	Indicates if AppleTalk RTMP, ZIP, AEP, DDP, and AARP statistics counters will be cleared: • normal(0) - Counters will not be cleared. • clear(1) - Counters will be cleared.
snRtATArpRetransmitCount brcdIp.1.2.10.1.6 Syntax: Integer	Read-write	Indicates the maximum number of times that a packet will be sent out for ARP cache informational updates. The packet is sent out until the information is received or the maximum amount defined has been reached. Valid values: 1 - 10

Name, OID, and syntax	Access	Description
		Default: 2
snRtATArpRetransmitInterval brcdIp.1.2.10.1.7 Syntax: Integer	Read-write	The number of seconds the device waits for an AppleTalk ARP response before sending out the next ARP packet. Valid values: 1 - 120 seconds Default: 1 second
snRtATGleanPacketsEnable brcdIp.1.2.10.1.8 Syntax: Integer	Read-write	Indicates if the AppleTalk glean packets function is enabled on this device: • disabled(0) • enabled(1) If enabled, the device tries to learn the MAC address from the packet instead of sending out an ARP request. Default: disabled(0)
snRtATRtmpUpdateInterval brcdIp.1.2.10.1.9 Syntax: Integer	Read-write	Indicates how often the device sends RTMP updates on AppleTalk interfaces. Valid values: 1 - 3600 seconds. Default: 10 seconds.
snRtATZipQueryInterval brcdIp.1.2.10.1.10 Syntax: Integer	Read-write	Indicates how often the device transmits a ZIP query. Valid values: 1 - 1000 seconds Default: 10 seconds
snRtATInRtmpPkts brcdIp.1.2.10.1.11 Syntax: Counter	Read-only	Shows the total number of RTMP packets received by this device.
snRtATOutRtmpPkts brcdIp.1.2.10.1.12 Syntax: Counter	Read-only	Shows the total number of RTMP packets that were transmitted by this device.
snRtATFilteredRtmpPkts brcdIp.1.2.10.1.13 Syntax: Counter	Read-only	Shows the total number of RTMP packets that were filtered by this device.
snRtATInZipPkts brcdIp.1.2.10.1.14 Syntax: Counter	Read-only	Shows the total number of ZIP packets that were received by this device.
snRtATOutZipPkts brcdIp.1.2.10.1.15 Syntax: Counter	Read-only	Shows the total number of ZIP packets that were transmitted by this device.
snRtATInZipGZLPkts brcdIp.1.2.10.1.16 Syntax: Counter	Read-only	Shows the total number of ZIP get zone list packets that where received by this device.
snRtATOutZipGZLPkts brcdIp.1.2.10.1.17 Syntax: Counter	Read-only	Shows the total number of ZIP get zone list packets that were transmitted by this device.

Name, OID, and syntax	Access	Description
snRtATInZipNetInfoPkts brcdIp.1.2.10.1.18 Syntax: Counter	Read-only	Shows the total number of ZIP network information packets that were received by this device.
snRtATOutZipNetInfoPkts brcdIp.1.2.10.1.19 Syntax: Counter	Read-only	Shows the total number of ZIP network information packets that were transmitted by this device.
snRtATInDdpPkts brcdIp.1.2.10.1.20 Syntax: Counter	Read-only	Shows the total number of DDP datagrams that were received by this device.
snRtATOutDdpPkts brcdIp.1.2.10.1.21 Syntax: Counter	Read-only	Shows the total number of DDP datagrams that were transmitted by this device.
snRtATForwardedDdpPkts brcdIp.1.2.10.1.22 Syntax: Counter	Read-only	Shows the number of input DDP datagrams whose DDP final destination was not this device. The device attempted to forward the datagrams to that final destination.
snRtATInDeliveredDdpPkts brcdIp.1.2.10.1.23 Syntax: Counter	Read-only	Shows the total number of input DDP datagrams whose final DDP destination is this device.
snRtATDroppedNoRouteDdpPkts brcdIp.1.2.10.1.24 Syntax: Counter	Read-only	Shows the total number of DDP datagrams dropped because this device could not find a route to their final destination.
snRtATDroppedBadHopCountsDdpPkts brcdIp.1.2.10.1.25 Syntax: Counter	Read-only	Shows the total number of input DDP datagrams that were dropped because this device was not their final destination and their hop count exceeded 15.
snRtATDroppedOtherReasonsDdpPkts brcdIp.1.2.10.1.26 Syntax: Counter	Read-only	Shows the total number of DDP datagrams dropped for various reasons. For example, the device ran out of resources so the datagrams were dropped.
snRtATInAarpPkts brcdIp.1.2.10.1.27 Syntax: Counter	Read-only	Shows the total number of AppleTalk ARP packets received by this device.
snRtATOutAarpPkts brcdIp.1.2.10.1.28 Syntax: Counter	Read-only	Shows the total number of AppleTalk ARP packets that were transmitted by this device.

AppleTalk socket priority table

The following table shows the priority-level assigned to each QoS socket. By default, all AppleTalk sockets are in the best effort queue (chassis devices) or the normal queue (stackable devices).

Name, OID, and syntax	Access	Description
snRtATSocketPriorityTable brcdIp.1.2.10.2	None	AppleTalk socket priority table.
snRtATSocketPrioritySocket brcdIp.1.2.10.2.1.1	Read-only	The socket number for an entry. There can be up to 254 entries.

Name, OID, and syntax	Access	Description
Syntax: Integer		
snRtATSocketPriorityPriority brcdIp.1.2.10.2.1.2 Syntax: Integer	Read-write	Indicates the QoS priority for the socket. The priority level for a socket that applies to stackable devices: • low(0) - Low priority • high(1) - High priority The priority level for a socket that applies to Chassis devicecs: • level0(0) • level1(1) • level2(2) • level3(3), • level4(4) • level5(5) • level6(6) • level7(7)

AppleTalk port zone filter table

The AppleTalk Zone Filter Table shows if access to network zones is permitted or denied.

Name, OID, and syntax	Access	Description
snRtATPortZoneFilterTable brcdIp.1.2.10.3	None	AppleTalk port zone filter table.
snRtATPortZoneFilterPortIndex brcdIp.1.2.10.3.1.1 Syntax: PortIndex	Read-only	Shows the port index for a zone filter entry.
snRtATPortZoneFilterZone brcdIp.1.2.10.3.1.2 Syntax: DisplayString	Read-only	Shows the zone name granted for this filter: • 0 to 32 octets of AppleTalk • ASCII if outside of AppleTalk
snRtATPortZoneFilterAction brcdIp.1.2.10.3.1.3 Syntax: Integer	Read-write	Indicates what the device will do with the AppleTalk packet if it matches this filter: • deny(0) • permit(1)
snRtATPortZoneFilterRtmpEnable brcdIp.1.2.10.3.1.4 Syntax: Integer	Read-write	Indicates if Routing Table Maintenance Protocol (RTMP) filtering is enabled on this device. RTMP filtering provides the zone filtering capability that allows devices to filter on a network. When this filter is enabled on an interface, the denied network numbers are removed from the RTMP packet before the packet is transmitted out of the interface. • disabled(0) • enabled(1)
snRtATPortZoneFilterRowStatus brcdIp.1.2.10.3.1.5 Syntax: Integer	Read-write	Controls the management of the table rows. The following values can be written: • delete(3) - Deletes the row.

Name, OID, and syntax	Access	Description
		• create(4) - Create sa new row. • modify(5) - Modifies an existing row. If the row exists, then a SET with a value of create(4) returns a "bad value" error. Deleted rows are removed from the table immediately. The following values can be returned on reads: • noSuch(0) - No such row. • invalid(1) - Row is inoperative. • valid(2) - Row exists and is valid.

AppleTalk port table

The AppleTalk port table defines how long a MAC address learned by a port through ARP remains valid.

The device resets the timer to zero each time the ARP entry is refreshed and removes the entry if the timer reaches the ARP age.

ARP age is managed on an individual port basis. However, when you enter an ARP age value for a port and apply the change to the running-config file or save the change to the startup-config file, the change is saved as the global setting. If you try to set different values for different ports, the interface does not display an error message. Instead, the most recent value you enter before saving the configuration change becomes the global setting.

Name, OID, and syntax	Access	Description
snRtATPortTable brcdIp.1.2.10.4	None	The AppleTalk port table.
snRtATPortIndex brcdIp.1.2.10.4.1.1 Syntax: PortIndex	Read-only	The port index for port table entry.
snRtATPortArpAge brcdIp.1.2.10.4.1.2 Syntax: Integer	Read-write	Shows the number of minutes an ARP entry can be valid without relearning. This can be from 0 through 240 minutes. Default: 10 minutes. If this is set to 0, then the ARP entry will always relearn.
snRtATPortState brcdIp.1.2.10.4.1.3 Syntax: Integer	Read-only	Shows the state of this port: • other(1) • down(2) • up(3)
snRtATPortSeedRouter brcdIp.1.2.10.4.1.4 Syntax: Integer	Read-only	Shows if this port is a seed or non-seed router: • other(1) • seedRouter(2) • nonSeedRouter(3)
snRtATPortOperationMode brcdIp.1.2.10.4.1.5 Syntax: Integer	Read-only	Shows the operational state of this port: • other(1) • seedRouter(2) • nonSeedRouter(3) • notOperational(4) • routingDisabled(5)

AppleTalk forwarding cache table

The AppleTalk forwarding cache table contains data learned from non-local networks that is currently resident in the AppleTalk cache.

Name, OID, and syntax	Access	Description
snRtATFwdCacheTable brcdIp.1.2.10.5	None	AppleTalk forwarding cache table.
snRtATFwdCacheIndex brcdIp.1.2.10.5.1.1 Syntax: Integer	Read-only	Shows the table index for a table entry.
snRtATFwdCacheNetAddr brcdIp.1.2.10.5.1.2 Syntax: Octet String	Read-only	Shows the AppleTalk network address of a station.
snRtATFwdCacheMacAddr brcdIp.1.2.10.5.1.3 Syntax: Octet String	Read-only	Shows the MAC address of an AppleTalk station. This object has six octets.
snRtATFwdCacheNextHop brcdIp.1.2.10.5.1.4 Syntax: Integer	Read-only	Shows the network address of the router in the next hop.
snRtATFwdCacheOutgoingPort brcdIp.1.2.10.5.1.5 Syntax: Integer	Read-only	Shows the outgoing port through which the packets will be forwarded. If set to zero, then no outgoing port has been defined.
snRtATFwdCacheType brcdIp.1.2.10.5.1.6 Syntax: Integer	Read-only	Shows the type of AppleTalk forwarding cache type: • dynamic(1) • permanent(2)
snRtATFwdCacheAction brcdIp.1.2.10.5.1.7 Syntax: Integer	Read-only	Determines what the device will do if a match if found: • other(1) • forward(2) • forUs(3) • waitForArp(4) • dropPacket(5)
snRtATFwdCacheVLanId brcdIp.1.2.10.5.1.8 Syntax: Integer	Read-only	Shows the ID of the VLAN associated with this entry. If set to zero, then no VLAN is associated with this entry.

AppleTalk zone table

The AppleTalk zone table shows the network numbers and zones learned on the network.

Name, OID, and syntax	Access	Description
snRtATZoneTable brcdIp.1.2.10.6	None	AppleTalk zone table.
snRtATZoneIndex brcdIp.1.2.10.6.1.1 Syntax: Integer	Read-only	Shows the table index for an AppleTalk zone table entry.

Name, OID, and syntax	Access	Description
snRtATZoneNetStart brcdIp.1.2.10.6.1.2 Syntax: ATNetworkNumber	Read-only	Shows the first AppleTalk network address in the range under this zone name. (Refer to the AppleTalk zone table object.)
snRtATZoneNetEnd brcdIp.1.2.10.6.1.3 Syntax: ATNetworkNumber	Read-only	Shows the last AppleTalk network addresses in the range under this zone name.
snRtATZoneName brcdIp.1.2.10.6.1.4 Syntax: DisplayString	Read-only	Shows the zone's name. There can be up to 32 characters in this object.

AppleTalk additional zone filter table

The AppleTalk additional zone filter table contains information about zones that do not match any zones defined in the AppleTalk zone table on page 522.

Name, OID, and syntax	Access	Description
snRtATAddZoneFilterTable brcdIp.1.2.10.7	None	The AppleTalk additional zone filter table.
snRtATAddZoneFilterPortIndex brcdIp.1.2.10.7.1.1 Syntax: PortIndex	Read-only	Shows the port index for an additional zone filter table entry.
snRtATAddZoneFilterAction brcdIp.1.2.10.7.1.2 Syntax: Integer	Read-write	Indicates what the device will do when a match is found: • deny(0) • permit(1)
snRtATAddZoneFilterRtmpEnable brcdIp.1.2.10.7.1.3 Syntax: Integer	Read-write	Indicates if RTMP filtering on an additional zone is enabled on this device: • disabled(0) • enabled(1)

MPLS MIB Definition

Pseudo wire MIB

Pseudo wire describe the SNMP MIB objects for the Multiprotocol Label Switching (MPLS) feature that is supported on the MLX Series, MLX Series, XMR Series, CES 2000 Series, and CER 2000 Series devices. .

pwTable

The following table contains the pseudo wire MIB objects for configuring and monitoring VLL, VLL-local, and VPLS services.

NOTE

Use the **snmp-server disable mib***mib-table-keyword* command to disable the SNMP support for the table and use the **no** form of the command to re-enable the support. The overall SNMP-WALK performance is increased when the SNMP support is disabled for the table.

TABLE 8 Support for the pwTable

Object	Object identifier	Support for VLL	Support for VLL-local	Support for VPLS
pwIndex	brcdIp.3.1.2.1.2.1.1	VPLS-specific coding	VPLS-specific coding	VPLS-specific coding
pwType	brcdIp.3.1.2.1.2.1.2	Tagged: ethernetTagged(4) Untagged: ethernet(5)	ethernet(5) for raw transport as PW acts as a switch	System supports raw mode only, no VLAN tagging. Returns ipLayer2Transport(11) if global command **vpls-vc-type-ethernet-vpls** is configured, otherwise Ethernet(5) [BID 84147] ethernetTagged(4) for tagged VPLS
pwOwner	brcdIp.3.1.2.1.2.1.3	pwIdFecSignaling(2)	other(5)	Always pwIdFecSignaling(2)
pwPsnType	brcdIp.3.1.2.1.2.1.4	mpls(1)	other(6)	Always mpls(1)
pwSetUpPriority	brcdIp.3.1.2.1.2.1.5	Always 0	Always 0	Always 0
pwHoldingPriority	brcdIp.3.1.2.1.2.1.6	Always 0	Always 0	Always 0
pwPeerAddrType	brcdIp.3.1.2.1.2.1.8	ipv4(1) only	unknown(0)	Always ipv4(1)
pwPeerAddr	brcdIp.3.1.2.1.2.1.9	Supported	Always 0	Supported For example, Peer IP 3.3.3.3 translates to string 0x03x03x03x03 (without commas)

TABLE 8 Support for the pwTable (continued)

Object	Object identifier	Support for VLL	Support for VLL-local	Support for VPLS
pwAttachedPwIndex	brcdIp.3.1.2.1.2.1.10	Always 0	Always 0	Always 0
pwIfIndex	brcdIp.3.1.2.1.2.1.11	Always 0	Always 0	Always 0
pwID	brcdIp.3.1.2.1.2.1.12	VC ID	VC ID (internal)	VC ID
pwLocalGroupID	brcdIp.3.1.2.1.2.1.13	Always 0	Always 0	Always 0
pwGroupAttachmentID	brcdIp.3.1.2.1.2.1.14	Always null	Always null	Always null
pwLocalAttachmentID	brcdIp.3.1.2.1.2.1.15	Always null	Always null	Always null
pwPeerAttachmentID	brcdIp.3.1.2.1.2.1.16	Always null	Always null	Always null
pwCwPreference	brcdIp.3.1.2.1.2.1.17	false(2)	false(2)	false(2)
pwLocalIfMtu	brcdIp.3.1.2.1.2.1.18	Supported	Not supported	Supported
pwLocalIfString	brcdIp.3.1.2.1.2.1.19	false(2)	false(2)	false(2)
pwLocalCapabAdvert	brcdIp.3.1.2.1.2.1.20	Always null	Always null	Always null
pwRemoteGroupID	brcdIp.3.1.2.1.2.1.21	Always 0	Always 0	Always 0
pwCwStatus	brcdIp.3.1.2.1.2.1.22	cwNotPresent(6)	cwNotPresent(6)	cwNotPresent(6)
pwRemoteIfMtu	brcdIp.3.1.2.1.2.1.23	Supported	Always 0	Supported
pwRemoteIfString	brcdIp.3.1.2.1.2.1.24	Always null	Always null	Always null
pwRemoteCapabilities	brcdIp.3.1.2.1.2.1.25	Always null	Always null	Always null
pwFragmentCfgSize	brcdIp.3.1.2.1.2.1.26	Always 0	Always 0	Always 0
pwRmtFragCapability	brcdIp.3.1.2.1.2.1.27	Always null	Always null	Always null
pwFcsRetentionCfg	brcdIp.3.1.2.1.2.1.28	fcsRetentionDisable(1)	fcsRetentionDisable(1)	fcsRetentionDisable(1)
pwFcsRetentionStatus	brcdIp.3.1.2.1.2.1.29	return 0x10 (to set bit fcsRetentionDisabled(3))	return 0x10 (to set bit fcsRetentionDisabled(3))	return 0x10 (to set bit fcsRetentionDisabled(3))
pwOutboundLabel	brcdIp.3.1.2.1.2.1.30	Supported	Always 0	Supported
pwInboundLabel	brcdIp.3.1.2.1.2.1.31	Supported	Always 0	Supported
pwName **NOTE** The object is an extension added by the device and it is not part of the draft MIB.	brcdIp.3.1.2.1.2.1.32	Supported (VLL name)	Supported (VLL-local name)	Supported (VPLS name)
pwDescr	brcdIp.3.1.2.1.2.1.33	Always null	Always null	Always null
pwCreateTime	brcdIp.3.1.2.1.2.1.34	Always 0	Always 0	Always 0
pwUpTime	brcdIp.3.1.2.1.2.1.35	Always 0	Always 0	Always 0
pwLastChange	brcdIp.3.1.2.1.2.1.36	Always 0	Always 0	Always 0
pwAdminStatus	brcdIp.3.1.2.1.2.1.37	Supported: • up(1) • down(2)	Supported: • up(1) • down(2)	Supported: • up(1) • down(2)
pwOperStatus	brcdIp.3.1.2.1.2.1.38	• up(1) - Running • down(2) -Tunnel down • dormant(4) - Waiting For LDP to establish	• up(1) • notPrsent(5) - Incomplete configuration	• up(1) -Running • down(2) - Tunnel down • dormant(4) - Waiting for LDP to establish

TABLE 8 Support for the pwTable (continued)

Object	Object identifier	Support for VLL	Support for VLL-local	Support for VPLS
		• notPrsent(5) - Incomplete configuration • lowerLayerDown(6) - Tunnel Down		• notPrsent(5) - Incomplete Configuration • lowerLayerDown(6) - Tunnel down
pwLocalStatus	brcdIp.3.1.2.1.2.1.39	If tunnel is down, returns 0x80, otherwise returns 0x00	Supported	If tunnel is down, returns 0x80, otherwise returns 0x00
pwRemoteStatusCapable	brcdIp.3.1.2.1.2.1.40	notApplicable(1)	notApplicable(1)	notApplicable(1)
pwRemoteStatus	brcdIp.3.1.2.1.2.1.41	Always null	Always null	Always null
pwTimeElapsed	brcdIp.3.1.2.1.2.1.42	Always 0	Always 0	Always 0
pwValidIntervals	brcdIp.3.1.2.1.2.1.43	Always 0	Always 0	Always 0
pwRowStatus	brcdIp.3.1.2.1.2.1.44	active(1)	active(1)	active(1)
pwStorageType	brcdIp.3.1.2.1.2.1.45	permanent(4)	permanent(4)	permanent(4)
pwOamEnable	brcdIp.3.1.2.1.2.1.46	false(2)	false(2)	false(2)

Draft-ietf-pwe3-pw-mib-11.txt

The following pseudo Wire (PW) MIB objects, as defined in draft-ietf-pwe3-pw-mib-11.txt, are supported on the MLX Series, MLX Series, XMR Series, CES 2000 Series, and CER 2000 Series devices.

Draft-ietf-pwe3-pw-mib-11.txt obsoletes draft-ietf-pwe3-pw-mib-06.txt; however, some objects in draft-ietf-pwe3-pw-mib-06.txt are still supported on the MLX Series, MLX Series, XMR Series, CES 2000 Series, and CER 2000 Series devices. (Refer to Supported objects in draft-ietf-pwe3-pw-mib-06.txt on page 529

Support for draft-ietf-pwe3-pw-mib-11.txt has been extended to VLL, VLL-local, and VPLS on the MLX Series, MLX Series, XMR Series, CES 2000 Series, and CER 2000 Series devices. For additional objects, refer to MPLS administrative group table on page 542, and Draft-ietf-pwe3-pw-mib-11.txt.

NOTE

Support for the following objects in draft-ietf-pwe3-pw-mib-11.txt provides read-only access.

Object	Object identifier	Support for VLL	Support for VLL-local	Support for VPLS
pwindex	brcdIp.3.1.2.1.2.1.1	VLL-specific encoding. One row per VLL instance.	VLL-local-specific encoding. Two rows per VLL-local instance, one for each E. Ethernet endpoint for each instance.	VPLS-specific encoding. One row per VPLS instance and peer combination.
pwEnetPwInstance	brcdIp.3.1.4.1.1.1.1	Always 1	1 for first endpoint, 2 for second	Always 1
pwEnetPwVlan	brcdIp.3.1.4.1.1.1.2	• VLAN ID • 4097 for pseudo wire in raw mode • Default VLAN ID for PW untagged frames	Always 4096 for raw mode	VPLS works in raw mode. Always 4096 in raw mode. There is no VLAN tagging in outgoing packets.
pwEnetVlanMode	brcdIp.3.1.4.1.1.1.3	• portBased(1) - No VLAN tag	• portBased(1) - no VLAN tag;	• portBased(1) - no vlan tag

Object	Object identifier	Support for VLL	Support for VLL-local	Support for VPLS
		• noChange(2) - Retain same VLAN ID • changeVlan(3)- Change id • addVlan(4) • removeVlan(5)	both instances use default VLAN ID • noChange(2) - retain same VLAN ID • changeVlan(3) - change non-default VLAN IDs between two instances • addVlan(4) - instance ID 1 has default VLAN, Instance ID 2 has non-default VLAN • removeVlan(5) - instance ID 1 has default VLAN, Instance ID 2 has non-default VLAN	
pwEnetPortVlan	brcdIp.3.1.4.1.1.1.4	Endpoint VLAN ID, which can be 4096 or an actual VLAN ID.	Endpoint VLAN ID	Always 0. For end-point, use fdryVplsEndPointTable.
pwEnetPortIfIndex	brcdIp.3.1.4.1.1.1.5	Endpoint ifIndex	Endpoint ifIndex	Always 0. For endpoint, use fdryVplsEndPointTable.
pwEnetPwIfIndex	brcdIp.3.1.4.1.1.1.6	Tunnel ifIndex	Because no tunnel, value 0	Tunnel ifIndex
pwEnetRowStatus	brcdIp.3.1.4.1.1.1.7	Always active(1)	Always active(1)	Always active(1)
pwEnetStorageType	brcdIp.3.1.4.1.1.1.8	Always permanent(4)	Always permanent(4)	Always permanent(4)

Values that affect some VLL services

The following table shows how the value of pwType for VLL services is determined.

Pseudo Wire tag mode is	End Point tag mode is	Value of pwType is
raw (untagged)	untagged	ethernet(5)
raw (untagged)	tagged	ethernet(5)
tagged	untagged	ethernetTagged(4)
tagged	tagged	ethernetTagged(4)

The following table shows how the value of pwEnetPwVlan for VLL services is determined.

Pseudo Wire tag mode is	End Point tag mode is	Value of pwEnetPwVlan is
raw (untagged)	untagged	4097
raw (untagged)	tagged	4097
tagged	untagged	Default VLAN ID
tagged	tagged	VLAN ID of endpoint

The following table shows how the value of pwEnetVlanMode for VLL services is determined.

Pseudo Wire tag mode is	End Point tag mode is	Value of pwEnetVlanMode is
raw (untagged)	untagged	portBased(1) - No VLAN tag
raw (untagged)	tagged	removeVlan(5)
tagged	untagged	addVlan(4)
tagged	tagged	noChange(2)

The following table shows how the value of pwEnetPortVlan for VLL services is determined.

Pseudo Wire tag mode is	End Point tag mode is	Value of pwEnetPortVlan is
raw (untagged)	untagged	4096
raw (untagged)	tagged	VLAN ID of endpoint VLAN
tagged	untagged	4096
tagged	tagged	VLAN ID of endpoint VLAN

Supported objects in draft-ietf-pwe3-pw-mib-06.txt

The following pseudo Wire (PW) MIB objects are the only objects in draft-ietf-pwe3-pw-mib-06.txt that are supported on the MLX Series, MLX Series, and XMR Series devices. They are used to support draft-ietf-pwe3-pw-mib-11.txt. Read-only access is available for draft-ietf-pwe3-pw-mib-o6.txt.

TABLE 9 Comparision of objects within drafts v.6 and v.11

Object	Object identifier	Differences
pwPsnType	brcdIp.3.1.2.1.2.1.4	The pwPsnType object is now of IANAPwPsnTypeTC type. The changes are highlighted below. pwPsnType: • mpls(1) • l2tp(2) • ip(3) • mplsOverIp(4) • gre(5) • other(6) IANAPwPsnTypeTC: • mpls(1) • l2tp(2) • udpOverIp(3) • mplsOverIp(4) • mplsOverGre(5) • other(6)
pwAttachedPwIndex	brcdIp.3.1.2.1.2.1.10	Type changed from PwIndexType to PwIndexOrZeroType.
pwFragmentCfgSize	brcdIp.3.1.2.1.2.1.26	Added UNIT "bytes".
pwFcsRetentioncfg	brcdIp.3.1.2.1.2.1.28	Name changed to pwFcsRetentionCfg.
pwOutboundVcLabel	brcdIp.3.1.2.1.2.1.30	Renamed to pwOutboundLabel.

TABLE 9 Comparision of objects within drafts v.6 and v.11 (continued)

Object	Object identifier	Differences
pwInboundVcLabel	brcdIp.3.1.2.1.2.1.31	Renamed to pwInboundLabel.
pwStorageType	brcdIp.3.1.2.1.2.1.45	Added DEFVAL nonvolatile
pwOamEnable	brcdIp.3.1.2.1.2.1.46	Supported
pwIndexMappingVcType	brcdIp.3.1.2.1.7.1.1	Replaced by pwIndexMappingEntry/ pwIndexMappingPwType Type has changed from PwTypeTC to IANAPwTypeTC.
pwIndexMappingVcID	brcdIp.3.1.2.1.7.1.2	Replaced by pwIndexMappingEntry/ pwIndexMappingPwID.
pwIndexMappingVcIndex	brcdIp.3.1.2.1.7.1.5	Replaced by pwIndexMappingEntry/ pwIndexMappingPwIndex.
pwPeerMappingVcType	brcdIp.3.1.2.1.8.1.3	Replaced by pwPeerMappingEntry/ pwPeerMappingPwType Type changed from PwTypeTC to IANAPwTypeTC.
pwPeerMappingVcID	brcdIp.3.1.2.1.8.1.4	Replaced by pwPeerMappingEntry/ pwPeerMappingPwID.
pwPeerMappingVcIndex	brcdIp.3.1.2.1.8.1.5	Replaced by pwPeerMappingEntry/ pwPeerMappingPwIndex.
pwUpDownNotifEnable	brcdIp.3.1.2.1.9	NOTE This object is not supported on the MLX Series, and CER 2000 Series devices.

Proprietary extension

The following table lists the proprietary extension MIB objects.

Name	Access	Supported?
fdryPwServiceType brcdIp.3.1.2.1.20 Syntax: Integer	None	A L2VPN service type, used only for notification: • vll(1) • vlllocal(2) • vpls(3)

MPLS or BGP Layer 3 VPN MIB

The MPLS or BGP Layer 3 VPN MIB (draft-ietf-lwvpn-mpls-vpn-mib-07.txt) is supported on the XMR Series and the MLX Series devices.

NOTE
The following objects are implemented as read-only:

- mplsL3VpnIfConfTable
- mplsL3VpnVrfTable
- mplsL3VpnVrfRTTable

- mplsL3VpnVrfRteTable

Object	Object identifier	Supported?
mplsL3VpnConfiguredVrfs	brcdIp.3.2.1.1.1.1	Yes, but read-only.
mplsL3VpnActiveVrfs	brcdIp.3.2.1.1.1.2	Yes, but read-only.
mplsL3VpnConnectedInterfaces	brcdIp.3.2.1.1.1.3	Yes, but read-only.
mplsL3VpnNotificationEnable	brcdIp.3.2.1.1.1.4	Yes, Read-write.
mplsL3VpnVrfConfMaxPossRts	brcdIp.3.2.1.1.1.5	Yes, but read-only.
mplsL3VpnVrfConfRteMxThrshTime	brcdIp.3.2.1.1.1.6	No
mplsL3VpnIllLblRcvThrsh	brcdIp.3.2.1.1.1.7	No

VPN interface configuration table

Object	Object Identifier	Supported?
mplsL3VpnConf	brcdIp.3.2.1.1.2	Yes
mplsL3VpnIfConfTable	brcdIp.3.2.1.1.2.1	Yes, but read-only.
mplsL3VpnIfConfEntry	brcdIp.3.2.1.1.2.1.1	Yes
mplsL3VpnIfConfIndex	brcdIp.3.2.1.1.2.1.1.1	Yes
mplsL3VpnIfVpnClassification	brcdIp.3.2.1.1.2.1.1.2	YesOnly enterprise(2) is supported.
mplsL3VpnIfVpnRouteDistProtocol	brcdIp.3.2.1.1.2.1.1.3	Yes • isis(4) - Not supported • static(5) - Always true
mplsL3VpnIfConfStorageType	brcdIp.3.2.1.1.2.1.1.4	Yes
mplsL3VpnIfConfRowStatus	brcdIp.3.2.1.1.2.1.1.5	Yes

VRF configuration table

Object	Object Identifier	Supported?
mplsL3VpnVrfTable	brcdIp.3.2.1.1.2.2	Yes, but read-only.
mplsL3VpnVrfEntry	brcdIp.3.2.1.1.2.2.1	Yes
mplsL3VpnVrfName	brcdIp.3.2.1.1.2.2.1.1	YesSupported in simple VRF textual name format. Not supported in format specified in RFC 2685.
mplsL3VpnVrfVpnId	brcdIp.3.2.1.1.2.2.1.2	NoReturns null string
mplsL3VpnVrfDescription	brcdIp.3.2.1.1.2.2.1.3	No Returns null string
mplsL3VpnVrfRD	brcdIp.3.2.1.1.2.2.1.4	Read-only
mplsL3VpnVrfCreationTime	brcdIp.3.2.1.1.2.2.1.5	NoReturns 0
mplsL3VpnVrfOperStatus	brcdIp.3.2.1.1.2.2.1.6	NoAlways returns up(1)
mplsL3VpnVrfActiveInterfaces	brcdIp.3.2.1.1.2.2.1.7	Yes, but read-only.
mplsL3VpnVrfAssociatedInterfaces	brcdIp.3.2.1.1.2.2.1.8	Yes, but read-only.
mplsL3VpnVrfConfMidRteThresh	brcdIp.3.2.1.1.2.2.1.9	NoReturns 0
mplsL3VpnVrfConfHightRteThresh	brcdIp.3.2.1.1.2.2.1.10	NoReturns 0
mplsL3VpnVrfConfMaxRoutes	brcdIp.3.2.1.1.2.2.1.11	Read-only

Object	Object Identifier	Supported?
mplsL3VpnVrfConfLastChanged	brcdIp.3.2.1.1.2.2.1.12	NoReturns 0
mplsL3VpnVrfConfRowStatus	brcdIp.3.2.1.1.2.2.1.13	Yes, but read-only.
mplsL3VpnVrfConfAdminStatus	brcdIp.3.2.1.1.2.2.1.14	Only Up(1) is supported.
mplsL3VpnVrfConfStorageType	brcdIp.3.2.1.1.2.2.1.15	Yes, but read-only. This object always returns permanent(4).

VRF route target table

Object	Object identifier	Supported?
mplsL3VpnVrfRTTable	brcdIp.3.2.1.1.2.3	Yes, but read-only.
mplsL3VpnVrfRTEntry	brcdIp.3.2.1.1.2.3.1	Yes
mplsL3VpnVrfRTIndex	brcdIp.3.2.1.1.2.3.1.2	Yes
mplsL3VpnVrfRTType	brcdIp.3.2.1.1.2.3.1.3	Yes, but read-only.
mplsL3VpnVrfRT	brcdIp.3.2.1.1.2.3.1.4	Yes, but read-only.
mplsL3VpnVrfRTDescr	brcdIp.3.2.1.1.2.3.1.5	No Returns null string
mplsL3VpnVrfRTRowStatus	brcdIp.3.2.1.1.2.3.1.6	Yes, but read-only.
mplsL3VpnVrfRTStorageType	brcdIp.3.2.1.1.2.3.1.7	Yes, but read-only. This object always returns permanent(4).

VRF security table

Object	Object identifier	Supported?
mplsL3VpnVrfSecTable	brcdIp.3.2.1.1.2.6	Yes
mplsL3VpnVrfSecEntry	brcdIp.3.2.1.1.2.6.1	Yes
mplsL3VpnVrfSecIllegalLblVltns	brcdIp.3.2.1.1.2.6.1.1	NoReturns 0
mplsL3VpnVrfSecDiscontinuityTime	brcdIp.3.2.1.1.2.6.1.2	NoReturns 0

VRF performance table

Object	Object identifier	Supported?
mplsL3VpnPerf	brcdIp.3.2.1.1.3	Yes
mplsL3VpnVrfPerfTable	brcdIp.3.2.1.1.3.1	Yes
mplsL3VpnVrfPerfEntry	brcdIp.3.2.1.1.3.1.1	Yes
mplsL3VpnVrfPerfRoutesAdded	brcdIp.3.2.1.1.3.1.1.1	Yes, but read-only.
mplsL3VpnVrfPerfRoutesDeleted	brcdIp.3.2.1.1.3.1.1.2	Yes, but read-only.
mplsL3VpnVrfPerfCurrNumRoutes	brcdIp.3.2.1.1.3.1.1.3	Yes, but read-only.
mplsL3VpnVrfPerfRoutesDropped	brcdIp.3.2.1.1.3.1.1.4	No
mplsL3VpnVrfPerfDiscTime	brcdIp.3.2.1.1.3.1.1.5	No

VRF routing table

Object	Object identifier	Supported?
mplsL3VpnRoute	brcdIp.3.2.1.1.4	Yes
mplsL3VpnVrfRteTable	brcdIp.3.2.1.1.4.1	Yes, but read-only.
mplsL3VpnVrfRteEntry	brcdIp.3.2.1.1.4.1.1.	Yes
mplsL3VpnVrfRteInetCidrDestType	brcdIp.3.2.1.1.4.1.1.1	IPv4 value
mplsL3VpnVrfRteInetCidrDest	brcdIp.3.2.1.1.4.1.1.2	Yes
mplsL3VpnVrfRteInetCidrPfxLen	brcdIp.3.2.1.1.4.1.1.3	Yes
mplsL3VpnVrfRteInetCidrPolicy	brcdIp.3.2.1.1.4.1.1.4	DefaultThe value {0 0} is returned.
mplsL3VpnVrfRteInetCidrNHopType	brcdIp.3.2.1.1.4.1.1.5	IPv4 value
mplsL3VpnVrfRteInetCidrNextHop	brcdIp.3.2.1.1.4.1.1.6	Yes
mplsL3VpnVrfRteInetCidrIfIndex	brcdIp.3.2.1.1.4.1.1.7	Yes, but read-only.
mplsL3VpnVrfRteInetCidrType	brcdIp.3.2.1.1.4.1.1.8	Yes, but read-only.
mplsL3VpnVrfRteInetCidrProto	brcdIp.3.2.1.1.4.1.1.9	Yes, but read-only.
mplsL3VpnVrfRteInetCidrAge	brcdIp.3.2.1.1.4.1.1.10	Yes, but read-only.
mplsL3VpnVrfRteInetCidrNextHopAS	brcdIp.3.2.1.1.4.1.1.11	NoReturns 0
mplsL3VpnVrfRteInetCidrMetric1	brcdIp.3.2.1.1.4.1.1.12	Yes, but read-only.
mplsL3VpnVrfRteInetCidrMetric2	brcdIp.3.2.1.1.4.1.1.13	NoReturns 0
mplsL3VpnVrfRteInetCidrMetric3	brcdIp.3.2.1.1.4.1.1.14	NoReturns 0
mplsL3VpnVrfRteInetCidrMetric4	brcdIp.3.2.1.1.4.1.1.15	NoReturns 0
mplsL3VpnVrfRteInetCidrMetric5	brcdIp.3.2.1.1.4.1.1.16	NoReturns 0
mplsL3VpnVrfRteXCPointer	brcdIp.3.2.1.1.4.1.1.17	NoReturns null string
mplsL3VpnVrfRteInetCidrStatus	brcdIp.3.2.1.1.4.1.1.18	Yes, but read-only.

Supported objects in VPLS-generic-draft-01-mib

The following tables present the objects supported in the VPLS-generic-draft-01-mib module of draft-ietf-l2vpn-vpls-mib-01.

Tables and scalars in the draft that are not listed in the following tables are not supported.

Scalars

The following scalars are supported.

Name, OID, and syntax	Access	Description
vplsConfigIndexNext brcdIp.3.4.1.1.1 Syntax: Unsigned 32	Read-only	Unique index for the conceptual row identifying a VPLS service. However, in the current implementation, this index is always 0.
vplsStatusNotifEnable brcdIp.3.4.1.1.5 Syntax: TruthValue	Read-write	If this object is set to true(1), then it enables vplsStatusChanged notification to be generated. Change notification is determined by the use of the **snmp-server enable trap mpls vpls** and **no snmp-server enable trap mpls vpls** commands.
vplsNotificationMaxRate brcdIp.3.4.1.1.6	Read-write	Always 0.

Name, OID, and syntax	Access	Description
Syntax: SnmpAdminString		

vplsConfigTable

The following table below presents the objects supported in the vplsConfigTable. Refer to vplsConfigTable for objects that are not supported in this table.

NOTE

The following table is supported on MLX Series, MLX Series, XMR Series, CES 2000 Series, and CER 2000 Series devices.

Name, OID, and syntax	Access	Supported?
vplsConfigIndex brcdIp.3.4.1.1.2.1.1 Syntax: Unsigned 32	Read-only	Yes
vplsConfigName brcdIp.3.4.1.1.2.1.2 Syntax: SnmpAdminString	Read-only	Yes
vplsConfigDescr brcdIp.3.4.1.1.2.1.3 Syntax: SnmpAdminString	Read-only	Always null string
vplsConfigAdminStatus brcdIp.3.4.1.1.2.1.4 Syntax: Integer	Read-only	Yes Always up(1)
vplsConfigMacLearning brcdIp.3.4.1.1.2.1.6 Syntax: TruthValue	Read-only	Yes Always true(1)
vplsConfigDiscardUnknownDest brcdIp.3.4.1.1.2.1.7 Syntax: TruthValue	Read-only	No Always false(2)
vplsConfigMacAging brcdIp.3.4.1.1.2.1.8 Syntax: TruthValue	Read-only	Ye Always true(1)
vplsConfigFwdFullHighWatermark brcdIp.3.4.1.1.2.1.10 Syntax: Unsigned 32	Read-only	Always 0
vplsConfigFwdFullLowWatermark brcdIp.3.4.1.1.2.1.11 Syntax: Unsigned 32	Read-only	Always 0
vplsConfigRowStatus brcdIp.3.4.1.1.2.1.12 Syntax: RowStatus	Read-only	Yes Always active (1)
vplsConfigMtu brcdIp.3.4.1.1.2.1.13 Syntax: Unsigned 32	Read-only	Yes
vplsConfigVpnId brcdIp.3.4.1.1.2.1.14	Read-only	Always null

Name, OID, and syntax	Access	Supported?
Syntax: Octet string		
vplsConfigServiceType brcdIp.3.4.1.1.2.1.15 Syntax: Integer	Read-only	Yes: • vlan(1) • ethernet(2) • ethernetTagged(4) NOTE vlan(1) if part of VLAN, otherwise ehternet(2) for tagged VPLS
vplsConfigStorageType brcdIp.3.4.1.1.2.1.16 Syntax: StorageType	Read-only	Yes Always permanent(4)

vplsStatusTable

The following table lists the objects that are supported for the vplsStatusTable.

Name	Access	Supported?
vplsStatusOperStatus brcdIp.3.4.1.1.3.1.1 Syntax: Integer	Read-only	Yes
vplsStatusPeerCount brcdIp.3.4.1.1.3.1.2 Syntax: Counter 32	Read-only	Yes

vplsPwBindTable

This vplsPwBindTable binds a given VPLS instance to various pseudo wires. It provides transport service for a VPLS.

Name	Access	Supported?
vplsPwBindIndex brcdIp.3.4.1.1.4.1.1 Syntax: PWIndexType	Read-only	Yes PwIndex of corresponding PWTable. One VPLS may have multiple PWTable entries.
vplsPwBindConfigType brcdIp.3.4.1.1.4.1.2 Syntax: Integer	Read-only	Yes Always manual(1)
vplsPwBindType brcdIp.3.4.1.1.4.1.3 Syntax: Integer	Read-only	Yes Always mesh(1)
vplsPwBindRowStatus brcdIp.3.4.1.1.4.1.4 Syntax: RowStatus	Read-only	Yes. • active(1) - If PW state is operational • not-in-service(2) - If PW is not operational
vplsPwBindStorageType brcdIp.3.4.1.1.4.1.5 Syntax: StorageType	Read-only	Yes Only permanent(4) is supported

General MPLS objects

The following table contains the general MPLS MIB objects.

Name, OID, and syntax	Access	Description
mplsVersion brcdIp.1.2.15.1.1.1 Syntax: Unsigned32	Read-only	The MPLS version number.
mplsConfiguredLsps brcdIp.1.2.15.1.2.1 Syntax: Unsigned32	Read-only	The number of configured LSPs. This is calculated by adding the number of RSVPs and statically configured label switched paths (LSPs).
mplsActiveLsps brcdIp.1.2.15.1.2.2 Syntax: Unsigned32	Read-only	The number of active LSPs. This is calculated by adding the number of RSVPs, LDPs, and statically configured LSPs.

MPLS LSP table

The following table contains objects for the MPLS LSPs table.

Name, OID, and syntax	Access	Description
mplsLspTable brcdIp.1.2.15.1.2.3	None	The MPLS LSP table.
mplsLspSignalingProto brcdIp.1.2.15.1.2.3.1.1 Syntax: Integer	None	MPLS signaling protocol used by this LSP: • ldp(1) • rsvp(2)
mplsLspIndex brcdIp.1.2.15.1.2.3.1.2 Syntax: Unsigned32	None	The unique index of the LSP in the system for a given signaling protocol. The ifIndex value of the LSP's tunnel interface index holds true.
mplsLspName brcdIp.1.2.15.1.2.3.1.3 Syntax: DisplayString	Read-only	The name of the label switched path (LSP).
mplsLspState brcdIp.1.2.15.1.2.3.1.4 Syntax: Integer	Read-only	The operational state of the LSP: • unknown(1) • up(2) • down(3)
mplsLspPackets brcdIp.1.2.15.1.2.3.1.5 Syntax: Counter64	Read-only	The number of egress Layer 3 VPN and IP MPLS packets that has been sent to outbound, meeting the in-label and tunnel criteria. This object is equivalent to show mpls statistics tunnel or show mpls ldp traffic command.
mplsLspAge brcdIp.1.2.15.1.2.3.1.6 Syntax: TimeStamp	Read-only	The age in 10-millisecond periods since the creation of the LSP.
mplsLspTimeUp brcdIp.1.2.15.1.2.3.1.7	Read-only	The total time in 10-millisecond units that this LSP has been operational. Calculate the

Name, OID, and syntax	Access	Description
Syntax: TimeStamp		percentage up-time using the following equation: mplsLspTimeUp or mplsLspAge x 100%
mplsLspPrimaryTimeUp brcdIp.1.2.15.1.2.3.1.8 Syntax: TimeStamp	Read-only	The total time in 10-millisecond units that the primary path of the LSP has been operational. The percentage contribution of the primary path to the operational time is calculated using the following equation: mplsLspPrimaryTimeUp or mplsLspTimeUp x 100%
mplsLspTransitions brcdIp.1.2.15.1.2.3.1.9 Syntax: Counter32	Read-only	The number of times the state of the LSP transitioned from up to down and down to up.
mplsLspLastTransition brcdIp.1.2.15.1.2.3.1.10 Syntax: TimeStamp	Read-only	The time in 10-millisecond units since the last transition occurred on this LSP.
mplsLspFrom brcdIp.1.2.15.1.2.3.1.11 Syntax: IpAddress	Read-only	Source IP address of this LSP.
mplsLspTo brcdIp.1.2.15.1.2.3.1.12 Syntax: IpAddress	Read-only	Destination IP address of this LSP.
mplsPathName brcdIp.1.2.15.1.2.3.1.13 Syntax: DisplayString	Read-only	The name of the active path for this LSP. If there is no name, this field should be empty and all the fields in this table do not apply.
mplsPathType brcdIp.1.2.15.1.2.3.1.14 Syntax: Integer	Read-only	The type of path that is active. This field is meaningless unless mplsPathName contains no value. Paths can be the following types: • other(1) • primary(2) • standby(3) • secondary(4)
mplsLspAdaptive brcdIp.1.2.15.1.2.3.1.15 Syntax: TruthVal	Read-only	Indicates if this LSP supports the Adaptive mechanism.
mplsLspBfdSessionId brcdIp.1.2.15.1.2.3.1.16 Syntax: Unsigned32	Read-only	The BFD session associated to this LSP: • Zero indicates that no BFD session exists for this LSP. • Non-zero is an index to an entry in bfdSessTable.
mplsLspReoptimizeTimer brcdIp.1.2.15.1.2.3.1.17 Syntax: Unsigned32	Read-only	The number of seconds from the beginning of one reoptimization attempt to the beginning of the next attempt.
mplsLspCoS brcdIp.1.2.15.1.2.3.1.18 Syntax: ClassOfService	Read-only	The Class of Service.
mplsLspHopLimit brcdIp.1.2.15.1.2.3.1.19	Read-only	The number of hops this LSP can traverse.

Name, OID, and syntax	Access	Description
Syntax: Unsigned32		
mplsLspCspf brcdIp.1.2.15.1.2.3.1.20 Syntax: Integer	Read-only	Indicates if the CSPF path calculation is enabled on this LSP.
mplsLspCspfTieBreaker brcdIp.1.2.15.1.2.3.1.21 Syntax: Integer	Read-only	The tie-breaker to use for selecting the CSPF equal-cost paths. This field is not applicable if mplsLspCspf is disabled.
mplsLspFrrMode brcdIp.1.2.15.1.2.3.1.22 Syntax: Integer	Read-only	Indicates which protection method is to be used for MPLS Fast Reroute: • "detour" for one-to-one backup • "facility" for facility backup
mplsLspFrrSetupPriority brcdIp.1.2.15.1.2.3.1.23 Syntax: Unsigned32	Read-only	The setup priority for the MPLS Fast Reroute. The value of this variable is not applicable if mplsLspFrrMode is "none".
mplsLspFrrHoldingPriority brcdIp.1.2.15.1.2.3.1.24 Syntax: Unsigned32	Read-only	The hold priority for the MPLS Fast Reroute. The value of this variable is not applicable if mplsLspFrrMode is "none".
mplsLspFrrHopLimit brcdIp.1.2.15.1.2.3.1.25 Syntax: Unsigned32	Read-only	The hop limit for the MPLS Fast Reroute. The value of this variable is not applicable if mplsLspFrrMode is "none".
mplsLspFrrBandwidth brcdIp.1.2.15.1.2.3.1.26 Syntax: Unsigned32	Read-only	The bandwidth constraint for the MPLS Fast Reroute. The value zero indicates that the detour route uses a best- effort value for bandwidth. The value of this variable is not applicable if mplsLspFrrMode is "none".
mplsLspFrrAdmGrpIncludeAny brcdIp.1.2.15.1.2.3.1.27 Syntax: MplsTunnelAffinity	Read-only	The administrative group setting that the device includes any of the interfaces that are members of the group when calculating detour routes for this LSP. The value of this variable is not applicable if mplsLspFrrMode is "none".
mplsLspFrrAdmGrpIncludeAll brcdIp.1.2.15.1.2.3.1.28 Syntax: MplsTunnelAffinity	Read-only	The administrative group setting that an interface must be a member of all of the groups to be considered in a detour route for the LSP. Any interface that is not a member of all the groups is eliminated from consideration. The value of this variable is not applicable if mplsLspFrrMode is "none".
mplsLspFrrAdmGrpExcludeAny brcdIp.1.2.15.1.2.3.1.29 Syntax: MplsTunnelAffinity	Read-only	The administrative group setting that the device excludes any of the interfaces that are members of the group when calculating detour routes for this LSP. The value of this variable is not applicable if mplsLspFrrMode is "none".
mplsLspPathSelectMode brcdIp.1.2.15.1.2.3.1.30 Syntax: Integer	Read-only	Indicates the path selection mode to use: • Auto-select is the default mode. In this mode, the primary path is always selected to carry traffic when the primary path has stayed operating in

Name, OID, and syntax	Access	Description
		the working state for at least the amount of time specified in mplsLspPathSelectRevertTimer. • For manual-select, the traffic is switched to a user-selected path specified in mplsLspPathSelectPathname after the selected path has stayed operating in the working state for at least the amount of time specified in mplsLspPathSelectRevertTimer. • For unconditional-select, the traffic is switched to and stays on the selected path regardless of the path's condition, even if it is in a failure state.
mplsLspPathSelectPathname brcdIp.1.2.15.1.2.3.1.31 Syntax: DisplayString	Read-only	The user-selected secondary path for path-select mode "manual" and "unconditional".
mplsLspPathSelectRevertTimer brcdIp.1.2.15.1.2.3.1.32 Syntax: Unsigned32	Read-only	The number of seconds to wait after the primary or selected path comes up before traffic reverts to that path. A value of zero indicates that it will switch immediately after the current working path goes down.
mplsLspShortcutOspfAllowed brcdIp.1.2.15.1.2.3.1.33 Syntax: TruthVal	Read-only	Indicates that this LSP allows a shortcut between nodes in an autonomous system (AS). The OSPF route includes the LSP in its SPF calculation.
mplsLspShortcutIsisAllowed brcdIp.1.2.15.1.2.3.1.34 Syntax: TruthVal	Read-only	Indicates that this LSP allows a shortcut through the network to a destination based on the path's cost (metric). The traffic is forwarded through this LSP to destinations within the IS-IS routing domain. The IS-IS route includes the LSP in its SPF calculation.
mplsLspShortcutIsisLevel brcdIp.1.2.15.1.2.3.1.35 Syntax: Integer	Read-only	Indicates the level of the IS-IS routing enabled on the device. The value of this variable is not applicable if mplsLspShortcutIsisAllowed is “False”.
mplsLspShortcutIsisAnnounce brcdIp.1.2.15.1.2.3.1.36 Syntax: TruthVal	Read-only	Indicates that this IS-IS shortcut will be announced or advertised. The metric to announce is specified by mplsLspShortcutIsisAnnounceMetric. The value of this variable is not applicable if mplsLspShortcutIsisAllowed is “False”.
mplsLspShortcutIsisAnnounceMetric brcdIp.1.2.15.1.2.3.1.37 Syntax: Unsigned32	Read-only	Indicates the metric value to announce for this shortcut. The value of this variable is not applicable if mplsLspShortcutIsisAnnounce is “False”.
mplsLspShortcutIsisRelativeMetric brcdIp.1.2.15.1.2.3.1.38 Syntax: Unsigned32	Read-only	Indicates the relative metric used to compute the LSP cost when announce is not enabled. The value of this variable is not applicable if mplsLspShortcutIsisAllowed is “False”.

MPLS LSP Auto-Bandwidth MIB table

Monitors current auto-bandwidth parameters applied on the current active path of the tunnel.

Usage Guidelines

The following MIB objects are supported on the MLX Series and XMR Series devices.

mplsLspAutoBWTable

Objects and OID	Access	Description
mplsLspAutoBWTable brcdIp.1.2.15.1.2.4	None	The table lists the auto-bandwidth configuration details.
mplsLspAutoBWStatus brcdIp.1.2.15.1.2.4.1.1 Syntax: Integer	Read-only	Indicates the operational status of the MPLS auto-bandwidth. • autoBWEnabled(1) • autoBWDisabledAndNotConfigured(2) • autoBWDisabledGlobally(3) • autoBWDisabledAndRateCountersNotAllocated(4) NOTE If the auto-bandwidth is disabled, the SNMP polling will not provide output for the mplsLspAutoBWTable.
mplsLspAutoBWMode brcdIp.1.2.15.1.2.4.1.2 Syntax: Integer	Read-only	Indicates the mode of the MPLS auto-bandwidth. • monitorOnly (1) • monitorAndSignalMode (2)
mplsLspAutoBWAdjustmentThreshold brcdIp.1.2.15.1.2.4.1.3 Syntax: Unsigned32	Read-only	Specifies the configured adjustment threshold value.
mplsLspAutoBWMin brcdIp.1.2.15.1.2.4.1.4 Syntax: Unsigned32	Read-only	Specifies the minimum bandwidth that the auto-bandwidth algorithm can apply to a tunnel when the adjustment threshold has overcome.
mplsLspAutoBWMax brcdIp.1.2.15.1.2.4.1.5 Syntax: Unsigned32	Read-only	Specifies the maximum bandwidth that the auto-bandwidth algorithm can apply to a tunnel when the adjustment threshold ihas overcome.
mplsLspAutoBWAdjustmentInterval brcdIp.1.2.15.1.2.4.1.6 Syntax: Unsigned32	Read-only	Specifies the adjustment period for data rates.
mplsLspAutoBWOverflowLimit brcdIp.1.2.15.1.2.4.1.7 Syntax: Unsigned32	Read-only	Specifies the number of consecutive collections exceeding overflow threshold.

Objects and OID	Access	Description
mplsLspAutoBWUnderflowLimit brcdIp.1.2.15.1.2.4.1.8 Syntax: Unsigned32	Read-only	Specifies the number of consecutive collections under the underflow threshold.
mplsLspAutoBWCurrentSignaledRate brcdIp.1.2.15.1.2.4.1.9 Syntax: Gauge32	Read-only	Specifies the current signaled rate in kbps.
mplsLspAutoBWSampleCollected brcdIp.1.2.15.1.2.4.1.10 Syntax: Unsigned32	Read-only	Specifies the number of samples collected.
mplsLspAutoBWMaxSampleBW brcdIp.1.2.15.1.2.4.11 Syntax: Unsigned32	Read-only	Specifies the maximum sample bandwidth in kbps.
mplsLspAutoBWLastSample brcdIp.1.2.15.1.2.4.1.12 Syntax: Unsigned32	Read-only	Specifies the last sample rate in kbps.
mplsLspAutoBWOverFlowCount brcdIp.1.2.15.1.2.4.1.13 Syntax: Unsigned32	Read-only	Specifies the overflow count.
mplsLspAutoBWUnderFlowCount brcdIp.1.2.15.1.2.4.1.14 Syntax: Unsigned32	Read-only	Specifies the underflow count.
mplsLspAutoBWMaxUnderFlowSample brcdIp.1.2.15.1.2.4.1.15 Syntax: Unsigned32	Read-only	Specifies the maximum underflow sample rate in kbps.
mplsLspAutoBWSampleRecordingEnable brcdIp.1.2.15.1.2.4.1.16 Syntax: TruthValue	Read-only	Specifies the auto-bandwidth sample recording status. Auto-bandwidth sample recording is enabled, if the object value is set to "true". Auto-bandwidth sample recording is disabled, if the object value is set to "false".
mplsLspAutoBWAdjustmentDue brcdIp.1.2.15.1.2.4.1.17 Syntax: Unsigned32	Read-only	Specifies the adjustment due in seconds.
mplsLspAutoBWLastAdjustmentDateAndTime brcdIp.1.2.15.1.2.4.1.18 Syntax: DateAndTime	Read-only	Specifies date and time in which the sample entry is logged.
mplsLspAutoBWLastAdjustmentOldBW brcdIp.1.2.15.1.2.4.1.19 Syntax: Unsigned32	Read-only	Specifies previous logged bandwidth.
mplsLspAutoBWLastAdjustmentNewBW brcdIp.1.2.15.1.2.4.1.20 Syntax: Unsigned32	Read-only	Specifies current effective bandwidth.

Objects and OID	Access	Description
mplsLspAutoBWLastAdjustmentStatus brcdIp.1.2.15.1.2.4.1.21 Syntax: Integer	Read-only	Specifies auto-bandwidth adjustment status. • unknown(1) • enqueued (2) • suspended (3) • trying (4) • complete(5)

History

Release version	History
6.0.00a	This MIB was introduced.

MPLS administrative group table

The administrative groups, also known as resource classes or link colors, allow MPLS-enabled interfaces to be assigned to various classes. A group name can be associated to up to 32 administrative groups on the device.

The following table contains the MPLS AdminGroup MIB objects that lists the Administrative Group ID that has a configured group name. This is indexed by the Group ID, and with only one columnar object, which is the group name in the DisplayString type. Use the **show mpls policy** command to display the configured information of the Admin Group name to IPD mapping.

NOTE
This MPLS administrative group table is a read-only table and supports the GET, GETBULK, and GETNEXT operations.

Name, OID, and syntax	Access	Description
brcdMplsAdminGroupTable brcdIp.1.2.15.1.1.2	None	The list of administrative groups (by ID) that have a configured group name.
brcdMplsAdminGroupId brcdIp.1.2.15.1.1.2.1.1 Syntax: Unsigned32	None	Identifies the administrative group ID in a 1-based index. The end user of this object must convert this to a 0-based because the index maps to the bit position in the constraint-based link selection.
brcdMplsAdminGroupName brcdIp.1.2.15.1.1.2.1.2 Syntax: DisplayString	Read-write	The group name with which this administrative group is associated.
brcdMplsAdminGroupRowStatus brcdIp.1.2.15.1.1.2.1.3 Syntax: RowStatus	Read-only	The row status of an entry. NOTE A set request to this table is not supported. Always returns "active" for the existing entries.

MPLS interface table

The MPLS interface table contains all configured MPLS interfaces. It will be indexed by the ifIndex of the MPLS-enabled port or the VE interface. Use the **show mpls interface** command to display the configured information of interfaces and Admin Group settings.

NOTE
The MPLS interface table is a read-only table and supports the GET, GETBULK, and GETNEXT operations.

Name, OID, and syntax	Access	Description
brcdMplsInterfaceTable brcdIp.1.2.15.1.1.3	None	The list of MPLS-enabled interfaces.
brcdMplsInterfaceIndex brcdIp.1.2.15.1.1.3.1.1 Syntax: Unsigned32	None	The ifIndex of the MPLS-enabled port or VE interface.
brcdMplsInterfaceAdminGroup brcdIp.1.2.15.1.1.3.1.2 Syntax: MplsTunnelAffinity	Read-write	Specifies to which administrative groups this MPLS-enabled interface belongs to. It is represented in bitmapped format where each bit from 0 through 31 maps to the (internal) group ID. If a bit is set, it indicates that the corresponding group ID is configured for a particular MPLS interface.
brcdMplsInterfaceRowStatus brcdIp.1.2.15.1.1.3.1.3 Syntax: RowStatus	Read-only	The row status of an entry. NOTE A set request to this table is not supported. Always returns "active" for the existing entries.

MPLS Layer2 VPN MIB Definition

VLL endpoint table

The following table (fdryVllEndPointTable) contains objects for VLL and VLL-local endpoints that are not available in the pseudo Wire MIB.

NOTE

Use the **snmp-server disable mib***mib-table-keyword* command to disable the SNMP support for the table and use the **no** form of the command to re-enable the support. The overall SNMP-WALK performance is increased when the SNMP support is disabled for the table.

Name, OID, and syntax	Access	Description
pwIndex brcdIp.3.1.2.1.1 Syntax: pwIndexType	None	pwIndex of pwTable and pwEnetTable (foreign index)
pwEnetPwInstance brcdIp.3.1.4.1.1.1.1 Syntax: Unsigned32	None	The second index of pwEnetTable (foreign index) to support VLL-local: • VLL - 1 • vlllocal - 1 and 2
fdryVllEndPointServiceType brcdIp.1.2.15.2.1.1.1.1 Syntax: Integer	None	Indicates the service type for the endpoint: • vll(1) • vlllocal(2)
fdryVllEndPointVlanTagMode brcdIp.1.2.15.2.1.1.1.2 Syntax: Integer32	Read-only	Indicates the VLAN mode of this endpoint. Ports can have only the following modes: • tagged(1) • untagged(2)
fdryVllEndPointClassOfService brcdIp.1.2.15.2.1.1.1.3 Syntax: Unsigned32	Read-only	For VLL, this value is used to select the appropriate tunnel whose CoS value is the same as, or almost approaching this value. For VLL-local, this value is applied to the inbound traffic of an endpoint. Valid values: 0 - 7
fdryVllEndPointInHCPkts brcdIp.1.2.15.2.1.1.1.4 Syntax: Counter64	Read-only	This object indicates the number of packets ingressing into this endpoint. This is available in the output for **show mpls statistics vll** .
fdryVllEndPointOutHCPkts brcdIp.1.2.15.2.1.1.1.5 Syntax: Counter64	Read-only	This object indicates the number of ingress packets from this endpoint as shown in the **show mpls statistics vll-local** output. For VLL-local, this value is the fdryVllEndPointInHCPkts of the other endpoint.

Name, OID, and syntax	Access	Description
fdryVllEndPointAdminStatus brcdIp.1.2.15.2.1.1.1.6 Syntax: Integer32	Read-only	The desired administrative status of the endpoint. • up(1) • down(2)
fdryVllEndPointOperStatus brcdIp.1.2.15.2.1.1.1.7 Syntax: PwOperStatusTC	Read-only	Indicates the operational status of the endpoint: • up(1) • down(2)
fdryVllEndPointRowStatus brcdIp.1.2.15.2.1.1.1.8 Syntax: RowStatus	Read-only	Status will be active(1) if the endpoint is up; otherwise it will be not in service.
fdryVllEndPointInnerVlanId brcdIp.1.2.15.2.1.1.1.9 Syntax: PwVlanCfg	Read-only	This value indicates the inner VLAN ID for this endpoint. Default: 0 (not configured or not supported.)
fdryVllEndPointInHCOctets brcdIp.1.2.15.2.1.1.1.10 Syntax: Counter64	Read-only	This value indicates the number of octets into the endpoint from a Customer Edge device. This object is supported only on the CES 2000 Series and CER 2000 Series devices.
fdryVllEndPointOutHCOctets brcdIp.1.2.15.2.1.1.1.11 Syntax: Counter64	Read-only	This value indicates the number of octets egressing out from the endpoint towards the Customer Edge device.

VPLS endpoint2 table

The following table supports VPLS ISID mapping that is configured in the inner VLAN at the endpoint level. It contain objects for the VPLS endpoints that are not available in the pseudo Wire or draft-ietf-pwe3-pw-mib-11.txt MIB. The VPLS endpoint table replaces **fdryVplsEndPointTable** .

Name, OID, and syntax	Access	Description
fdryVplsEndPoint2Table brcdIp.1.2.15.2.2.3	None	This table specifies information about the VPLS endpoints that are not available in the PW MIB or the VPLS draft MIB. This table replaces fdryVplsEndPointTable, as inner VLAN or ISID has been added as an index of this table.
fdryVplsEndPoint2VlanId brcdIp.1.2.15.2.2.3.1.1 Syntax: PwVlanCfg	None	This value specifies the VLAN ID value of this endpoint.
fdryVplsEndPoint2InnerTagType brcdIp.1.2.15.2.2.3.1.2 Syntax: Integer	None	This value indicates the inner ID for the endpoint: • invalid(1) • innerVlan(2) • isid(3) If no inner tag is specified, the value invalid(1) is returned.
fdryVplsEndPoint2InnerTag brcdIp.1.2.15.2.2.3.1.3 Syntax: Unsigned32	None	This value indicates the inner ID for this endpoint. If the index fdryVplsEndPoint2InnerTagType has the value isid(3), then this object will have the ISID value for that endpoint. The valid ISID value is between

Name, OID, and syntax	Access	Description
		256 (0x100) and 16777214 (0xFFFFFE). If no inner tag is specified, the value 0 is returned.
fdryVplsEndPoint2IfIndex brcdIp.1.2.15.2.2.3.1.4 Syntax: InterfaceIndex	None	This value specifies the ifIndex value of this endpoint.
fdryVplsEndPoint2VlanTagMode brcdIp.1.2.15.2.2.3.1.5 Syntax: VlanTagMode	Read-create	This value indicates the VLAN mode for this endpoint. The values dual(3) and other(4) are not used in this table.
fdryVplsEndPoint2InHCOctets brcdIp.1.2.15.2.2.3.1.6 Syntax: Counter64	Read-only	This counter indicates the number of octets ingressing into this endpoint from the Customer Edge device. This object is supported only on the CES 2000 Series and CER 2000 Series devices.
fdryVplsEndPoint2Layer2State brcdIp.1.2.15.2.2.3.1.7 Syntax: Layer2StateTC	Read-only	The Layer 2 state of this VPLS endpoint.
fdryVplsEndPoint2OperStatus brcdIp.1.2.15.2.2.3.1.8 Syntax: PwOperStatusTC	Read-only	This object indicates the operational status of this endpoint: • up(1) • down(2) No other values are used in this table.
fdryVplsEndPoint2RowStatus brcdIp.1.2.15.2.2.3.1.9 Syntax: RowStatus	Read-create	This variable is used to create, modify, and delete a row in this table. When a row in this table is in active(1) state, no objects in that row can be modified except this object and the fdryVplsEndPointAdminStatus object.

VPLS instance table

The following table can be used to configure additional virtual circuit properties that are not supported in vplsConfigTable.

Name, OID, and syntax	Access	Description
vplsConfigIndex brcdIp.3.4.1.1.2.1.1 Syntax: Unsigned32	None	This object is the index for this table.
fdryVplsClassOfService brcdIp.1.2.15.2.2.2.1.1 Syntax: Unsigned 32	Read-write	Indicates the Class of Service for this VPLS instance. This value is used to select the appropriate tunnel that has a CoS value is less than or equal to this value.
fdryVplsMaxMacLearned brcdIp.1.2.15.2.2.2.1.2 Syntax: Unsigned 32	Read-only	This value indicates the maximum number of MAC addresses that can be learned by this VPLS instance. No default value is specified as the system default can change.
fdryVplsClearMac brcdIp.1.2.15.2.2.2.1.3 Syntax: TruthValue	Read-only	The Set value of TRUE tells the system to clear all the MAC addresses learned by this VPLS instance. Setting a value of FALSE(2) returns an error. During read operations, FALSE(2) is returned at all times.
fdryVplsVcId	Read-only	The VPLS Instance ID of a given VPLS session.

Name, OID, and syntax	Access	Description
brcdIp.1.2.15.2.2.2.1.4 Syntax: Unsigned 32		

VPLS MAC age timer configuration scalar objects

The scalar objects in the following table helps to configure a global timer that controls MAC aging in the system for local/remote entries. A new branch (brcdVplsScalarObjects) is created that contains these scalar objects.

NOTE
The following scalar objects are supported on the XMR Series, MLX Series, MLX Series, CES 2000 Series, and CER 2000 Series devices.

Name, OID, and syntax	Access	Description
brcdVplsMacAgeTimeLocal brcdIp.1.2.15.2.2.5.1 Syntax: Unsigned32	Read-write	The age timer for local entries of VPLS MAC addresses in the system. Default value: 300 Configurable range: From 60 through 65535
brcdVplsMacAgeTimeRemote brcdIp.1.2.15.2.2.5.2 Syntax: Unsigned32	Read-write	The age timer for remote entries of VPLS MAC addresses in the system. Default value: 600 Configurable range: From 60 through 65535

SNMP Telemetry MIB Definition

Route map configuration table

The following table contains MIB objects of the route map entries.

Name, OID, and syntax	Access	Description
brcdRouteMapTable brcdIp.1.1.3.39.1.1.1	None	The route map entries configuration table.
brcdRouteMapName brcdIp.1.1.3.39.1.1.1.1.1 Syntax: DisplayString	None	Identifies the route map on the Extreme NetIron devices. A maximum of 80 characters is allowed.
brcdRouteMapSequence brcdIp.1.1.3.39.1.1.1.1.2 Syntax: Unsigned32	None	Identifies the sequence to insert or delete from the existing route map entry.
brcdRouteMapAction brcdIp.1.1.3.39.1.1.1.1.3 Syntax: Action	Read-create	Identifies the action to be taken for the route map entry: • deny(0) • permit(1)
brcdRouteMapRuleName brcdIp.1.1.3.39.1.1.1.1.4 Syntax: DisplayString **NOTE** This object is not supported on the CES 2000 Series and CER 2000 Series devices.	Read-create	Identifies the path name for the route map. A maximum of 127 characters is allowed.
brcdRouteMapRowStatus brcdIp.1.1.3.39.1.1.1.1.5 Syntax: RowStatus	Read-create	The following options are supported: • active(1)—To return GET and GET-NEXT requests. • createAndGo(4)—To add a new row. • destroy(6)—To remove a row. The other values in the enumeration are not supported.

Route map match configuration table

The following table contains MIB objects of the route map match configuration table.

Name, OID, and syntax	Access	Description
brcdRouteMapMatchTable brcdIp.1.1.3.39.1.1.2	None	The route map match clause configuration table.
brcdRouteMapMatchSequence brcdIp.1.1.3.39.1.1.2.1.1 Syntax: Integer32	None	Identifies the position in the table where the match rule is added. • If the brcdRouteMapMatchRowStatus is set to createAndGo(4), then a row is inserted if there is no match rule present at the brcdRouteMapMatchIndex position. • If any rule is present, then it must be of same kind. If not, then the SET request fails. The application obtains the value for the object in the last row and uses the next value to insert a new row in the table.
brcdRouteMapMatchType brcdIp.1.1.3.39.1.1.2.1.2 Syntax: Integer	None	A pair of brcdRouteMapMatchType and brcdRouteMapMatchValue objects specifies a particular match clause.
brcdRouteMapMatchValue brcdIp.1.1.3.39.1.1.2.1.3 Syntax: DisplayString	Read-create	Specifies the value corresponding to the brcdRouteMapMatchType object. A maximum of 255 characters is allowed. The following values are supported: • matchAsPath(1)—Identifies one or more BGP AS-Paths to be matched. The list of AS-Path names is separated by one or more spaces. • matchBgpCommunityName(2)—Identifies one or more BGP community ACL names to be matched. The list of BGP community ACL names is separated by one or more spaces. • matchBgpCommunityNameExact(3)—Identifies one or more BGP community ACL names to be matched (exact matches only). The list of BGP community ACL names are separated by one or more spaces. • matchBgpExtCommunityNumber(4)—Identifies one or more BGP community list numbers to be matched. The list of BGP community list numbers is separated by one or more spaces. • matchInterfaces(5)—Identifies the list of IfIndices to be matched in the route map. The value 0 matches to the null0 interface. The interfaces Ethernet, POS, VE, loopback, and tunnel are supported on the Extreme NetIron devices. Each IfIndex is a 32-bit integer in big-endian order. One or more interface IfIndices are specified by separating each IfIndex with one or more spaces. • matchIpv4AddressAclNames(6)—Matches the IPv4 address of the route. Identifies the list of IPv4 standard or extended ACL names to be matched. The value is the list of ACL names separated by one or more spaces. • matchIpv4AddressAclNumbers(7)—Matches the IPv4 address of the route. Identifies the list of IPv4 ACL numbers to be matched. The value is the list of ACL numbers separated by one or more spaces.

Name, OID, and syntax	Access	Description
		• matchIpv4AddressPrefixList(8)—Matches the IPv4 address of the route. Identifies the list of IPv4 prefix-lists to be matched. The value is the list of IPv4 prefix-list names separated by one or more spaces. • matchIpv4NextHopAclNames(9)—Matches the next hop IPv4 address of the route. Identifies the list of IPv4 standard or extended ACL names to be matched. The value is the list of ACL names separated by one or more spaces. • matchIpv4NextHopAclNumbers(10)—Matches the next hop IPv4 address of the route. Identifies the list of IPv4 ACL numbers to be matched. The value is the list of ACL numbers separated by one or more spaces. • matchIpv4NextHopPrefixList(11)—Matches the next hop IPv4 address of the route. Identifies the list of IPv4 prefix-lists to be matched. The value is the list of IPv4 prefix-list names separated by one or more spaces. • matchIpv4RouteSourceAclNames(12)—Matches the advertising source IPv4 address of the route. Identifies the list of IPv4 standard or extended ACL names to be matched. The value is the list of ACL names separated by one or more spaces. • matchIpv4RouteSourceAclNumbers(13)—Matches the advertising source IPv4 address of the route. Identifies the list of IPv4 ACL numbers to be matched. The value is the list of ACL numbers separated by one or more spaces. • matchIpv4RouteSourcePrefixList(14)—Matches the advertising source IPv4 address of the route. Identifies the list of IPv4 prefix-lists to be matched. The value is the list of IPv4 prefix-list names separated by one or more spaces. • matchIpv6AddressAclNames(15)—Matches the IPv6 address of the route. Identifies the list of IPv6 ACL names to be matched. The value is the list of ACL names separated by one or more spaces. • matchIpv6AddressPrefixList(16)—Matches the IPv6 address of the route. Identifies the list of IPv6 prefix-lists to be matched. The value is the list of IPv6 prefix-list names separated by one or more spaces. • matchIpv6NextHopPrefixList(17)—Matches the next hop IPv6 address of the route. Identifies the list of IPv6 prefix-lists to be matched. The value is the list of IPv6 prefix-list names separated by one or more spaces. • matchIpv6RouteSourcePrefixList(18)—Matches the advertising source IPv6 address of the route. Identifies the list of IPv6 prefix-lists to be matched. The value is the list of IPv6 prefix-list names separated by one or more spaces.

Name, OID, and syntax	Access	Description
		• matchMetric(19)—Specifies the route metric used to match. The value is a string representation of the decimal metric. The SNMP agent does ASCII to integer conversion before using the value. • matchRoutingProtocol(20)—Specifies the routing protocol used to match. The value is a string representation of one of the following decimal values: static-BGP(1), iBGP(2), eBGP(3), non-staticBGP(4), isisLevel1(5), isisLevel2(6), isis(7), rip(8), and static(9). The other values are not supported. The SNMP agent does ASCII to integer conversion before using the value. • matchRouteType(21)—Specifies the route type used to match. The value is a string representation of one of the following decimal values: ospfExternalType1(2), ospfExternalType2(3), ospfInternal(4), isisLevel1(5), or isisLevel2(6). The other values are not supported. The SNMP agent does ASCII to integer conversion before using the value. • matchTags(22)—Specifies a list of tag values matched (string representation of decimal values). Each tag value is separated by one or more spaces. There cannot be more than 16 values.
brcdRouteMapMatchCliString brcdIp.1.1.3.39.1.1.2.1.4 Syntax: DisplayString	Read-only	Represents an equivalent CLI route map match command for a pair of brcdRouteMapMatchType and brcdRouteMapMatchValue objects.
brcdRouteMapMatchRowStatus Syntax: RowStatus brcdIp.1.1.3.39.1.1.2.1.5	Read-create	The following options are supported: • active(1)—To return GET and GET-NEXT requests. • createAndGo(4)—To add a new row. • destroy(6)—To remove a row. The other values in the enumeration are not supported.

Route map set configuration table

The following table contains MIB objects of the route map set configuration table.

Name, OID, and syntax	Access	Description
brcdRouteMapSetTable brcdIp.1.1.3.39.1.1.3	None	The route map set clause configuration table for a given route map.
brcdRouteMapSetSequence brcdIp.1.1.3.39.1.1.3.1.1 Syntax: Integer32	None	Identifies the position in the table where the match rule is added. • If the brcdRouteMapSetRowStatus object is set to the createAndGo(4) value, and if there is no match rule present at the brcdRouteMapSetIndex position, then a row is inserted.

Name, OID, and syntax	Access	Description
		• If a match rule is present, it must be of same kind. If not, then the SET request fails. The application obtains the value for the object in the last row and uses the next value to insert a new row in the table.
brcdRouteMapSetType brcdIp.1.1.3.39.1.1.3.1.2 Syntax: Integer	None	A pair of brcdRouteMapSetType and brcdRouteMapSetValue objects specify a particular set clause.
brcdRouteMapSetValue brcdIp.1.1.3.39.1.1.3.1.3 Syntax: DisplayString	Read-create	Specifies the value corresponding to the brcdRouteMapSetType object. The following values are supported: • setAsPath(1)—Identifies the prefix string for the BGP AS-Path attribute. The value is a string representation of the BGP Autonomous System (AS) number to be appended with the AS-Path. If the value specified is a string instead of the AS-Path number, then the value is set as an AS-Path attribute. • setAutomaticTag(2)—Specifies that the route map tag is computed automatically. The value is a string representation of a truth value 0 or 1. The value 0 is used to mark its deletion. • setDeleteCommunityList(3)—Specifies the name of the BGP community list set for deletion. • setCommunityNumber(4)—Specifies the BGP community number that is added. The format is either "AA:NN" or *community number* . • setCommunityFlag(5)—Specifies that the BGP community number in the setCommunityNumber value has behaviors similar to noExport(1), noAdvertise(2), localAs(3), and additive(4). For additive(4), the number is followed by the community number in either "AA:NN" or *community number* format. The value is a string representation of one of the decimal values. • setDampening(6)—Consists of 4 values separated by a space. – The first value specifies the string representation of the decimal value for the BGP route flap dampening. It must be enabled with half-time in minutes for the penalty. Valid values range from 1 through 45 minutes. Default value is 15 minutes. – The second value relates to the first value and specifies the string

Name, OID, and syntax	Access	Description
		representation of the decimal value to start reusing a BGP route. Valid values range from 1 through 20000. Default value is 750, with each flap penalty at 1000. – The third value relates to the first value and specifies the string representation of the decimal value to start suppressing a BGP route. Valid values range from 1 through 20000. Default value is 2000, with each flap penalty at 1000. – The fourth value relates to the first value and specifies the string representation of maximum duration in minutes to suppress a stable route. Valid values range from 1 through 255. The default value is 40 minutes. The default value is used if a value is not provided. • setDistance(7)—Specifies the string representation of admin distance set for matching OSPF routes. • setExtCommunityRT(8)—Specifies one or moreVPN extended community attributes (separated by a space). Each VPN community is formatted as "ASN:nn". • setExtCommunityRTAdditive(9)—This value relates to the setExtCommunityRT value and specifies that the VPN communities earlier must be added to the existing extended community. • setExtCommunitySOO(10)—Specifies the site-of-origin VPN extended community attributes. The VPN community is formatted as "ASN:nn". • setOutputInterfaces(11)—Identifies the list of output IfIndices. The value 0 matches to the null0 interface. Each IfIndex is a 32-bit integer in big-endian order. One or more interface IfIndices can be specified by separating each IfIndex by one or more spaces. If the ifIndex is not null0, then the preserve VLAN flag is mandatory and that is always implicitly set. • setNextHopIpv4Addr(12)—Identifies the string representation of the next hop IPv4 address without the preserve VLAN flag. • setNextHopIpv4AddrWithPreserveVlan(13)—Identifies the string

Name, OID, and syntax	Access	Description
		representation of the next hop IPv4 address with the preserve VLAN flag. • setNextHopIpv6Addr(14)—Identifies the string representation of the next hop IPv6 address without the preserve VLAN flag. • setNextHopIpv6AddrWithPreserveVlan(15)—Identifies the string representation of the next hop IPv6 address with the preserve VLAN flag. • setNextHopIpPeerAddr(16)—Specifies the string representation of a truth value. The object gets deleted when the value is set to 0 (zero). Identifies the next hop of a BGP IPv4 peer address. • setIsisLevel(17)—Identifies the level to which to import the IS-IS route. The value is a string representation of one of the following decimal values: level1(1), level2(2), or level1or2(3). • setLocalPreference(18)—Identifies the BGP local preference path attribute value to be set. The value is a string representation of the decimal preference value. • setMetricType(19)—Specifies the route metric type for the destination routing protocol. The value is a string representation of one of the following values: internal(1), external(2), type1(3), or type2(4). • setMetric(20)—Specifies the metric value set for the destination routing protocol. The value is a string representation of the following values: – *n* : Metric value – *+n* : Add *n* to metric – *-n* : Subtract *n* to metric – None : remove metric value • setNextHopFloodVlan(21)—Specifies the next hop VLAN without the preserve VLAN to be set. The value is a string representation of the VLAN ID (1 through 4090). • setNextHopFloodVlanPreserveVlan(22)—Specifies the next hop VLAN with the preserve VLAN to be set. The value is a string representation of the VLAN ID (1 through 4090). • setNextHopFloodVlanOutgoingDa(23)—Specifies the next hop VLAN with the outgoing destination address flag set. The value is a string representation of the VLAN ID (1 through 4090) followed with a MAC address.

Name, OID, and syntax	Access	Description
		• setNextHopIpTunnel(24)—Specifies the next hop IP tunnel that is configured for configured GRE tunnels. The value is a string representation of the decimal tunnel ID. • setNextHopLsp(25)—Specifies the next hop LSP name. • setBgpOrigin(26)—Specifies the BGP origin code. The value is a string representation of the igp(1) and incomplete(2) decimal values. • setTag(27)—Specifies the string representation of the decimal tag value for the destination routing protocol. • setWeight(28)—Specifies the string representation of the decimal value for BGP weight for the routing table.
brcdRouteMapSetCliString brcdIp.1.1.3.39.1.1.3.1.4 Syntax: DisplayString	Read-only	Represents an equivalent CLI route map set command for a pair of brcdRouteMapSetType and brcdRouteMapSetValue objects.
brcdRouteMapSetRowStatus brcdIp.1.1.3.39.1.1.3.1.5 Syntax: RowStatus	Read-create	The following options are supported: • active(1)—To return GET and GET-NEXT requests. • createAndGo(4)—To add a new row. • destroy(6)—To remove a row. The other values in the enumeration are not supported.

Route map bind table

The following table contains MIB objects of the route map bind entries.

Name, OID, and syntax	Access	Description
brcdRouteMapBindTable brcdIp.1.1.3.39.1.1.4	None	The table contains the bindings for the route map entries to the interfaces. Only one route map can be bound to a given interface. Attempting to bind a second route map to the same interface returns an error.
brcdRouteMapBindIfIndex brcdIp.1.1.3.39.1.1.4.1.1 Syntax: InterfaceIndex	None	Identifies an interface to bind a route map. The interface can only be a physical or virtual type.
brcdRouteMapBindIpType brcdIp.1.1.3.39.1.1.4.1.2 Syntax: InetAddressType	None	Identifies an IP type for the bind. The route map can be bound only to an IPv4 or IPv6 policy.
brcdRouteMapBindMapName brcdIp.1.1.3.39.1.1.4.1.3 Syntax: DisplayString	Read-create	Identifies the route map name. A maximum of 80 characters is allowed on the Extreme NetIron devices.

Name, OID, and syntax	Access	Description
brcdRouteMapBindRowStatus brcdIp.1.1.3.39.1.1.4.1.4 Syntax: RowStatus	Read-create	The following options are supported: • active(1)—To return GET and GET-NEXT requests. • createAndGo(4)—To add a new row. • destroy(6)—To remove a row. The other values in the enumeration are not supported.

Route map rule display table

The following table contains MIB objects of the route map rule display entries. Use the **show telemetry rule-name** command to display entries.

NOTE
This is a read-only table. The route map rule display table is not supported on the CES 2000 Series and CER 2000 Series devices.

Name, OID, and syntax	Access	Description
brcdRMapRuleDisplayTable brcdIp.1.1.3.39.1.2.1	None	The table contains various route map rule entries. A route map rule instance (map and sequence number) contains only one rule name and the same rule name is applied to multiple route maps.
brcdRMapRuleDisplayRuleName brcdIp.1.1.3.39.1.2.1.1.1 Syntax: DisplayString	None	Identifies the rule name.
brcdRMapRuleDisplayRouteMapName brcdIp.1.1.3.39.1.2.1.1.2 Syntax: DisplayString	None	Identifies the route map containing the rule.
brcdRMapRuleDisplaySequence brcdIp.1.1.3.39.1.2.1.1.3 Syntax: Unsigned32	None	Identifies the instance sequence number.
brcdRMapRuleDisplayIpType brcdIp.1.1.3.39.1.2.1.1.4 Syntax: InetAddressType	None	Identifies the IP type for the rule display: • 1 - IPv4, or • 2 - IPv6 A row is present if the corresponding IPv4 or IPv6 match ACL filter is present.
brcdRMapRuleDisplayInputInterfaceList brcdIp.1.1.3.39.1.2.1.1.5 Syntax: DisplayString	Read-only	A list of space-separated interface indices is the port membership of the rule. An asterisk (*) indicates that the path is configured but disabled.
brcdRMapRuleDisplayAclMatchFilter brcdIp.1.1.3.39.1.2.1.1.6 Syntax: DisplayString	Read-only	A list of space-separated ACL match filter names or numbers used in the rule.

Name, OID, and syntax	Access	Description
		NOTE Any instances of route maps that are not bound, and have no IPv4 or IPv6 match ACL filter (brcdRMapRuleDisplayAclMatchFilter), are not displayed in the brcdRMapRuleDisplay table.
brcdRMapRuleDisplayOutputVlan brcdIp.1.1.3.39.1.2.1.1.7 Syntax: DisplayString	Read-only	Identifies the next hop flood VLAN selected by the interface card. Returns an empty string if there is no value.
brcdRMapRuleDisplayOutputPort brcdIp.1.1.3.39.1.2.1.1.8 Syntax: DisplayString	Read-only	Identifies the selected (by the interface card) egress interface. Returns an empty value if there is no value.
brcdRMapRuleDisplayOutputIPAddress brcdIp.1.1.3.39.1.2.1.1.9 Syntax: DisplayString	Read-only	Identifies the selected IPv4 or IPv6 next hop address. Returns an empty value if there is no value.

BFD MIB Definition

BFD session table

The following table specifies information about the Bidirectional Forwarding Detection (BFD) session.

Name, OID, and syntax	Access	Description
bfdSessTable brcdIp.3.3.1.1.2	None	Describes the BFD sessions.
bfdSessIndex brcdIp.3.3.1.1.2.1.1 Syntax: BfdSessIndexTC	None	Contains an index used to represent a unique BFD session on this device.
bfdSessApplicationId brcdIp.3.3.1.1.2.1.2 Syntax: Unsigned32	Read-only	Contains an index used to indicate a local application which owns or maintains this BFD session. For instance, the MPLS VPN process may maintain a subset of the total number of BFD sessions. This application ID provides a convenient way to segregate sessions by the applications which maintain them.
bfdSessDiscriminator brcdIp.3.3.1.1.2.1.3 Syntax: Unsigned32	Read-only	Specifies the local discriminator for this BFD session, used to uniquely identify it.
bfdSessRemoteDiscr brcdIp.3.3.1.1.2.1.4 Syntax: Unsigned32	Read-only	Specifies the session discriminator chosen by the remote system for this BFD session.
bfdSessUdpPort brcdIp.3.3.1.1.2.1.5 Syntax: InetPortNumber	Read-only	The UDP port for BFD. Default: The well-known value for this port.
bfdSessState brcdIp.3.3.1.1.2.1.6 Syntax: Integer	Read-only	The perceived state of the BFD session: • adminDown(1) • down(2) - BFD session is down. • init(3) - BFD session is initializing. • up(4) - BFD session is up.
bfdSessRemoteHeardFlag brcdIp.3.3.1.1.2.1.7 Syntax: TruthValue	Read-only	Status of BFD packet reception from the remote system: • true(1) - The local device is actively receiving BFD packets from the remote device. • false(0) - Either the local device has not received BFD packets recently (within the detection time) or the local device is attempting to tear down the BFD session.

Name, OID, and syntax	Access	Description
bfdSessDiag brcdIp.3.3.1.1.2.1.8 Syntax: Unsigned32	Accessible-for-notify	A diagnostic code specifying the local system's reason for the last transition of the session from up(1) to some other state. The following values are applicable in the implementation of this MIB object: • No Diagnostic(1) • Control Detection Time Expired(2) • Echo Failed(3) • Neighbor Signaled Session Down(4) • Forwarding Plan Reset(5) • Path Down(6) • Concatenated Path Down(7) • Admin Down(8) • Reverse Concatenated Path Down(9) Each notification uses one of the following varbinds: • bfdSessUp - High range value • bfdSessDown - Low range value
bfdSessOperMode brcdIp.3.3.1.1.2.1.9 Syntax: Integer	Read-only	Specifies the current operating mode of the BFD session: • asyncModeWEchoFun(1) • asynchModeWOEchoFun(2) • demandModeWEchoFunction(3) • demandModeWOEchoFunction(4)
bfdSessDemandModeDesiredFlag brcdIp.3.3.1.1.2.1.10 Syntax: TruthValue	Read-only	Indicates if the device uses the demand mode: • true(1) - The device will use demand mode. • false(0) - The device will use demand mode.
bfdSessEchoFuncModeDesiredFlag brcdIp.3.3.1.1.2.1.11 Syntax: TruthValue	Read-only	Indicates if the device uses Echo mode: • true(1) - The device will use Echo mode. • false(0) - The device will use Echo mode.
bfdSessControPlanIndepFlag brcdIp.3.3.1.1.2.1.12 Syntax: TruthValue	Read-only	Indicates if the device can continue to function when there is a disruption of the control plane: • true(1) - The local system BFD implementation is independent of the control plane. • false(0) - The local system BFD implementation is dependent on the control plane.
bfdSessAddrType brcdIp.3.3.1.1.2.1.13 Syntax: InetAddressType	Read-only	The IP address type of the interface associated with this BFD session: • unknown(0) - Allowed only when the outgoing interface is of the type point-to-point, or when the BFD session is not associated with a specific interface. • ipv4(1) - IP address is IPv4.

Name, OID, and syntax	Access	Description
		• ipv6(2) - IP address is IPv6.
bfdSessAddr brcdIp.3.3.1.1.2.1.14 Syntax: InetAddress	Read-only	The IP address of the interface associated with this BFD session. Also used to enable BFD on a specific interface. The value is set to zero when the BFD session is not associated with a specific interface.
bfdSessDesiredMinTxInterval brcdIp.3.3.1.1.2.1.15 Syntax: Unsigned32	Read-only	Specifies the minimum interval, in microseconds, that the local system would like to use when transmitting BFD Control packets.
bfdSessReqMinRxInterval brcdIp.3.3.1.1.2.1.16 Syntax: Unsigned32	Read-only	Specifies the minimum interval, in microseconds, between received BFD Control packets the local system is capable of supporting.
bfdSessReqMinEchoRxInterval brcdIp.3.3.1.1.2.1.17 Syntax: BfdInterval	Read-only	Specifies the minimum interval, in microseconds, between received BFD Echo packets that this system is capable of supporting.
bfdSessDetectMult brcdIp.3.3.1.1.2.1.18 Syntax: Unsigned32	Read-only	Specifies the Detect time multiplier.
bfdSessStorType brcdIp.3.3.1.1.2.1.19 Syntax: StorageType	Read-only	Indicates the storage type for this object. Conceptual rows having the value "permanent" need not allow write-access to any columnar objects in the row.
bfdSessRowStatus brcdIp.3.3.1.1.2.1.20 Syntax: RowStatus	Read-only	Creates, modifies, or deletes a row in this table. When a row in this table has a row in the active(1) state, no objects in this row can be modified except bfdSessRowStatus and bfdSessStorageType.
bfdSessAuthPressFlag brcdIp.3.3.1.1.2.1.21 Syntax: TruthValue	Read-only	Indicates if the device wants the BFD sessions to be authenticated: • true(1) - BFD sessions will be authenticated. • false(0) - BFD sessions will not be authenticated.
bfdSessAuthenticationType brcdIp.3.3.1.1.2.1.22 Syntax: Integer	Read-only	Indicates the authentication type used for this BFD session, if BFD sessions are authenticated: • simplePassword(1) • keyedMD5(2) • meticulousKeyedMD5(3) • keyedSHA1(4) • meticulousKeyedSHA1(5)

BFD session performance table

This table specifies the performance counters for BFD sessions.

Name, OID, and syntax	Access	Description
bfdSessPerfTable	None	The BFD session performance table.

Name, OID, and syntax	Access	Description
brcdIp.3.3.1.1.3		
bfdSessPerfPktIn brcdIp.3.3.1.1.3.1.1 Syntax: Counter32	Read-only	The total number of BFD messages received for this BFD session.
bfdSessPerfPktOut brcdIp.3.3.1.1.3.1.2 Syntax: Counter32	Read-only	The total number of BFD messages sent for this BFD session.
bfdSessPerfUpTime brcdIp.3.3.1.1.3.1.3 Syntax: TimeStamp	Read-only	The value of sysUpTime on the most recent occasion at which the session came up. If no such up event exists, this object contains a zero value.
bfdSessPerfLastSessDownTime brcdIp.3.3.1.1.3.1.4 Syntax: TimeStamp	Read-only	The value of sysUpTime on the most recent occasion at which the last time communication was lost with the neighbor. If no such down event exists, this object contains a zero value.
bfdSessPerfLastCommLostDiag brcdIp.3.3.1.1.3.1.5 Syntax: BfdDiag	Read-only	The BFD diag code for the last time communication was lost with the neighbor. If no such down event exists, this object contains a zero value.
bfdSessPerfSessUpCount brcdIp.3.3.1.1.3.1.6 Syntax: Counter32	Read-only	The number of times this session has gone into the up state since the router last rebooted.
bfdSessPerfDiscTime brcdIp.3.3.1.1.3.1.7 Syntax: TimeStamp	Read-only	The value of sysUpTime on the most recent occasion at which any one or more of the session counters suffered a discontinuity. The relevant counters are the specific instances associated with this BFD session of any Counter32 object contained in BfdSessPerf Table. If no such discontinuities have occurred since the last re-initialization of the local management subsystem, then this object contains a zero value.
bfdSessPerfPktInHC brcdIp.3.3.1.1.3.1.8 Syntax: Counter64	Read-only	This value represents the total number of BFD messages received for this BFD session. It must be equal to the least significant 32 bits of bfdSessPerfPktIn if bfdSessPerfPktInHC is supported according to the rules spelled out in RFC 2863.
bfdSessPerfPktOutHC brcdIp.3.3.1.1.3.1.9 Syntax: Counter64	Read-only	This value represents the total number of BFD messages transmitted for this BFD session. It must be equal to the least significant 32 bits of bfdSessPerfPktIn if bfdSessPerfPktOutHC is supported according to the rules spelled out in RFC 2863.

BFD session mapping table

The BFD session mapping table maps the complex indexing of the BFD sessions to the flat BFDIndex used in the BfdSessionTable.

Name, OID, and syntax	Access	Description
BfdSessMapTable	None	The BFD session mapping table.

Name, OID, and syntax	Access	Description
brcdIp.3.3.1.1.4		**NOTE** If the value of the bfdSessAddr (an OID) has more that 111 sub-identifiers, then OIDs of column instances in this table will have more than 128 sub-identifiers and cannot be accessed using SNMPv1, SNMPv2c, or SNMPv3.
bfdSessMapBfdIndex brcdIp.3.3.1.1.4.1.1 Syntax: Unsigned32	Read-only	Specifies the BFD index referred to by the indexes of this row. In essence, a mapping is provided between these indexes and the BFD session table.

BFD scalar objects

The following table presents the BHFD scalar objects that are supported.

Name, OID, and syntax	Access	Description
bfdAdminStatus brcdIp.3.3.1.1.1.1 Syntax: Integer	Read-only	The global administrative status of BFD in this router: • enabled(1) - BFD process is active on at least one interface. • disabled(2) - BFD is disabled on all interfaces. Default: enabled(1)
bfdSessNotificationsEnable brcdIp.3.3.1.1.1.4 Syntax: TruthValue	Read-write	Indicates if notification messages are sent when BFD sessions are up and when they are down: • true(1) - Notification messages are sent. • false(2) - Notifications messages are not sent. Default: false(2)

Trap MIB Definition

Objects to enable or disable standard traps

NOTE
By default, all the traps are enabled.

The following objects from RFC 1213 are the standard objects that are supported in the Unified IP MIB. They are used to set SNMP traps.

Name, OID, and syntax	Access	Description
snmpInTraps 1.3.6.1.2.1.11.19	Read-only	Shows the total number of SNMP trap PDUs that have been accepted and processed by SNMP.
snmpOutTraps 1.3.6.1.2.1.11.29	Read-only	Shows the total number of SNMP trap PDUs that have been generated by SNMP.
snmpEnableAuthenTraps 1.3.6.1.2.1.11.30	Read-write	Indicates if the SNMP agent process is permitted to generate authentication failure traps. The value of this object overrides any configuration information. This objects provides a way to disable all authentication failure traps. NOTE It is strongly recommended that this object to be stored in the nonvolatile memory so that it remains constant between re-initializations of the network management system.
lldpRemTablesChange 1.0.8802.1.1.2.1.4.1	None	An lldpRemTablesChange notification is sent when the value of lldpStatsRemTableLastChangeTime changes. It can be used by an NMS to trigger LLDP remote systems table maintenance polls. NOTE Transmission of lldpRemTablesChange notifications is throttled by the agent, as specified by the lldpNotificationInterval object.
lldpXMedTopologyChangeDetected 1.0.8802.1.1.2.1.5.4795.0.1	None	Allows a device to transfer information related to topology changes to management applications in an asynchronous manner. Specifically, this enables notification of the fact that a new remote device was connected to the local port of an LLDP-MED network connectivity device, or that a remote device was removed from the local port. The purpose of this notification is efficient,

Name, OID, and syntax	Access	Description
		near-real-time transmission of information regarding moves and changes to the management applications. Information carried by the list of objects (varbind) contained in the notification allows the receiving management application to uniquely identify the local port where the topology change occurred, as well as the device capability of the remote endpoint device that was attached to or removed from the port.

Standard traps

This section describes the supported standard traps.

System status traps

Extreme supports the following traps from RFC 1215 and RFC 2863.

Trap name and number	Varbind	Description
coldStart 1.3.6.1.6.3.1.1.5.1	None	Indicates that the sending protocol entity is reinitializing itself; the agent's configuration or the protocol entity implementation may be altered.
warmStart 1.3.6.1.6.3.1.1.5.2	None	Indicates that the sending protocol entity is reinitializing itself; however, the agent configuration or the protocol entity implementation is not altered.
linkDown 1.3.6.1.6.3.1.1.5.3	ifEntry.ifIndex, ifEntry.ifDescr, ifEntry.ifAdminStatus, ifEntry.ifOperStatus, ifXEntry.ifAlias	A linkDown trap signifies that the SNMP entity acting in an agent role, has detected that the ifOperStatus object for one of its communication links is about to enter the down state from some other state (but not from the notPresent state). This other state is indicated by the included value of ifOperStatus.
linkUp 1.3.6.1.6.3.1.1.5.4	ifEntry.ifIndex, ifEntry.ifDescr, ifEntry.ifAdminStatus, ifEntry.ifOperStatus, ifXEntry.ifAlias	A linkUp trap signifies that the SNMP entity acting in an agent role, has detected that the ifOperStatus object for one of its communication links left the down state and transitioned into some other state (but not into the notPresent state). This other state is indicated by the included value of ifOperStatus.
authenticationFailure 1.3.6.1.6.3.1.1.5.5	None	Indicates that the sending protocol entity is the addressee of a protocol message that is not properly authenticated. While implementations of SNMP must be capable of generating this trap, they must also be capable of suppressing the emission of such traps through an implementation-specific mechanism.

Traps for STP

Extreme supports the following traps for Spanning Tree Protocol (STP) from RFC 1493.

Trap name and number	Description
newRoot 1.3.6.1.2.1.17.0.1	Indicates that the sending agent has become the new root of the Spanning Tree. The trap is sent by a bridge soon after its election as the new root, for example, upon expiration of the Topology Change Timer immediately subsequent to its election.
topologyChange 1.3.6.1.2.1.17.0.2	Sent by a bridge when any of its configured ports transitions from the Learning state to the Forwarding state, or from the Forwarding state to the Blocking state. The trap is not sent if a newRoot trap is sent for the same transition.

Traps for alarms

Extreme supports the following traps for alarms from RFC 1757.

NOTE

On XMR Series and MLX Series devices, the RFC 1757 has been obsoleted by RFC 2819. The following traps are not supported on the MLX Series devices.

Trap name and number	Description
alarmRisingThreshold 1.3.6.1.2.1.16.3.1.1.7	A threshold for the sampled statistic. This object generates an event when the current sampled value is greater than or equal to this threshold, and the value at the last sampling interval was less than this threshold. This object also generates an event if the first sample after this entry becomes valid is greater than or equal to this threshold and the associated alarmStartupAlarm is equal to risingAlarm(1) or risingOrFallingAlarm(3). After a rising event is generated, another such event will not be generated until the sampled value falls below this threshold and reaches the alarmFallingThreshold.
alarmFallingThreshold 1.3.6.1.2.1.16.3.1.1.8	A threshold for the sampled statistic. This object generates an event when the current sampled value is less than or equal to this threshold, and the value at the last sampling interval was greater than this threshold. This object also generates an event if the first sample after this entry becomes valid is less than or equal to this threshold and the associated alarmStartupAlarm is equal to fallingAlarm(2) or risingOrFallingAlarm(3). After a falling event is generated, another such event will not be generated until the sampled value rises above this threshold and reaches the alarmRisingThreshold.

Pseudo wire traps

The following are the PW traps.

NOTE

The following traps are supported on the XMR Series, MLX Series, and MLX Series devices.

Additional MPLS-related traps are listed in GUID-0DDCFC7F-7533-4FB9-8273-1576F965A2B0, and MPLS/RSVP-signaled LSP notifications on page 596.

Trap name and number	Supported?	Varbind	Description
pwDown brcdIp.3.1.2.0.1	Yes	pwOperStatus (for start of range) pwOperStatus (for end of range) fdryPWServiceType	This notification is generated when the pwOperStatus object for one or more contiguous entries in pwTable are about to enter the down(2) state from some other state. The included values of pwOperStatus must all be set equal to this down(2) state. On the MLX Series, MLX Series, XMR Series, CES 2000 Series, and CER 2000 Series devices, this object is available for VPLS, VLL, and VLL local services.
pwUp brcdIp.3.1.2.0.2	Yes	pwOperStatus (for start of range) pwOperStatus (for end of range) fdryPWServiceType	This notification is generated when the pwOperStatus object for one or more contiguous entries in pwTable are about to enter the up(1) state from some other state. On the MLX Series, MLX Series, XMR Series, CES 2000 Series, and CER 2000 Series devices, this object is available for VPLS, VLL, and VLL local services.
pwDeleted brcdIp.3.1.2.0.3	Yes	pwID pwPeerAddrType pwPeerAddr fdryPWServiceType pwName	This notification is generated when the PW has been deleted. **NOTE** The pwname varbind is an extension added by Extreme; it is not a part of the Draft PW MIB Version 11. On the MLX Series, MLX Series, XMR Series, CES 2000 Series, and CER 2000 Series devices, this object is available for VPLS, VLL, and VLL local services.

MPLS Layer 3 VPN traps

The following table lists the MPLS Layer 3 VPN traps.

Trap name	Supported?	Varbind	Description
mplsL3VpnVrfUp 1.3.6.1.2.1.10.166.11.0.1	Yes	mplsL3VpnIfConfRowStatus, mplsL3VpnVrfOperStatus	Generated when ifOperStatus of any interface within the VRF changes to the up state.
mplsL3VpnVrfDown 1.3.6.1.2.1.10.166.11.0.2	Yes	mplsL3VpnIfConfRowStatus, mplsL3VpnVrfOperStatus	Generated when ifOperStatus of any interface within the VRF changes to the down state.

Trap name	Supported?	Varbind	Description
mplsL3VpnVrfRouteMidThreshExceeded 1.3.6.1.2.1.10.166.11.0.3	No	mplsL3VpnVrfPerfCurrNumRoutes, mplsL3VpnVrfConfMidRteThresh	This notification is generated when the number of routes contained by the specified VRF exceeds the value indicated by mplsL3VpnVrfMidRouteThreshold. A single notification must be generated when this threshold is exceeded, and no other notifications of this type should be issued until the value of mplsL3VpnVrfPerfCurrNumRoutes has fallen below that of mplsL3VpnVrfConfMidRteThresh.
mplsL3VpnVrfNumVrfRouteMaxThreshExceeded 1.3.6.1.2.1.10.166.11.0.4	No	mplsL3VpnVrfPerfCurrNumRoutes, mplsL3VpnVrfConfHighRteThresh	This notification is generated when the number of routes contained by the specified VRF exceeds or attempts to exceed the maximum allowed value as indicated by mplsL3VpnVrfMaxRouteThreshold. In cases where mplsL3VpnVrfConfHighRteThresh is set to the same value as mplsL3VpnVrfConfMaxRoutes, mplsL3VpnVrfConfHighRteThresh need not be exceeded; rather, just reached for this notification to be issued. Note that the mplsL3VpnVrfConfRteMxThrshTime object denotes the interval at which this notification will be reissued after the maximum value has been exceeded (or reached if mplsL3VpnVrfConfMaxRoutes and mplsL3VpnVrfConfHighRteThresh are equal) and the initial notification has been issued. This value is intended to prevent continuous generation of notifications by an agent in the event that routes are continually added to a VRF after it has reached its maximum value. The default value is 0 minutes. If this value is set to 0, the agent should only issue a single notification at the time that the maximum threshold has been reached, and should not issue any more notifications until the value of routes has fallen below the configured threshold value.
mplsL3VpnNumVrfSecIllglLblThrshExcd 1.3.6.1.2.1.10.166.11.0.5	No	mplsL3VpnVrfSecIllegalLblVltns	This notification is generated when the number of illegal label violations on a VRF as indicated by mplsL3VpnVrfSecIllegalLblVltns has exceeded mplsL3VpnIllLblRcvThrsh. The threshold is not included in the varbind here because the value of mplsL3VpnVrfSecIllegalLblVltns should be one greater than the threshold at the time this notification is issued.
mplsL3VpnNumVrfRouteMaxThreshCleared 1.3.6.1.2.1.10.166.11.0.6	No	mplsL3VpnVrfPerfCurrNumRoutes, mplsL3VpnVrfConfHighRteThresh	This notification is generated only after the number of routes contained by the specified VRF exceeds or attempts to exceed the maximum allowed value as indicated by mplsVrfMaxRouteThreshold, and then falls below this value. The notification informs the operator that the error condition has been cleared without the operator having to query the device. Note that the mplsL3VpnVrfConfRteMxThrshTime object denotes the interval at which the mplsNumVrfRouteMaxThreshExceeded notification will be reissued after the maximum value has been exceeded (or reached if mplsL3VpnVrfConfMaxRoutes and mplsL3VpnVrfConfHighRteThresh are equal) and the initial notification has been issued. Thus, the generation of this notification should also be emitted with this same frequency (assuming that the error condition is cleared). Specifically, if the error condition is reached and cleared several times during the period of time specified in mplsL3VpnVrfConfRteMxThrshTime, only a single notification is issued to indicate the first instance of the error condition as well as the first time the error condition is cleared. This behavior is intended to prevent continuous generation of notifications by an agent in the event that routes. This notification is generated only after the number of routes contained by the specified VRF exceeds or attempts to exceed

Trap name	Supported?	Varbind	Description
			the maximum allowed value as indicated by mplsVrfMaxRouteThreshold, and then falls below this value. The default value is 0. If this value is set to 0, the agent should issue a notification whenever the maximum threshold has been cleared.

Proprietary traps

This section presents the proprietary traps supported on devices running proprietary software.

NOTE
The traps in the proprietary MIBs include the following lines in their description:--#TYPE "Extreme Trap: Power Supply Failure"--#SUMMARY "Power supply fails, error status %d."--#ARGUMENTS { 0 }--#SEVERITY MINOR--#STATE OPERATIONAL

General traps

The table below lists the general traps generated by devices. Refer to the previous sections in this chapter to determine if traps for a feature must be enabled (for example, OSPF traps must be enabled) .

Trap name and number	Varbinds	Severity	Description and trap message
snTrapChasPwrSupply brcdIp.0.1 **NOTE** This object has been replaced by General traps and General traps **NOTE** This object is not supported on MLX Series, XMR Series, and MLX Series devices. It has been replaced by the General traps.	snChasPwrSupplyStatus	Minor	The power supply failed or is not operating normally. The value is a packed bit string; the power supply statuses are encoded into four bits (a nibble). The following shows the meaning of each bit: (Bit 0 is the least significant bit.) **Bit position and meaning** 4 to 31- Reserved 3 - Power Supply 2 DC (0=bad, 1=good). 2 - Power Supply 1 DC (0=bad, 1=good). 1 - Power Supply 2 present status (0-present, 1-not present). 0 - Power Supply 1 present status (0-present, 1-not present). **Sample trap message:** `Power supply fails, error status <snChasPwrSupplyStatus>`
snTrapLockedAddressViolation brcdIp.0.2 **NOTE** This object is not supported on the MLX Series, XMR Series, MLX Series, CES 2000 Series, and CER 2000 Series devices.	snSwViolatorPortNumber snSwViolatorMacAddress	Minor	The number of source MAC addresses received from a port is greater than the maximum number of addresses configured for that port. **Sample trap message:** `Lock address violation on Port <snSwViolatorPortNumber> with MAC Address <snSwViolatorMacAddress>`
snTrapModuleInserted brcdIp.0.28	snAgentBrdIndex	Informational	A module was inserted into the chassis while the system is running.

Trap name and number	Varbinds	Severity	Description and trap message
			Sample trap message: `Module <snAgentBrdIndex> was inserted to the chassis during system running`
snTrapModuleRemoved brcdIp.0.29	snAgentBrdIndex	Informational	A module was removed from the chassis while the system is running. **Sample trap message:** `Module <snAgentBrdIndex> was removed from the chassis during system running`
snTrapChasPwrSupplyFailed brcdIp.0.30	snChasPwrSupplyIndex snChasPwrSupplyDescription	Minor	A power supply in the device failed. **Sample trap message:** `Power supply <snChasPwrSupplyIndex> {<snChasPwrSupplyDescription>)failed`
snTrapChasFanFailed brcdIp.0.31	snChasFanIndex snChasFanDescription	Minor	A fan in the device failed. **Sample trap message:** `Fan <snChasFanIndex> (<snChasFanDescription>) failed`
snTrapLockedAddressViolation2 brcdIp.0.32 **NOTE** This object is not supported on the MLX Series, XMR Series, MLX Series, CES 2000 Series, and CER 2000 Series devices.	snAgGblTrapMessage	Minor	The number of source MAC addresses received from a port is greater than the maximum number of addresses configured for that port. **Sample trap message:** `Locked address violation at interface Ethernet <port>, address <mac>`
snTrapMgmtModuleRedunStateChange brcdIp.0.35	snAgGblTrapMessage	Warning	The management module changed its redundancy state. **Sample trap message:** `Management module at slot <slot-num> state changed from <old-state> to <new-state>`
snTrapTemperatureWarning brcdIp.0.36	snAgGblTrapMessage	Critical	The actual temperature reading is above the warning temperature threshold. **Sample trap message:** `Temperature <actual-temp> C degrees, warning level <warning-temp> C degrees, shutdown level <shutdown-temp> C degrees`
snTrapAccessListDeny brcdIp.0.37	snAgGblTrapMessage	Warning	A packet was denied by an access list. **Sample trap message: (for RIP):** `rip filter list <id> in rip denied <IP>, <n> event(s)`
snTrapMacFilterDeny brcdIp.0.38	snAgGblTrapMessage	Warning	A packet was denied by a MAC address filter. **Sample trap message:** `mac filter group denied packets on port <n> src macaddr <mac>, <n> packets`
snTrapDuplicateIp brcdIp.0.56		Major	A duplicate IP address was detected. **Sample trap message:**

Trap name and number	Varbinds	Severity	Description and trap message
			`Duplicate IP address detect.`
snTrapNoBmFreeQueue brcdIp.0.61		Warning	There are no free queues available in the buffer manager. **Sample trap message:** `Slot <slot-num> {M1|M2|M3|M4|M5|MiniG} Free Queue decreases less than the desirable values 3 consecutive times.`
snTrapSmcDmaDrop brcdIp.0.62		Informational	An SMC DMA packet has been dropped. **Sample trap message:** `Slot <slot-num> SMC <dma-id> DMA Drop Counter is <drop-count>.`
snTrapSmcBpDrop brcdIp.0.63		Informational	An SMC BackPlane packet has been dropped. **Sample trap message:** `Slot <slot-num> BP <dma-id> DMA Drop Counter is <drop-count>.`
snTrapBmWriteSeqDrop brcdIp.0.64		Informational	A BM write-sequence packet has been dropped. **Sample trap message:** `Slot <slot-num> Write Sequence Drop <drop-count> within 30 seconds.`
snTrapRunningConfigChanged brcdIp.0.73	snAgGblTrapMessage	Informational	The running configuration has been changed. **Sample trap message:** `Running-config was changed from telnet.`
snTrapStartupConfigChanged brcdIp.0.74	snAgGblTrapMessage	Informational	The startup configuration has been changed. **Sample trap message:** `Startup-config was changed from console.`
snTrapUserLogin brcdIp.0.75	snAgGblTrapMessage	Informational	A user logged in to a device. **Sample trap message:** `<user1> login to USER EXEC mode.`
snTrapUserLogout brcdIp.0.76	snAgGblTrapMessage	Informational	A user logged out of a device. **Sample trap message:** `<user1> logout from USER EXEC mode.`
snTrapChasPwrSupplyOK brcdIp.0.81	snChasPwrSupplyIndex, snChasPwrSupplyDescription	Notification	The SNMP trap that is generated when a power supply operational status changes from failure to normal **Sample trap message:** `Power supply <device> OK`
snTrapClientLoginReject brcdIp.0.110	snAgGblTrapMessage	Informational	A login by a Telnet or SSH client failed. **Sample trap message:** `telnet|SSH access [by <username>] from src IP <ip>, src MAC <mac> rejected, <n> attempt(s)`
snTrapLocalUserConfigChange brcdIp.0.111	snAgGblTrapMessage	Informational	The configuration of a local user account has been changed. **Sample trap message:** `user <name> added|deleted|modified from console|telnet|ssh|web|snmp`

Trap name and number	Varbinds	Severity	Description and trap message
snTrapVlanConfigChange brcdIp.0.112	snAgGblTrapMessage	Informational	A VLAN configuration has been changed. **FSample trap message:** `vlan <vlan-id> added|deleted|modified from console|telnet|ssh|web|snmp session`
snTrapAclConfigChange brcdIp.0.113	snAgGblTrapMessage	Informational	An ACL configuration has been changed. **Sample trap message:** `ACL <acl-id> added|deleted|modified from console|telnet|ssh|web|snmp session`
snTrapMacFilterConfigChange brcdIp.0.114	snAgGblTrapMessage	Informational	A MAC filter configuration has been changed. **Sample trap message:** `MAC Filter <added|deleted> from console|telnet|ssh|web|snmp session (filter id=<id>, src mac=<mac>|any, dst mac=<mac>|any)`
snTrapSNMPConfigChange brcdIp.0.115	snAgGblTrapMessage	Informational	SNMP configuration has been changed. **Sample trap message:** `[read-only community|read-writecommunity|contact|location|user|group|view|engineId|trap host] "<value>"deleted|added|modified from console|telnet|ssh|web|snmp session` NOTE A contact, location, user, group, view, trap host name may be displayed for <value>.

snTrapSyslogConfigChange
brcdIp.0.116
	snAgGblTrapMessage	Informational	Syslog configuration has been changed.
			Sample trap message:
			`Syslog server <ip-address> deleted|added|modified from console|telnet|ssh|web|snmp`
			or
			`Syslog operation enabled|disabled from console|telnet|ssh|web|snmp`

snTrapPasswordConfigChange
brcdIp.0.117
	snAgGblTrapMessage	Informational	The enable or line password has been changed.
			Sample trap message:
			`Enable <super|port-config|read-only> password deleted|added|modified from console|telnet|ssh|web|snmp`
			`or`
			`Line password deleted|added|modified from console|telnet|ssh|web|snmp`

snTrapServerStatusChange brcdIp.0.118	snAgGblTrapMessage	Informational	SNMP trap server has been enabled or disabled. **Sample trap message:** `SSH|Telnet server enabled|disabled from console|telnet|ssh|web|snmp session [by <user> <username>]`
snTrapPortPriorityChange brcdIp.0.122	snAgGblTrapMessage	Informational	This trap is generated when a port's priority is changed. **Sample trap message:**

Trap name and number	Varbinds	Severity	Description and trap message
NOTE This object is not supported on the MLX Series, XMR Series, MLX Series, CES 2000 Series, and CER 2000 Seriesdevices.			`Port <port-number> priority changed to <new-priority>`
snTrapDot1xSecurityViolation brcdIp.0.131	snAgGblTrapMessage	Alert	This trap is generated when a malicious MAC address is detected.
snTrapDot1xPortLinkChange brcdIp.0.132	snAgGblTrapMessage	Notification	This trap is generated when a software port link status is changed to up or down.
snTrapDot1xPortControlChange brcdIp.0.133	snAgGblTrapMessage	Notification	This trap is generated when software port control status is changed to authorize or unauthorize.
snTrapDot1xVlanIdChange brcdIp.0.134	snAgGblTrapMessage	Notification	This trap is generated when VLAN ID of a port is changed.
snTrapDot1xFilterSetupFailure brcdIp.0.135	snAgGblTrapMessage	Notification	This trap is generated when software failed to setup a filter to a MAC address of a port.
snTrapDot1xError brcdIp.0.136	snAgGblTrapMessage	Debugging	This trap is generated when software detects system error.

snTrapPortConfigChange brcdIp.0.137	snAgGblTrapMessage	Informational	This trap is generated when interface configuration is changed.
			The following are the additional traps generated with the reason when the GRE tunnel interface is down:
			• **admin down**
			`PORT: tn1 disabled by user from console session.`
			• **delete**
			`PORT: tn1, removed ip address xx.xx.x.x by user from console session.`
			• **IP address remove**
			`PORT: tn1 down due to tunnel ip address removed.`
			• **source down**
			`PORT: tn1 down due to tunnel source interface down.`
			• **destination route not found**
			`PORT: tn1 down due to tunnel no destination route.`
			• **keepalive down**
			`PORT: tn1 down due to GRE keepalive.`
			• **recursive routing down**
			`PORT: tn1 down due to GRE recursive routing.`
			The following trap is generated when the GRE tunnel interface is UP and running.
			• **Tunnel UP Trap**
			`PORT: tn1 enabled by user from console session.`

snTrapChasFanNormal brcdIp.0.149	snChasFanIndex snChasFanDescription	Minor	The status of a fan has changed from fail to normal. **Sample trap message:** `Fan <snChasFanIndex> (<snChasFanDescription>) ok`

Trap name and number	Varbinds	Severity	Description and trap message
NOTE This object is not supported on the MLX Series, MLX Series, XMR Series, CES 2000 Series, and CER 2000 Seriesdevices.			
snTrapLACPLinkStateChange brcdIp.0.155	ifIndex, snAgGblTrapMessage	Notification	This trap is generated when LACP port changes its state.
snTrapPBRConfigChanged brcdIp.0.173	snAgGblTrapMessage	Alert	This trap is generated when a Policy Based Routing (PBR) routemap is bound or unbound either globally or to an interface..
snTrapSysmaxReverted brcdIp.0.178	snAgGblTrapMessage	Warning	This trap is generated when the revertible sysmax elements are reverted during the card bringup if they cannot be accomodated in the available memory.
snTrapSysmaxLeftLowMem brcdIp.0.179	snAgGblTrapMessage	Warning	This trap is generated when that the configured sysmax set can leave less than 10% available memory free during bootup.
snTrapSysMemoryLowThreshold brcdIp.0.180	snAgGblTrapMessage	Warning	This trap is generated when the available dynamic memory in a card is below 5% of the installed physical memory.
snTrapSysMemoryOutThreshold brcdIp.0.181	snAgGblTrapMessage	Warning	This trap is generated when the dynamic memory fails to be allocated in a system.
snTrapLinkOAMLinkDown brcdIp.0.182	ifIndex, snAgGblTrapMessage	Notification	This trap is generated when Link-OAM port link status is changed to down.
snTrapLinkOAMLinkUp brcdIp.0.183	ifIndex, snAgGblTrapMessage	Notification	This trap is generated when Link-OAM port link status is changed to up.
snTrapLinkOAMLoopbackEntered brcdIp.0.185	ifIndex, dot3OamLoopbackStatus, snAgGblTrapMessage	Notification	This trap is generated when Link-OAM port has entered the loopback mode. The link is not useful for data transfer any more.
snTrapLinkOAMLoopbackCleared brcdIp.0.186	ifIndex, dot3OamLoopbackStatus, snAgGblTrapMessage	Notification	This trap is generated when Link-OAM port has cleared the loopback mode.

Traps for optics

The following table presents the general optics traps on the MLX Series, XMR Series, MLX Series, CES 2000 Series, and CER 2000 Series devices.

Trap name and number	Varbinds	Severity	Description and trap message
snTrapOpticalMonitoringWarning brcdIp.0.1003	snAgGblTrapMessage	Warning	A warning occurred during optical monitoring. **Sample trap message:** `Latched high Temperature alarm, port <slot>/<port>`

Trap name and number	Varbinds	Severity	Description and trap message
snTrapOpticalMonitoringAlarm brcdIp.0.1004	snAgGblTrapMessage	Alerts	An alarm occurred during optical monitoring due to a low temperature in the device. **Sample trap message:** `Latched low Temperature alarm, port <slot>/<port>`

snTrapOpticalMonitoringError
brcdIp.0.1005
	snAgGblTrapMessage	Informational	An error occurred during optical monitoring.
			Samples trap message:
			`OPTICAL MONITORING: sys_create_timer failed, slot <n>, port mask <portmask>`
			`OPTICAL MONITORING: sys_set_timer failed, slot <n>, port mask <portmask>`
			`OPTICAL MONITORING: THRESHOLDS READ FAILED, port <slot>/<port>`
			`OPTICAL MONITORING: AUX AD TYPE READ FAILED, port <slot>/<port>"`
			`OPTICAL MONITORING: INT UNMASK ALL WRITE FAILED, port <slot>/<port>`
			`OPTICAL MONITORING: INT MASK WRITE FAILED, port <slot>/<port>`
			`OPTICAL MONITORING: XFP INT MASK WRITE FAILED, port <slot>/<port>`
			`OPTICAL MONITORING: port <slot>/<port>: sys_create_timer failed`
			`OPTICAL MONITORING: port <slot>/<port>:`
			`sys_create_timer2 failed`
			`OPTICAL MONITORING: port <slot>/<port>: sys_set_timer failed`

snTrapOpticalMonitoringError (continued)			`OPTICAL MONITORING: port <slot>/<port>, failed to get latched flags(<n>)` `OPTICAL MONITORING: port <slot>/<port>: sys_set_timer1 failed`
snTrapXfpSfpIncompatibleOptics brcdIp.0.1009	snAgGblTrapMessage	Alerts	The optics are incompatible with the port configuration.

Traps for Traffic Manager

The following table contains Traffic Manager traps that are supported on the Extreme NetIron devices.

Trap name and number	Varbinds	Severity	Description and trap message
snTrapTMLoggingStart brcdIp.0.1015	snAgGblTrapMessage	Informational	Traffic Manager logging started, triggerred by an event.
snTrapTMLoggingRestart brcdIp.0.1017	snAgGblTrapMessage	Informational	Traffic Manager logging restarted after the log was cleared.
snTrapTMRecoverySlotReset brcdIp.0.1019	snAgGblTrapMessage	Informational	This trap is generated when the Traffic Manager recovery slot reset is triggered.
snTrapTMEgressDataError brcdIp.0.1020	snAgGblTrapMessage	Major	This trap is generated when the system detects egress data errors on the Traffic Manager. **Sample trap message:** `Health Monitoring : TM Egress data errors detected on LP <num>/TM <num>`
snTrapSFMLoggingRestart brcdIp.0.1021	snAgGblTrapMessage	Informational	This trap is generated if SFM logging restarted after user clearing the log. **Sample trap message:** `Extreme Trap: SFM Logging Restart`
snTrapSFMLinkDown brcdIp.0.1100	snAgGblTrapMessage	Warning	A link from the LP Traffic Manager to an SFM Fabric Element is down. **Sample trap message:** `Fabric Monitoring Link Down : SFM <num>/FE <num>/ Link <num>, LP <num>/TM <num>`
snTrapSFMLinkUp brcdIp.0.1101	snAgGblTrapMessage	Informational	A link from the LP Traffic Manager to an SFM Fabric Element is up. **Sample trap message:** `Fabric Monitoring Link Up : SFM <num>/FE <num>/ Link <num>, LP <num>/TM <num>`
snTrapSFMAccessError brcdIp.0.1102	snAgGblTrapMessage	Major	This trap is generated when the system fails to access an SFM Fabric Element. **Sample trap message:** `Health Monitoring: FE accessfailure on SFM <num>/FE <num>`
snTrapSFMStatusChange brcdIp.0.1103	snAgentBrdIndex, snAgentBrdModuleStatus, snAgGblTrapMessage	Notification	The SNMP notification that is generated when there is a change in

Trap name and number	Varbinds	Severity	Description and trap message
			the operational state of the Switch Fabric Module (SFM). **NOTE** For 100G modules, the string SNM5/FE1/Link16 -> LP15/TM1/Link4 is changed to SNM5/FE1/Link16 -> LP15/FE1/Link4 in syslog or Traffic Manager log or in trap. **Sample trap message:** `System: Health Monitoring: SFM <num> powered off due to failure detection`

NP buffer error notifications

The following table contains Network Processor (NP) buffer error notifications that are supported only on the CES 2000 Series and CER 2000 Series devices.

Trap name and number	Varbinds	Severity	Description
brcdNPBufferErrorIngressThresholdExceeded brcdIp.1.14.2.0.1	brcdNPBufferErrorDescription, brcdNPBufferErrorIngressCurrentEvents	Alerts	The SNMP trap is generated when the NP ingress buffer error event count within a window exceeds the configured threshold value. **Sample trap message:** `Extreme Trap: NP ingress buffer has 11 error events, exceeding configured threshold for interfaces 1/1 to 1/24.`
brcdNPBufferErrorEgressThresholdExceeded brcdIp.1.14.2.0.2	brcdNPBufferErrorDescription, brcdNPBufferErrorEgressCurrentEvents	Alerts	The SNMP trap is generated when the NP egress buffer error event count within a window exceeds the configured threshold value. **Sample trap message:** `Extreme Trap: NP egress buffer has 11 error events, exceeding configured threshold for interfaces 1/1 to 1/24.`
brcdNPCSRAMErrorThresholdExceeded brcdIp.1.14.2.0.3	brcdNPCSRAMErrorDescription, brcdNPCSRAMErrorCurrentEvents	Alerts	The SNMP trap is generated when the NP CSRAM error event count within a window exceeds the configured threshold value. **Sample trap message:** Extreme Trap: NP CSRAM has 11 error events, exceeding configured threshold for interfaces 1/1 to 1/24.

Trap name and number	Varbinds	Severity	Description
brcdNPLPMRAMErrorThresholdExceeded brcdIp.1.14.2.0.4	brcdNPLPMRAMErrorName, brcdNPLPMRAMErrorDescription, brcdNPLPMRAMErrorCurrentEvents	Alerts	The SNMP trap is generated when the NP LPM RAM error event count within a window exceeds the configured threshold value. **Sample trap message:** Extreme Trap: NP LPMRAM has 11 error events, exceeding configured threshold for interfaces 1/1 to 1/24.

Traps for NP memory error monitoring

The following table contains Network Processor (NP) error notifications that are supported only on the MLX Series, MLX Series, and XMR Series devices.

Trap name and number	Varbinds	Severity	Description
brcdNPMemoryParityErrorTrap brcdIp.1.14.2.0.6	brcdNPNotificationSupportDescription, brcdNPNotificationSupportErrorType	Alerts	The SNMP trap that is generated when a memory parity error occurs in a NP device. Sample trap message: Extreme `Trap: Memory parity error on NP device`
brcdNPMemoryMiscErrorTrap brcdIp.1.14.2.0.7	brcdNPNotificationSupportDescription, brcdNPNotificationSupportErrorType	Alerts	The SNMP trap that is generated when a miscellaneous memory error occurs in a NP device. Sample trap message: Extreme `Trap: Memory Miscellaneous error on NP device`
brcdNPBuffOverFlowErrorTrap brcdIp.1.14.2.0.8	brcdNPNotificationSupportDescription, brcdNPNotificationSupportErrorType	Alerts	The SNMP trap that is generated when a buffer overflow error occurs in a NP device. Sample trap message: Extreme `Trap: Buffer Overflow error on NP device`
brcdNPBuffUnderFlowErrorTrap brcdIp.1.14.2.0.9	brcdNPNotificationSupportDescription, brcdNPNotificationSupportErrorType	Alerts	The SNMP trap that is generated when a buffer underflow error occurs in a NP device. Sample trap message: Extreme `Trap: Buffer underflow error on NP device`
brcdNPECCSingleErrorTrap brcdIp.1.14.2.0.10	brcdNPNotificationSupportDescription, brcdNPNotificationSupportErrorType	Warning	The SNMP trap that is generated when a single ECC error occurs in a NP device. Sample trap message: Extreme `Trap: ECC single error on NP device"`

Trap name and number	Varbinds	Severity	Description
brcdNPECCMultipleErrorTrap brcdIp.1.14.2.0.11	brcdNPNotificationSupportDescription, brcdNPNotificationSupportErrorType	Alerts	The SNMP trap that is generated when multiple ECC error occurs in a NP device. Sample trap message: Extreme `Trap: Multiple ECC error on NP device`

Traps for Data Integrity Protection

The following new traps are added to report the CSRAM and LPMRAM errors on the CES 2000 Series and CER 2000 Series devices.

Trap name and number	Varbinds	Severity	Description
brcdNPCSRAMErrorThresholdExceeded brcdIp.1.14.2.0.3	brcdNPCSRAMErrorDescription, brcdNPCSRAMErrorCurrentEvents	Alerts	The SNMP trap that is generated when the Network Processor CSRAM error event count within a window exceeds the configured threshold. Sample syslog message: `NP CSRAM has 4 error events, exceeding configured threshold for interfaces 1/1 to 1/24.`
brcdNPLPMRAMErrorThresholdExceeded brcdIp.1.14.2.0.4	brcdNPLPMRAMErrorName, brcdNPLPMRAMErrorDescription, brcdNPLPMRAMErrorCurrentEvents	Alerts	The SNMP trap that is generated when the Network Processor LPMRAM error event count within a window exceeds the configured threshold. Sample syslog message: `NP LPM 1 has 4 error events, exceeding configured threshold for interfaces 1/1 to 1/24.`

Packet over SONET traps

The following contains packet over SONET traps that are supported on the Extreme NetIron devices.

Trap name and number	Varbinds	Severity	Description
snTrapPosMonitoringWarning brcdIp.0.1006	snAgGblTrapMessage	Informational	A warning occurred during POS alarm monitoring.
snTrapPosMonitoringAlarm brcdIp.0.1007	snAgGblTrapMessage	Alert	An alarm up or alarm down incident occurred during POS alarm monitoring.
snTrapPosMonitoringError brcdIp.0.1008	snAgGblTrapMessage	Informational	An error occurred during POS alarm monitoring.

MCT notifications

The following traps are generated for the MCT objects supported only on the MLX Series, XMR Series, MLX Series, CES 2000 Series, and CER 2000 Series devices.

Use the **[no]snmp-server enable traps** command to enable or disable MCT notifications.

Trap name and number	Varbinds	Severity	Description and trap message
brcdMctClusterPeerStatus brcdIp.1.1.12.1.0.1	brcdMctClusterPeerOperStatus, brcdMctClusterPeerDownReason	Notification	Generates when the brcdMctClusterPeerOperStatus object for peer entry in brcdMctClusterPeerTable changes the state to ccpUp(2), ccpDown(3), or reachable(4) from any other state.
brcdMctClusterClientStatus brcdIp.1.1.12.1.0.2	brcdMctClusterClientOperStatus	Notification	Generates when the brcdMctClusterClientOperStatus object for peer entry in brcdMctClusterClientTable changes the state to remoteUp(4), localUp(5), up(6), slave(7), master(8), or masterPeerUp(9) from any other state. **Sample syslog message:** `Extreme-MCT-CLUSTER-MIB:brcdMctClusterClientOperStatus. 10.99.108.105.101.110.116.49 : (up) Syntax: INTEGER, Instance IDs: (10 client1)` **NOTE** The change in the cluster peer state from ccpUp(2) to ccpDown(3) or vice versa changes the state of all the clients. This creates the brcdMctClusterClientStatus notification storm. The brcdMctClusterClientStatus notification will not be sent when the client state change happens due to a cluster peer state change from ccpUp(2) to ccpDown(3) or vice versa.

Auto-HSFM walk notifications

The following traps are generated for the SFM objects supported only on the MLX Series, MLX Series, and XMR Series devices.

Use the **[no]sysmon sfm walk** command to enable or disable SFM notifications.

Trap name and number	Varbinds	Severity	Description and trap message
brcdFabricAutoSFMWalkInitiated brcdIp.1.1.13.1.0.1	snAgentBrdIndex	Alerts	The SNMP trap that is generated when SFM walk is started.

Trap name and number	Varbinds	Severity	Description and trap message
			Sample format: `Extreme Trap: SFM walk initialized`
brcdFabricSFMRemovedFromDatapath brcdIp.1.1.13.1.0.2	snAgentBrdIndex	Alerts	The SNMP trap that is generated when an Error - SFM removed from data path based on SFM walk. Sample format: `Extreme Trap: SFM removed from data path`

MEF Service OAM notifications

The following are the Metro Ethernet Forum (MEF) Service OAM (SOAM) traps.

NOTE
The following traps are supported on the MLX Series, MLX Series, XMR Series, CES 2000 Series, and CER 2000 Series devices.

Trap name and number	Supported?	Varbind	Description
mefSoamDmSessionStartStop 1.3.6.1.4.1.15007.1.3.0.3	Yes	mefSoamDmCfgSessionStatus, mefSoamNotificationDateAndTime	Generated when the state of the delay measurement (DM) session changes. The notification is sent when the DM session is started and stopped. Sample trap message: `DOT1AG: The CFM session started for MA index 1, MD index 1, MEP id 1`
mefSoamDmThresholdCrossing 1.3.6.1.4.1.15007.1.3.0.5	Yes	mefSoamThresholdNotificationId, mefSoamThresholdNotificationCfg, mefSoamThresholdNotificationCount, mefSoamThresholdSuspect, mefSoamNotificationDateAndTime	Generated when the value of the crossing object from the mefSoamDmThresholdTable (as indicated by the mefSoamThresholdNotificationId) is exceeded during the current measurement interval. The notification is sent when the threshold crosses as per mefSoamDmThresholdCrossing. Sample trap message: `DOT1AG: The CFM session for MA index 1, MD index 1, MEP id 1 has crossed the maximum threshold value`
mefSoamLmSessionStartStop 1.3.6.1.4.1.15007.1.3.0.2	Yes	mefSoamLmCfgSessionStatus mefSoamNotificationDateAndTime	Generated when the state of the loss measurement (LM) session changes. The notification is sent when the LM session is started and stopped. Sample trap message: `The SLM session started for MA index 1, MD index`

Trap name and number	Supported?	Varbind	Description
			`1, MEP id 11 Session index 1`
mefSoamLmThresholdCrossing 1.3.6.1.4.1.15007.1.3.0.4	Yes	mefSoamThresholdNotificationId mefSoamThresholdNotificationCfg mefSoamThresholdNotificationCount mefSoamThresholdSuspect mefSoamNotificationDateAndTime	Generated when the value of the crossing object from the mefSoamLmThresholdTable (as indicated by the mefSoamThresholdNotificationId) is exceeded during the current measurement interval. Sample trap message: `The LMM session started for MA index 1, MD index 1, MEP id 11 Session index 1 has crossed the maximum threshold value.`

VRRP traps

The following table contains VRRP trap that can be used only by the devices that support VRRP.

Trap name and number	Varbinds	Severity	Description and trap message
snTrapVrrpIfStateChange brcdIp.0.34	snAgGblTrapMessage	Warning	A VRRP routing device changed state from master to backup or vice versa. **Sample trap message:** `VRRP intf state changed, intf <port>, vrid <id>, state <new-state>.`

FSRP traps

The following traps can be used by the devices that support FSRP.

Trap name and number	Varbinds	Severity	Description and trap message
snTrapFsrpIfStateChange brcdIp.0.33	snAgGblTrapMessage	Informational	An FSRP routing device changed state from active to standby or vice versa. **Sample trap message:** `SRP_FSRP intf state changed, intf <port>, addr <ip>, state <new-state>.`

VSRP traps

The following traps can be used by the devices that support VSRP.

Trap name and number	Varbinds	Severity	Description
snTrapVsrpStateChange brcdIp.0.83	snAgGblTrapMessage	Informational	A VSRP routing device changed its state.

Trap name and number	Varbinds	Severity	Description
snTrapVsrpCamError brcdIp.0.84	snAgGblTrapMessage	Informational	A VSRP CAM error has occurred.

BUM rate limit traps

The following BUM rate limit traps are supported on the Extreme NetIron devices.

Trap name and number	Varbinds	Severity	Description
snTrapBUMratelimit AlertLowThreshold brcdIp.1.1.3.16.1.5.1	agRateLimitBUM CounterCIR, agRateLimitBUM CounterAlertLowLevel Threshold	Informational	A snTrapBUMratelimitAlert LowThreshold trap signifies that the ingress packets in terms of bits have reached the configured low level threshold.
snTrapBUMratelimit AlertHighThreshold brcdIp.1.1.3.16.1.5.2	agRateLimitBUM CounterCIR, agRateLimitBUM CounterAlertHighLevel Threshold	Informational	A snTrapBUMratelimitAlert HighThreshold trap signifies that the ingress packets in terms of bits, have reached the configured high level threshold.
snTrapBUMratelimit ShutdownLinkDown brcdIp.1.1.3.16.1.5.3	agRateLimitBUM CounterCIR	Informational	A snTrapBUMratelimit ShutdownLinkDown trap signifies that the port is shutdown after reaching the configured CIR in bps.
snTrapBUMratelimit ShutdownLinkUp brcdIp.1.1.3.16.1.5.4	agRateLimitBUM CounterCIR	Informational	A snTrapBUMratelimitAlert HighThreshold trap signifies that the port is up after the specified shutdown timeout in minutes.

OSPF traps

The MLX Series, XMR Series, MLX Series, CES 2000 Series, and CER 2000 Series devices support RFC 1850 and the objects in the following table are not supported.

NOTE
You must configure the **log adjacency** command under the "router ospf" mode to see traps for the following objects: ospfIfStateChange trap ospfNbrStateChange trap ospfVirtIfStateChange trap ospfVirtNbrStateChange trap

Trap name and number	Varbinds	Severity	Description and trap message
snTrapOspfIfStateChange 1.3.6.1.2.1.14.16.2.3	snOspfRouterId (The originator of the trap) snOspfIfStatusIpAddress snOspfIfStatusState (The new state)	Informational	There has been a change in the state of a non-virtual OSPF interface. This trap should be generated when the interface state regresses (for example, goes from Dr to Down) or progresses to a terminal state (for example, Point-to-Point, DR Other, Dr, or Backup). NOTE You must configure the **log adjacency** command under the "router ospf" mode to see traps.

Trap name and number	Varbinds	Severity	Description and trap message
			Sample trap message: `OSPF router id <snOspfRouterId>, interface <snOspfIfStatusIpAddress> state changed to <snOspfIfStatusState>.`
snTrapOspfVirtIfStateChange 1.3.6.1.2.1.14.16.2.4	snOspfRouterId (The originator of the trap) snOspfVirtIfStatusAreaID snOspfVirtIfStatusNeighbor snOspfVirtIfStatusState (The new state)	Informational	There has been a change in the state of an OSPF virtual interface. This trap should be generated when the interface state regresses (for example, goes from Point-to-Point to Down) or progresses to a terminal state (for example, Point-to-Point). **NOTE** You must configure the **log adjacency** command under the "router ospf" mode to see traps. **Sample trap message:** `OSPF router id <snOspfRouterId>, virtual interface area id <snOspfVirtIfStatusAreaID> neighbor <snOspfVirtIfStatusNeighbor> state changed to <snOspfVirtIfStatusState>.`
snOspfNbrStateChange 1.3.6.1.2.1.14.16.2.5	snOspfRouterId (The originator of the trap) snOspfNbrIpAddr snOspfNbrRtrId snOspfNbrState (The new state)	Informational	There has been a change in the state of a non-virtual OSPF neighbor. This trap should be generated when a neighbor state regresses (for example, goes from Attempt or Full to 1-Way or Down) or progresses to a terminal state (for example, 2-Way or Full). When an neighbor transitions from or to Full on non-broadcast multi-access and broadcast networks, the trap should be generated by the designated router. A designated router transitioning to Down will be noted by ospfIfStateChange. **NOTE** You must configure the **log adjacency** command under the "router ospf" mode to see traps. **Sample trap message:** `OSPF router id <snOspfRouterId> neighbor area`

Trap name and number	Varbinds	Severity	Description and trap message
			`<snOspfNbrIpAddr>,neighbor router id <snOspfNbrRtrId> state changed to <snOspfNbrState>.`
snOspfVirtNbrStateChange 1.3.6.1.2.1.14.16.2.6	snOspfRouterId (The originator of the trap) snOspfVirtNbrArea snOspfVirtNbrRtrId snOspfVirtNbrState (The new state)	Informational	There has been a change in the state of an OSPF virtual neighbor. This trap should be generated when the neighbor state regresses (for example, goes from Attempt or Full to 1-Way or Down) or progresses to a terminal state (for example, Full). **NOTE** You must configure the **log adjacency** command under the "router ospf" mode to see traps. **Sample trap message:** `OSPF router id <snOspfRouterId> virtual neighbor area <snOspfVirtNbrArea>, virtual neighbor router id <snOspfVirtNbrRtrId> state changed to <snOspfVirtNbrState>.`
snOspfIfConfigError 1.3.6.1.2.1.14.16.2.7	snOspfRouterId (The originator of the trap) snOspfIfStatusIpAddress snOspfPacketSrc (The source IP address) snOspfConfigErrorType (Type of error) snOspfPacketType	Major	A packet has been received on a non-virtual interface from a router whose configuration parameters conflict with this router's configuration parameters. **NOTE** The optionMismatch event should cause a trap only if it prevents an adjacency from forming. **Sample trap message:** `Configuration error type <snOspfConfigErrorType> with packet type <snOspfPacketType> has been received on interface <snOspfIfStatusIpAddress>, router id <snOspfRouterId> from <snOspfPacketSrc>.`
snOspfVirtIfConfigError 1.3.6.1.2.1.14.16.2.8	snOspfRouterId (The originator of the trap) snOspfVirtIfStatusAreaID snOspfVirtIfStatusNeighbor snOspfConfigErrorType (Type of error)	Major	A packet has been received on a virtual interface from a router whose configuration parameters conflict with this router's configuration parameters.

Trap name and number	Varbinds	Severity	Description and trap message
	snOspfPacketType		NOTE The optionMismatch event should cause a trap only if it prevents an adjacency from forming. **Sample trap message:** `Configuration error type <snOspfConfigErrorType> with packet type <snOspfPacketType> has been received on virtual interface area id <snOspfVirtIfStatusAreaID>, router id <snOspfRouterId> from neighbor <snOspfVirtIfStatusNeighbor>.`
snOspfIfAuthFailure 1.3.6.1.2.1.14.16.2.9	snOspfRouterId (The originator of the trap) snOspfIfStatusIpAddress snOspfPacketSrc (The source IP address) snOspfConfigErrorType (authTypeMismatch or authFailure snOspfPacketType	Minor	A packet has been received on a non-virtual interface from a router whose authentication key or authentication type conflicts with this router's authentication key or authentication type. **Sample trap message:** `OSPF authentication failed. Router ID <snOspfRouterId>, Interface <snOspfIfStatusIpAddress>, packet src <snOspfPacketSrc>, error type <snOspfConfigErrorType> and packet type <snOspfPacketType>.`
snOspfVirtIfAuthFailure 1.3.6.1.2.1.14.16.2.10	snOspfRouterId (The originator of the trap) snOspfVirtIfStatusAreaID snOspfVirtIfStatusNeighbor snOspfConfigErrorType (authTypeMismatch or authFailure) snOspfPacketType	Minor	A packet has been received on a virtual interface from a router whose authentication key or authentication type conflicts with this router's authentication key or authentication type. **Sample trap message:** `OSPF authentication failed. Router ID <snOspfRouterId>, virtual interface <snOspfVirtIfStatusAreaID>, Neigbor <snOspfVirtIfStatusNeighbor>, Error type <snOspfConfigErrorType> and packet type <snOspfPacketType>.`

Trap name and number	Varbinds	Severity	Description and trap message
snOspfIfRxBadPacket 1.3.6.1.2.1.14.16.2.11	snOspfRouterId (The originator of the trap) snOspfIfStatusIpAddress snOspfPacketSrc (The source IP address) snOspfPacketType	Warning	An OSPF packet has been received on a non-virtual interface that cannot be parsed. **Sample trap message:** `OSPF Router Id <snOspfRouterId>, interface <snOspfIfStatusIpAddress> receive bad packet (type <snOspfPacketType>) from <snOspfPacketSrc>.`
snOspfVirtIfRxBadPacket 1.3.6.1.2.1.14.16.2.12	snOspfRouterId (The originator of the trap) snOspfVirtIfStatusAreaID snOspfVirtIfStatusNeighbor snOspfPacketType	Warning	An OSPF packet has been received on a virtual interface that cannot be parsed. **Sample trap message:** `OSPF router id <snOspfRouterId>, virtual interface <snOspfVirtIfStatusAreaID> received bad packet (type <snOspfPacketType>) from neighbor <snOspfVirtIfStatusNeighbor>.`
snOspfTxRetransmit 1.3.6.1.2.1.14.16.2.13	snOspfRouterId (The originator of the trap) snOspfIfStatusIpAddress snOspfNbrRtrId (Destination) snOspfPacketType snOspfLsdbType snOspfLsdbLsId snOspfLsdbRouterId	Warning	An OSPF packet has been retransmitted on a non-virtual interface. All packets that may be retransmitted are associated with an LSDB entry. The LS type, LS ID, and Router ID are used to identify the LSDB entry. **Sample trap message:** `OSPF router id <snOspfRouterId> interface <snOspfIfStatusIpAddress> retransmitted packet type <snOspfPacketType>,LSDB type <snOspfLsdbType>, LSDB LS ID <snOspfLsdbLsId> and LSDB router id <snOspfLsdbRouterId> to Neighbor router id <snOspfNbrRtrId>.`
ospfVirtIfTxRetransmit 1.3.6.1.2.1.14.16.2.14	snOspfRouterId (The originator of the trap) snOspfVirtIfStatusAreaID snOspfVirtIfStatusNeighbor snOspfPacketType snOspfLsdbType snOspfLsdbLsId snOspfLsdbRouterId	Warning	An OSPF packet has been retransmitted on a virtual interface. All packets that may be retransmitted are associated with an LSDB entry. The LS type, LS ID, and Router ID are used to identify the LSDB entry. **Sample trap message:** `OSPF router id <snOspfRouterId>, virtual interface area id`

Trap name and number	Varbinds	Severity	Description and trap message
			snOspfVirtIfStatusAreaID> retransmitted packet type <snOspfPacketType>,LSDB type <snOspfLsdbType>, LSDB LS ID <snOspfLsdbLsId> and LSDB router id <snOspfLsdbRouterId> to Neighbor <snOspfVirtIfStatusNeighbor>.
snOspfOriginateLsa 1.3.6.1.2.1.14.16.2.15	snOspfRouterId (The originator of the trap) snOspfLsdbAreaId (0.0.0.0 for AS Externals) snOspfLsdbType snOspfLsdbLsId snOspfLsdbRouterId	Informational	This router originated a new LSA. This trap should not be invoked for simple refreshes of LSAs (which happens every 30 minutes), but instead will only be invoked when an LSA is re-originated due to a topology change. Additionally, this trap does not include LSAs that are being flushed because they have reached MaxAge **Sample trap message:** New LSA (area id <snOspfLsdbAreaId>, type <snOspfLsdbType>, LS Id <snOspfLsdbLsId> and router id <snOspfLsdbRouterId>) has been originated by router id <snOspfRouterId>.
snOspfMaxAgeLsa 1.3.6.1.2.1.14.16.2.16	snOspfRouterId (The originator of the trap) snOspfLsdbAreaId (0.0.0.0 for AS Externals) snOspfLsdbType snOspfLsdbLsId snOspfLsdbRouterId	Warning	One of the LSAs in the router's link-state database has aged to MaxAge. **Sample trap message:** The LSA (area id <snOspfLsdbAreaId>, type <snOspfLsdbType>, LS Id <snOspfLsdbLsId> and router id <snOspfLsdbRouterId>) in router id <snOspfRouterId> link-state database has aged to maximum age.
snOspfLsdbOverflow 1.3.6.1.2.1.14.16.2.17	snOspfRouterId (The originator of the trap) snOspfExtLsdbLimit	Warning	The number of LSAs in the router's link-state database has exceeded the ospfExtLsdbLimit. **Sample trap message:** The number of LSAs in the OSPF router id <snOspfRouterId> link-state database has exceeded <snOspfExtLsdbLimit>.
snOspfLsdbApproachingOverflow 1.3.6.1.2.1.14.16.2.18	snOspfRouterId (The originator of the trap)	Informational	The number of LSAs in the router's link-state database has exceeded

Trap name and number	Varbinds	Severity	Description and trap message
	snOspfExtLsdbLimit		90 percent of the ospfExtLsdbLimit. **Sample trap message:** `The number of LSAs in the OSPF router id <snOspfRouterId> link-state database has exceeded ninety percent of <snOspfExtLsdbLimit>.`

Layer 4 traps

The following table presents the traps that can be generated for Layer 4 functionalities.

NOTE
The following table contain traps that are not supported on the MLX Series, XMR Series, MLX Series, CES 2000 Series, and CER 2000 Series devices.

Trap name and number	Varbinds	Severity	Description and trap message
snTrapL4Max SessionLimit Reached brcdIp.0.19	snL4MaxSession Limit	Warning	The maximum number of connections has been reached. **Sample trap message:** `SLB maximum number of connections <snL4MaxSessionLimit> has been reached.`
snTrapL4TcpSyn LimitReached brcdIp.0.20	snL4TcpSynLimit	Warning	The TCP SYN limits have been reached. **Sample trap message:** `SLB TCP Syn limits <snL4TcpSynLimit> have been reached.`
snTrapL4RealServer Up brcdIp.0.21	snL4TrapRealSer verIP snL4TrapRealSer verName	Informational	The load balancing real server is up. **Sample trap message:** `SLB real server <snL4TrapRealServerIP> <snL4TrapRealServerName> is up.`
snTrapL4RealServer Down brcdIp.0.22	snL4TrapRealSer verIP snL4TrapRealSer verName	Informational	The load balancing real server is down. **Sample trap message:** `SLB real server <snL4TrapRealServerIP> <snL4TrapRealServerName> is down.`
snTrapL4RealServer PortUp brcdIp.0.23	snL4TrapRealSer verIP snL4TrapRealSer verName snL4TrapRealSer verPort	Informational	The load balancing real server TCP port is up. **Sample trap message:** `SLB real server port <snL4TrapRealServerIP> <snL4TrapRealServerName> <snL4TrapRealServerPort> is up`
snTrapL4RealServer PortDown brcdIp.0.24	snL4TrapRealSer verIP snL4TrapRealSer verName	Informational	The load balancing real server TCP port is down. **Sample trap message:** `SLB real server port <snL4TrapRealServerIP>`

Trap name and number	Varbinds	Severity	Description and trap message
	snL4TrapRealServerPort		`<snL4TrapRealServerName> <snL4TrapRealServerPort> is.`
snTrapL4RealServerMaxConnectionLimitReached brcdIp.0.25	snL4TrapRealServerIP snL4TrapRealServerName snL4TrapRealServerCurConnections	Warning	The real server reached its maximum number of connections. **Sample trap message:** `SLB real server <snL4TrapRealServerIP> <snL4TrapRealServerName> maximum connection <snL4TrapRealServerCurConnections> has been reached.`
snTrapL4BecomeStandby brcdIp.0.26		Warning	The Server Load Balancing switch changed its state from active to standby. **Sample trap message:** `SLB changes state from active to standby.`
snTrapL4BecomeActive brcdIp.0.27		Warning	The Server Load Balancing switch changed its state from standby to active. **Sample trap message:** `SLB changes state from standby to active.`
snTrapL4GslbRemoteUp brcdIp.0.39	snAgGblTrapMessage	Warning	The connection to the remote ServerIron is up. **Sample trap message:** `L4 gslb connection to site <name> SI <agent IP> <SI name> is up`
snTrapL4GslbRemoteDown brcdIp.0.40	snAgGblTrapMessage	Warning	The connection to the remote ServerIron is down. **Sample trap message:** `L4 gslb connection to site <name> SI <agent IP> <SI name> is down`
snTrapL4GslbRemoteControllerUp brcdIp.0.41	snAgGblTrapMessage	Warning	The connection to the GSLB ServerIron is up. **Sample trap message:** `L4 gslb connection to gslb SI <IP> is up`
snTrapL4GslbRemoteControllerDown brcdIp.0.42	snAgGblTrapMessage	Warning	The connection to the GSLB ServerIron is down. **Sample trap message:** `L4 gslb connection to gslb SI <IP> is down`
snTrapL4GslbHealthCheckIpUp brcdIp.0.43	snAgGblTrapMessage	Warning	The GSLB health check for an address changed from the down to the active state. **Sample trap message:** `L4 gslb health-check <IP> of <subname>.<zonename> status changed to up`
snTrapL4GslbHealthCheckIpDown brcdIp.0.44	snAgGblTrapMessage	Warning	The GSLB health check for an address changed from the active to the down state. **Sample trap message:**

Trap name and number	Varbinds	Severity	Description and trap message
			`L4 gslb health-check <IP> of <subname>.<zonename> status changed to down`
snTrajjjpL4Gslb HealthCheckIpPort Up brcdIp.0.45	snAgGblTrapMes sage	Warning	A port for a health check address is up. **Sample trap message:** `L4 gslb health-check <IP> of <subname>.<zonename> port <server-port> is up`
snTrapL4Gslb HealthCheckIpPort Down brcdIp.0.46	snAgGblTrapMes sage	Warning	A port for a health check address is down. **Sample trap message:** `L4 gslb health-check <IP> of <subname>.<zonename> port <server-port> is down`
snTrapL4Firewall BecomeStandby brcdIp.0.47		Major	The Server Load Balancing switch firewall changed its state from active to standby. **Sample trap message:** `firewall group #<group> become standby`
snTrapL4Firewall BecomeActive brcdIp.0.48		Major	The Server Load Balancing switch firewall changed its state from standby to active. **Sample trap message:** `firewall group #<group> become active`
snTrapL4Firewall PathUp brcdIp.0.49		Minor	The Server Load Balancing switch firewall path is up. **Sample trap message:** `firewall path up target <IP> nexthop <IP> path <num> port <num>`
snTrapL4Firewall PathDown brcdIp.0.50		Minor	The Server Load Balancing switch firewall path is down. **Sample trap message:** `Firewall path down target <IP> nexthop <IP> path <num> port <num>`
snTrapL4Content Verification brcdIp.0.55		Informational	The HTTP match list pattern has been found. **Sample trap message:** `HTTP match-list pattern is found.`
snTrapL4RealServer ResponseTime LowerLimit brcdIp.0.67	snAgGblTrapMes sage	Warning	The real server average response time exceeded the lower threshold. **Sample trap message:** `Port <port-num> on server <server-name>: <IP>: Avg response time <num> has exceeded lower threshold`
snTrapL4RealServer ResponseTime UpperLimit brcdIp.0.68	snAgGblTrapMes sage	Warning	The real server average response time exceeded the upper threshold. **Sample trap message:** `Port <port-num> on server <server-name>: <IP>: Avg response time <num> has exceeded upper threshold; Bringing down the port...`

Trap name and number	Varbinds	Severity	Description and trap message
snTrapL4TcpAttack RateExceedMax brcdIp.0.69	snAgGblTrapMes sage	Critical	The TCP attack rate exceeds the configured maximum TCP attack rate. **Sample trap message:** `L4 TCP Attack Rate Exceed Max`
snTrapL4TcpAttack RateExceed Threshold brcdIp.0.70	snAgGblTrapMes sage	Warning	The TCP attack rate exceeds 80 percent of the configured maximum. **Sample trap message:** L4 TCP Attack Rate Exceed Threshold
snTrapL4Connection RateExceedMax brcdIp.0.71	snAgGblTrapMes sage	Critical	The Layer 4 connection rate exceeds the configured maximum. **Sample trap message:** `L4 Connection Rate Exceed Max`
snTrapL4Connection RateExceed Threshold brcdIp.0.72	snAgGblTrapMes sage	Warning	The Layer 4 connection rate exceeds 80 percent of the configured maximum. **Sample trap message:** `L4 Connection Rate Exceed Threshold`

ICMP traps

The following traps are generated for ICMP functionalities.

Trap name and number	Varbinds	Severity	Description and trap message
snTrapIcmpLocalExceedBurst brcdIp.0.51	snAgGblTrapMessage	Warning	Incoming ICMP exceeded the maximum local burst packets. **Sample trap message:** `Local ICMP exceeds <num> burst packets, stopping for <num> seconds!!`
snTrapIcmpTransitExceedBurst brcdIp.0.52	snAgGblTrapMessage	Warning	Transit ICMP exceeded the maximum transit burst packets. **Sample trap message:** `Transit ICMP in interface <port-num> exceeds <num> burst packets, stopping for <num> seconds!!`

TCP traps

The following traps are generated for TCP functionalities.

Trap name and number	Varbinds	Severity	Description and trap message
snTrapTcpLocalExceedBurst brcdIp.0.53	snAgGblTrapMessage	Warning	Incoming TCP exceeded the maximum local burst packets. **Sample trap message:**

Trap name and number	Varbinds	Severity	Description and trap message
			`Local TCP exceeds <num> burst packets, stopping for <num> seconds!!`

snTrapTcpTransitExceedBurst
brcdIp.0.54
	snAgGblTrapMessage	Warning	Transit TCP exceeded the maximum transit burst packets.
			Sample trap message:
			`Transit TCP in interface <port-num> exceeds <num> burst packets, stopping for <num> seconds!!`
			Sample trap message:
			`Locked address violation at <port-name> <port-num>, address <mac>`

BGP traps

The following table contains BGP traps that are obsolete and has been replaced with the BGP4v2 notifications.

NOTE
The following table contains BGP traps that are not supported on the MLX Series, XMR Series, MLX Series, CES 2000 Series, and CER 2000 Series devices.

Trap name and number	Varbinds	Severity	Description and trap message
snTrapBgpPeerUp brcdIp.0.65	snAgGblTrapMessage	Informational	The Border Gateway Protocol (BGP) peer is up. **Sample trap message:** `BGP Peer <IP> UP(ESTABLISHED)`
snTrapBgpPeerDown brcdIp.0.66	snAgGblTrapMessage	Informational	The BGP peer is down. **Sample trap message:** `BGP Peer <IP> DOWN (<reason-string>)\n`

BGP4v2 notifications

The following table contains BGP4v2 traps that are supported only on the MLX Series, XMR Series, CES 2000 Series, and CER 2000 Series devices.

Trap name and number	Varbinds	Severity	Description
bgp4V2EstablishedNotification brcdIp.3.5.1.0.1	bgp4V2PeerState, bgp4V2PeerLocalPort, bgp4V2PeerRemotePort	Notification	The Border Gateway Protocol (BGP) established event is generated when the BGP finite state machine (FSM) enters the established state.
bgp4V2BackwardTransitionNotification brcdIp.3.5.1.0.2	bgp4V2PeerState, bgp4V2PeerLocalPort, bgp4V2PeerRemotePort,	Notification	The BGP backward transition event is generated when the BGP FSM

Trap name and number	Varbinds	Severity	Description
	bgp4V2PeerLastErrorCodeReceived, bgp4V2PeerLastErrorSubCodeReceived, bgp4V2PeerLastErrorReceivedText		moves from a higher-numbered state to a lower-numbered state. The current implementation generates this notification only when the state machine moves out of the established state.

Port security traps

The port security feature enables a device to learn a limited number of "secure" MAC addresses on an interface. The interface forwards only those packets with source MAC addresses that match the secure addresses. The following traps are generated, if the interface receives MAC addresses that are included in its secure MAC list.

NOTE
The following traps apply to ports that have the port security feature enabled.

Trap name and number	Varbinds	Severity	Description and trap message
snTrapPortSecurityViolation brcdIp.0.77	snAgGblTrapMessage	Minor	Packets from an unknown MAC address are dropped. **Sample trap message:** Extreme `Trap: Port Security Violation`
snTrapPortSecurityShutdown brcdIp.0.78	snAgGblTrapMessage	Minor	The port is disabled for the amount of time configured using the **violation shutdown** *<minutes>* port security CLI command. **Sample trap message:** Extreme `Trap: Port Security Violation Cause Shutdown`

MRP traps

The following traps are generated for MRP functionalities.

Trap name and number	Varbinds	Severity	Description
snTrapMrpStateChange brcdIp.0.79	snAgGblTrapMessage	Informational	An MRP state occurred.
snTrapMrpCamError brcdIp.0.80	snAgGblTrapMessage	Warning	An MRP CAM error occurred.

MPLS notifications

The following traps are supported on the Extreme NetIron devices.

Trap name and number	Varbinds	Severity	Description
fdryVplsCreated brcdIp.1.2.15.2.0.1	vplsConfigName fdryVplsVcId	Informational	Generated when an entry is created in the fdryVplsTable.

Trap name and number	Varbinds	Severity	Description
			It is not generated during system bootup time.
fdryVplsDeleted brcdIp.1.2.15.2.0.2	vplsConfigName fdryVplsVcId	Informational	An entry in the fdryVplsTable has been marked for deletion. It indicates the deletion of an existing VPLS instance.
fdryPwCreated brcdIp.1.2.15.2.0.3	fdryPwServiceType (vll(1), vlllocal(2), vpls(3)) pwName (The instance name) pwID (VD ID)	Informational	Generated when an instance of VLL or VLL-Local pseudo-wire entry is created in the pwTable. The fdryPwServiceType varbind shows the service type that originated this notification. This notification is not used for VPLS service. This notification is not generated during device boot-up.

MPLS/RSVP-signaled LSP notifications

The following traps are generated for the MPLS LSP feature supported on the Extreme NetIron devices. The RSVP-signaled LSP notifications are supported only on the MLX Series and XMR Series devices.

NOTE
Do not use the following traps if you are using the snTrapTMLogging traps.

Trap name and number	Varbinds	Severity	Description
snMplsLspUp brcdIp.0.1010	mplsLspName, mplsPathName	Informational	Specifies the LSP is up. The current active path for the LSP is the value of mplsPathName. **Sample trap message:** `Name of the notification received: snMplsLspUp Foundry-MPLS-MIB:mplsLspName.2.1 : (mlx8tobottomcer) Syntax: SNMPv2-TC:DisplayString, Instance IDs: (2 1) Foundry-MPLS-MIB:mplsLspPathName.2.1 : () Syntax: SNMPv2-TC:DisplayString, Instance IDs: (2 1)`
snMplsLspDown brcdIp.0.1011	mplsLspName, mplsPathName	Informational	Specifies the LSP is down, because the current active path specified by the mplsPathName went down. **Sample trap message:** `Name of the notification received: snMplsLspDown Foundry-MPLS-MIB:mplsLspName.2.1 : (mlx8tobottomcer) Syntax: SNMPv2-TC:DisplayString, Instance IDs: (2 1)` `Foundry-MPLS-MIB:mplsLspPathName.2.1 :`

Trap name and number	Varbinds	Severity	Description
			`() Syntax: SNMPv2-TC:DisplayString, Instance IDs: (2 1)`
snMplsLspChange brcdIp.0.1012	mplsLspName, mplsPathName	Informational	Specifies the particular LSP that has switched traffic to the new active path "toLspPath". The LSP maintains an up state before and after the switchover. **Sample trap message:** `Name of the notification received: snMplsLspChange Foundry-MPLS-MIB:mplsLspName.2.1 : (mlx8tobottomcer) Syntax: SNMPv2-TC:DisplayString, Instance IDs: (2 1) Foundry-MPLS-MIB:mplsLspPathName.2.1 : (testpath1) Syntax: SNMPv2-TC:DisplayString, Instance IDs: (2 1)`

MPLS LSR notification

The following traps are generated for the MPLS LSR feature supported only on the MLX Series, XMR Series, MLX Series, CES 2000 Series, and CER 2000 Series devices.

Enable the mplsXCNotificationsEnable (OID 1.3.6.1.2.1.10.166.2.1.15) object to true(1) to generate mplsXCUp and mplsXCDown notifications. Use the **lsp-xc-traps enable** command to enable or disable the MPLS cross-connect traps and syslog messages. The **show mpls config** command displays the status of the LSP XC notifications.

Trap name and number	Varbinds	Severity	Description and trap message
mplsXCUp 1.3.6.1.2.1.10.166.2.0.1	mplsXCOperStatus	Notification	Generates when the mplsXCOperStatus object for one entry in mplsXCTable are about to enter the up(1) state from down(2) state. The included values of the mplsXCOperStatus object must be set equal to the new up(1) state. The two instances of the mplsXCOperStatus object in the notification indicate the range of indexes that are affected. **Sample syslog message:** `MPLS: The LSP XC with id <n1>, in segment id <n2> and out segment id <n3> has come up`
mplsXCDown 1.3.6.1.2.1.10.166.2.0.2	mplsXCOperStatus	Notification	Generates when the mplsXCOperStatus object for one entry in mplsXCTable are about to enter the down(2) state from up(1) state.

Trap name and number	Varbinds	Severity	Description and trap message
			The included values of the mplsXCOperStatus object must be set equal to the down(2) state. The two instances of the mplsXCOperStatus object in the notification indicate the range of indexes that are affected. **Sample syslog message:** `MPLS : The LSP XC with id <n1>, in segment id <n2> and out segment id <n3> has went down`

Traps for BFD

The following Bidirectional Forwarding Detection (BFD) traps are supported only on the MLX Series, XMR Series, MLX Series, CES 2000 Series, and CER 2000 Series devices.

Trap name and number	Varbinds	Severity	Description
bfdSessUp brcdIp.3.3.1.0.1	bfdSessDiag - Low range value bfdSessDiag - High range value	Notification	This notification is generated when the bfdSessState object for one or more contiguous entries in bfdSessTable are about to enter the up(2) state from some other state. The included values of bfdSessDiag must both be set equal to this new state (for example, up(1)). The two instances of bfdSessDiag in this notification indicate the range of indexes that are affected.

Trap name and number	Varbinds	Severity	Description
			NOTE All the indexes of the two ends of the range can be derived from the instance identifiers of these two objects. For the cases where a contiguous range of sessions has transitioned into the up(1) state at roughly the same time, the device must issue a single notification for each range of contiguous indexes in an effort to minimize the emission of a large number of notifications. If a notification has to be issued for just a single bfdSessEntry, then the instance identifier (and values) of the two bfdSessDiag objects must be the identical.
bfdSessDown brcdIp.3.3.1.0.2	bfdSessDiag - Low range value bfdSessDiag - High range value	Notification	This notification is generated when the bfdSessState object for one or more contiguous entries in bfdSessTable are about to enter the down(4) or adminDown(5) states from some other state. The included values of bfdSessDiag must both be set equal to this new state (for example, down(4) or adminDown(5)). The two instances of bfdSessDiag in this notification indicate the range of indexes that are affected.

Trap name and number	Varbinds	Severity	Description
			NOTE All the indexes of the two ends of the range can be derived from the instance identifiers of these two objects. For cases where a contiguous range of sessions has transitioned into the down(4) or adminDown(5) states at roughly the same time, the device should issue a single notification for each range of contiguous indexes in an effort to minimize the emission of a large number of notifications. If a notification has to be issued for just a single bfdSessEntry, then the instance identifier (and values) of the two bfdSessDiag objects must be the identical.

Traps for CAM overflow

The following CAM overflow trap is supported only on the MLX Series, XMR Series, MLX Series, CES 2000 Series, and CER 2000 Series devices.

Trap name and number	Varbinds	Severity	Description and trap message
snTrapCAMOverflow brcdIp.0.1002	snAgGblTrapMessage	Alerts	Displays the SNMP trap that is generated when any CAM partition becomes full. **Sample trap message:** `CAM partition full`

Traps for wireless features

NOTE

The traps in the following sections are available on devices that support the wireless features, such as automatic discovery and configuration (ADC), wireless mobility, and others.

Wireless feature traps

The WLAN controller generates the following general traps for wireless feature support. Refer to the specific wireless feature sections to determine what traps are generated for each feature.

Trap name and number	Varbinds	Severity	Description and trap message
snTrapWirelessStationStateChange brcdIp.0.127 NOTE This object is not supported on MLX Series, XMR Series, MLX Series, CES 2000 Series, and CER 2000 Series devices.	snAgGblTrapMessage	Notification	The state of the wireless station (client) that is associated with this WLAN controller through the access point has changed. **Sample trap message:** `<date-time>:N: New Station <mac-address> discovered | removed`
snTrapWirelessSappStateChange brcdIp.0.129 NOTE This object is not supported on MLX Series, XMR Series, MLX Series, CES 2000 Series, and CER 2000 Series devices.	snAgGblTrapMessage	Notification	The state of the communication between an access point and this WLAN controller has changed. **Sample trap message:** `<date-time>:N:AP <AP-IP-address> has changed state from <old-state> to<new-state>`

Wireless mobility traps

The following traps are generated by the WLAN controller for wireless mobility.

Trap name and number	Varbinds	Severity	Description and trap message
snTrapWirelessIsrpPeerStateChange brcdIp.0.126 NOTE This object is not supported on MLX Series, XMR Series, MLX Series, CES 2000 Series, and CER 2000 Series devices.	snAgGblTrapMessage	Notification	The state of WLAN controller peer has changed. **Sample trap message:** `<date-time>:N:Mobility Peer <IronPoint-FES-IP-address> has changed state from <old-state> to <new-state>`
snTrapWirelessStationRoamingEventTriggered brcdIp.0.128 NOTE This object is not supported on MLX Series, XMR Series, MLX Series, CES 2000 Series, and CER 2000 Series devices.	snAgGblTrapMessage	Notification	A wireless station (client) roamed from or to the access point that is attached to this WLAN controller. **Sample trap message:** `<date-time>:N:Station <0009.5b66.eac6> has roamed to switch <IronPoint-FES-IP-address>`

ADC trap

The following SNMP trap is generated for the ADC feature.

Trap name and number	Varbinds	Severity	Description and trap message
snTrapPnPStatusChange brcdIp.0.125 **NOTE** This object is not supported on MLX Series, XMR Series, MLX Series, CES 2000 Series, and CER 2000 Series devices.	snAgGblTrapMessage	Notification	The access point's ADC status changed. **Sample trap message:** `<date-time>:N:PnP status of AP MAC address <mac-address> at port <port-number> has changed from <old state> to <new-state>`

Automatic port deactivation traps

The following traps are generated for the automatic port deactivation feature.

Trap name and number	Varbinds	Severity	Description and trap message
snTrapAutoPortDisableTrigger brcdIp.0.123 **NOTE** This object is not supported on MLX Series, XMR Series, MLX Series, CES 2000 Series, and CER 2000 Series devices.	snAgGblTrapMessage	Notification	The specified interface has been deactivated and disabled. **Sample trap message:** `Automatic port disable was triggered at port <port-number>`
snTrapAutoPortDisableRelease brcdIp.0.124 **NOTE** This object is not supported on MLX Series, XMR Series, MLX Series, CES 2000 Series, and CER 2000 Series devices.	snAgGblTrapMessage	Notification	The disabled interface has been released and re-enabled. **Sample trap message:** `Automatic port disable was released at port <port-number>`

UDLD traps

The following UDLD traps are not supported on the MLX Series, XMR Series, MLX Series, CES 2000 Series, and CER 2000 Series devices.

Trap name and number	Varbinds	Severity	Description
snTrapUDLDLinkDown brcdIp.0.145	ifIndexsnAgGblTrapMessage	Notification	The SNMP trap that is generated when UDLD port link status has changed to down.
snTrapUDLDLinkUp brcdIp.0.146	ifIndexsnAgGblTrapMessage	Notification	The SNMP trap that is generated when UDLD port link status has changed to up.
snTrapUDLDCrcFailureDetected brcdIp.0.191	ifIndex, snAgGblTrapMessage	Warning	The SNMP trap that is generated when UDLD detects CRC failures on PDUs received on a port.

BPDU guard and root guard traps

The following are the traps for BPDU guard and root guard.

Trap name and number	Varbinds	Severity	Description and trap message
snTrapStpRootGuardDetect brcdIp.0.150	ifIndex, snVLanByPortCfgVLanId, snAgGblTrapMessage	Notification	The SNMP trap that is generated when a Root-Guarded port receives a superior BPDU. **Sample trap message:** Extreme `Trap: Stp root guard detect`
snTrapStpRootGuardExpire brcdIp.0.151	ifIndex, snVLanByPortCfgVLanId, snAgGblTrapMessage	Notification	The SNMP trap that is generated when a port's Root-Guard expires. **Sample trap message:** Extreme `Trap: Stp root guard expire`
snTrapStpBPDUGuardDetect brcdIp.0.152	ifIndex, snVLanByPortCfgVLanId, snAgGblTrapMessage	Notification	The SNMP trap that is generated when a BPDU-guarded is disabled because it received a BPDU. **Sample trap message:** Extreme `Trap: STP BPDU guard`
snTrapMstpBPDUGuardDetect brcdIp.0.153 **NOTE** This object is not supported on the MLX Series, XMR Series, MLX Series, CES 2000 Series, and CER 2000 Series devices. Use BPDU guard and root guard traps instead.	ifIndex, snAgGblTrapMessage	Notification	The SNMP trap that is generated when a BPDU-guarded port receiveds a BPDU. **Sample trap message:** Extreme `Trap: MSTP BPDU guard.`
snTrapErrorDisableAction brcdIp.0.154 **NOTE** This object is not supported on the MLX Series, XMR Series, MLX Series, CES 2000 Series, and CER 2000 Series devices.	ifIndex, snAgGblTrapMessage	Notification	The SNMP trap that is generated when an interface error-disable is hit or recovery times out. **Sample trap message:** Extreme `Trap: Error-disable hit or recovery times out.`
snTrapStpRootGuardExpire brcdIp.0.160 **NOTE** This object is not supported on the MLX Series, XMR Series, MLX Series, CES 2000 Series, and CER 2000 Series devices.	ifIndex, snVLanByPortCfgVLanId, snAgGblTrapMessage	Notification	The SNMP trap that is generated when a port is re-enabled after it has been disabled because it received a BPDU packet and BPDU Guard is enabled. **Sample trap message:** Extreme `Trap: STP BPDU Guard Expire.`

Trap name and number	Varbinds	Severity	Description and trap message
snTrapPortLoopDetection brcdIp.0.161	ifIndex, snVLanByPortCfgVLanId, snAgGblTrapMessage	Notification	The SNMP notification is generated when a port loop is detected. **Sample trap message:** Extreme `Trap: LOOP DETECTION: VLAN <id>, port <slot>/<port> detect, putting into err-disable state`
snTrapSTPRootGuard Violation brcdIp.0.1204	snAgGblTrapMessage	Notification	The SNMP trap that is generated when STP Root Guard Violation occurs on a port. **Sample trap message:** Extreme `Trap: STP Root Guard Violation`
snTrapRSTPRootGuard Violation brcdIp.0.1205	snAgGblTrapMessage	Notification	The SNMP trap that is generated when RSTP Root Guard Violation occurs on a port. **Sample trap message:** Extreme `Trap: RSTP Root Guard Violation`

Traps for optics

The following table contains traps that are supported on the Extreme NetIron Series devices.

Trap name and number	Varbinds	Severity	Description and trap message
snTrapOpticalMonitoringWarning brcdIp.0.1003	snAgGblTrapMessage	Warning	A warning occurred during optical monitoring. **Sample trap message:** `Latched high Temperature alarm, port <slot>/<port>`
snTrapOpticalMonitoringAlarm brcdIp.0.1004	snAgGblTrapMessage	Alerts	An alarm occurred during optical monitoring due to a low temperature in the device. **Sample trap message:** `Latched low Temperature alarm, port <slot>/<port>`

snTrapOpticalMonitoringError brcdIp.0.1005	snAgGblTrapMessage	Informational	An error occurred during optical monitoring.
			Samples trap message:
			`OPTICAL MONITORING: sys_create_timer failed, slot <n>, port mask <portmask>`
			`OPTICAL MONITORING: sys_set_timer failed, slot <n>, port mask <portmask>`

Trap name and number	Varbinds	Severity	Description and trap message

			`OPTICAL MONITORING: THRESHOLDS READ FAILED, port <slot>/<port>`
			`OPTICAL MONITORING: AUX AD TYPE READ FAILED, port <slot>/<port>"`
			`OPTICAL MONITORING: INT UNMASK ALL WRITE FAILED, port <slot>/<port>`
			`OPTICAL MONITORING: INT MASK WRITE FAILED, port <slot>/<port>`
			`OPTICAL MONITORING: OPTICAL INT MASK WRITE FAILED, port <slot>/<port>`
			`OPTICAL MONITORING: port <slot>/<port>: sys_create_timer failed`
			`OPTICAL MONITORING: port <slot>/<port>: sys_create_timer2 failed`
			`OPTICAL MONITORING: port <slot>/<port>: sys_set_timer failed`
			`OPTICAL MONITORING: port <slot>/<port>, failed to get latched flags(<n>)`
			`OPTICAL MONITORING: port <slot>/<port>: sys_set_timer1 failed`

snTrapXfpSfpIncompatibleOptics brcdIp.0.1009	snAgGblTrapMessage	Alerts	The optics are incompatible with the port configuration.
snTrapTMLoggingStart brcdIp.0.1015	snAgGblTrapMessage	Informational	Traffic Manager logging started, triggerred by an event.
snTrapTMLoggingStop brcdIp.0.1016	snAgGblTrapMessage	Informational	Traffic Manager logging stopped because the storage is full.
snTrapTMLoggingRestart brcdIp.0.1017	snAgGblTrapMessage	Informational	Traffic Manager logging restarted after the log was cleared.
snTrapSFMLinkDown brcdIp.0.1100	snAgGblTrapMessage	Warning	A link from the LP Traffic Manager to an SFM Fabric Element is down. **Sample trap message:** `Fabric Monitoring Link Down : SFM <num>/FE <num>/ Link <num>, LP <num>/TM <num>"`
snTrapSFMLinkUp brcdIp.0.1101	snAgGblTrapMessage	Informational	A link from the LP Traffic Manager to an SFM Fabric Element is up. **Sample trap message:**

Trap name and number	Varbinds	Severity	Description and trap message
			`Fabric Monitoring Link Up : SFM <num>/FE <num>/ Link <num>, LP <num>/TM <num>"`
snTrapXfpSfpNotFoundryOptics brcdIp.0.1018	snAgGblTrapMessage	Alerts	The SNMP trap that is generated if the optics vendor is not from Extreme.
snTrapOpticalMonitoringFoundryOpticsNotCapable brcdIp.0.157	snAgGblTrapMessage	Alerts	The SNMP trap that is generated if optical monitoring is enabled but the optic device is not capable. **Sample trap message:** Extreme `Trap: Optical Monitoring Optics Not Capable`

Software licensing traps

The following traps apply to devices that support software licensing.

Trap name and number	Varbinds	Severity	Description
snTrapLicenseAdded brcdIp.0.187	snAgGblTrapMessage, snChasUnitIndex	Notification	The SNMP trap is generated when a new license is added to the system.
snTrapLicenseRemoved brcdIp.0.188	snAgGblTrapMessage, snChasUnitIndex	Notification	The SNMP trap is generated when a license is removed from the system.
snTrapLicenseExpires brcdIp.0.189	snAgGblTrapMessage, snChasUnitIndex	Notification	The SNMP trap that is generated when a trial license is about to expire. This trap is generated daily for the last 3 days of the license, and every 2 hours on the day when the license expires.
snTrapLicenseExpired brcdIp.0.190	snAgGblTrapMessage, snChasUnitIndex	Notification	The SNMP trap that is generated when a trial license has expired.

General traps for the Extreme NetIron devices

The following table presents the general traps for the MLX Series, XMR Series, MLX Series, CES 2000 Series, and CER 2000 Series devices.

Trap name and number	Varbinds	Severity	Description and trap message
snTrapIfIndexAssignment Changed brcdIp.0.172	snAgGblTrap Message	Informati onal	The SNMP trap is generated when the interface index (ifIndex) assignment for a physical interface is changed. **Sample trap message:** `System: IfIndex assignment was changed`

Trap name and number	Varbinds	Severity	Description and trap message
snTrapModuleStatus Change brcdIp.0.176	snChasUnit Index, snAgentBrd Index, snAgentBrd ModuleStatus, and snAgGblTrap Message	Notificati on	The operational state of a module is changed. The management entity receiving the notification can identify the module and the event by referencing snChasUnitIndex, snAgentBrdIndex, and snAgentBrdModuleStatus. If the module is down, the snAgGblTrapMessage varbind contains a text string that describes the cause. If the module is up, nothing is displayed for snAgGblTrapMessage. **Sample trap message:** For module up: `System: Module up in slot <slot-number>` For module down: `System: Module down in slot <slot-number>, reason <reason. Error Code <error-code>` For standby MP up: `System: Standby Management Module was ready` For standby MP down: `System : Standby Management Module was down, reason <reason>. Error Code <error-code>`

snTrapI2CAccessLog brcdIp.0.184	snAgGblTrap Message	Notificati on	This trap is generated to provide information about the state of the I2C access of the management module.
			Sample trap message:
			`last good i2c access, Mux index 0, Mux tap 0, ID 0x9, Addr 0x1, (SNM2TEMP)`
			`bad i2c access (GIEI = set), Severity Minor, Mux index 0, Mux tap2, ID 0x9, Addr 0x1, (SNM3TEMP)`

snTrapDot1agCfmRemote MEPAgeOut brcdIp.0.192	dot1agCfm MdName, dot1agCfm MaNetName, dot1agCfm MepDbRMep State, snAgGblTrap Message	Warning	This trap is generated when the 802.1ag Remote MEP ages out. **Sample trap message:** `System: Remote MEP 2 in Domain maint_domain, MA maint_asso aged out`
snTrapDot1agCfmRemote MEPUp brcdIp.0.193	dot1agCfm MdName, dot1agCfm MaNetName, dot1agCfm MepDbRMepStat e, snAgGblTrap Message	Informati onal	This trap is generated when the 802.1ag Remote MEP is up. **Sample trap message:** `System: Remote MEP 2 in Domain maint_domain, MA maint_asso become UP state`

Trap name and number	Varbinds	Severity	Description and trap message
snTrapDot1agCfmDomain CrossConnection brcdIp.0.194.	dot1agCfm MdName, dot1agCfm MaNetName, snAgGblTrap Message	Warning	This trap is generated when the 802.1ag domain gets cross-connected. **Sample trap message:** `System: Cross Connection in Domain MLX4maintDomain, MA MLX4maintAsso`
snTrapDot1agCfmDuplicate MEPId brcdIp.0.195	dot1agCfm MdName, dot1agCfm MaNetName, dot1agCfm MepDbRMep State, snAgGblTrap Message	Warning	This trap is generated when the 802.1ag Remote MEP reports a duplicate MEP ID that conflicts with a local MEP ID. **Sample trap message:** `System: Remote MEP ID 1 in Domain MLX4maintDomain, MA MLX4maintAsso is same as ours`
snTrapChasFanOK brcdIp.0.1000	snChasFan Index, snChasFan Description	Minor	One of the following occurred on the device: • The status of the fan operation changed from failure to normal. • Fan speed changed due to a decrease in the operating temperature. **Sample trap message:** `Right fan tray (fan1) OK`

snTrapTemperatureOK brcdIp.0.1001	snAgGblTrap Message	Critical	The actual temperature reading on the device is below the warning temperature threshold.
			Samples trap message:
			`Switch Fabric 2 temperature 30.2 C degrees is normal`
			`Switch Fabric 2 temperature 30.2 C degrees is normal`
			`Linecard Module %d PCB temperature 30.2 C degrees is normal`
			`Linecard Module %d XPP temperature 30.2 C degrees is normal`
			`Active mgmt CPU temperature 30.2 C degrees is normal`
			`Standby mgmt CPU temperature 30.2 C degrees is normal`

snTrapCAMOverflow brcdIp.0.1002	snAgGblTrap Message	Alerts	One of the IP CAM levels is full. **Sample trap message:** `NO MORE FREE CAM SPACE for IP level <level>.`
snTrapNPILKNCRCError brcdIp. 0.1113	snAgGblTrap Message	Informati onal	This trap is generated when packet drops are observed in 2x100G ports because of Interlaken CRC errors.

Trap name and number	Varbinds	Severity	Description and trap message
			Sample trap message `Extreme Trap: 2x100 NP Interlaken CRC Error Detected`
snTrapARPMACMovement brcdIp.0.1114	snAgGblTrap Message	Informational	This trap is generated when the MAC address associated with a host IP is changed. Sample trap message: `Extreme Trap: ARP MAC Movement Detected`
snTrapChassisFanSpeed Low brcdIp.0.1200	snAgGblTrap Message	Informational	The speed of all chassis fans changed to low. **Sample trap message:** `System: Set fan speed to LOW (50%%)`
snTrapChassisFanSpeed Medium brcdIp.0.1201	snAgGblTrap Message	Informational	The speed of all chassis fans changed to medium. **Sample trap message:** `System: Set fan speed to MED (75%%)`
snTrapChassisFanSpeed MedHigh brcdIp.0.1202	snAgGblTrap Message	Informational	The speed of all chassis fans changed to medium high. **Sample trap message:** `System: Set fan speed to MED-HI (90%%)`
snTrapChassisFanSpeed High brcdIp.0.1203	snAgGblTrap Message	Informational	The speed of all the chassis fans changed to high. **Sample trap message:** `System: Set fan speed to HI (100%%)`
fdryTrapLagDeployed brcdIp.0.1204	fdryLAG Name, fdryLink Aggregation GroupIfIndex	Informational	The SNMP trap is generated when a LAG is deployed.
fdryTrapLagUndeployed brcdIp.0.1205	fdryLAG Name, fdryLink Aggregation GroupIfIndex	Informational	The SNMP trap is generated when a LAG is undeployed.
snTrapFIPSModeEnable brcdIp.0.1207	snAgGbl Trap Message	Informational	The SNMP trap is generated when Federal Information Processing Standard (FIPS) mode is enabled.
snTrapFIPSModeDisable brcdIp.0.1208	snAgGbl TrapMessage	Informational	The SNMP trap is generated when FIPS mode is disabled.
snTrapFIPSHostZeroized brcdIp.0.1209	snAgGblTrap Message	Informational	The SNMP trap is generated when host keys are set to zero(0) in FIPS mode.
snTrapFIPSSharedSecret Zeroized brcdIp.0.1210	snAgGblTrap Message	Informational	The SNMP trap is generated when shared secrets are set to zero(0) in FIPS mode.
snTrapFIPSPOSTStatus brcdIp.0.1211	snAgGblTrap Message	Informational	The SNMP trap is generated after POST.

Trap name and number	Varbinds	Severity	Description and trap message
snTrapFIPSCryptoModule Failure brcdIp.0.1212	snAgGblTrap Message	Critical	The SNMP trap is generated when the cryptographic module fails.
snTrapLicense2PortNot Supported brcdIp.0.1213	snAgGblTrap Message	Notifications	The SNMP trap is generated when at two-port licenses cannot be applied due to hardware limitation.
snTrapOpticalMonitoringOK brcdIp.0.1214	snAgGblTrap Message, ifIndex	Informational	The SNMP trap is generated when an interface transitions from an error state to the normal state because the alarms or warnings are below the threshold value. The snTrapOpticalMonitoringError is generated when the interface transitioned to the error state. The first varbind snAgGblTrapMessage, will have a detailed message on the cause of event. The second varbind ifIndex, points to the affected interface that originates the event. If an event does not have associated port or has multiple associated ports, then ifIndex has the maximum value 0x7fffffff.
snTrapSFMAccessOK brcdIp.0.1215	snAgGblTrap Message	Informational	The SNMP trap is generated when system can successfully access an SFM Fabric Element (FE). The snTrapSFMAccessError is generated when the system failed to access the FE.
snTrapUpgradeSingleCmd Start brcdIp.0.1216	snAgGblTrap Message	Informational	The SNMP trap is generated when a single-command package upgrade is started. This happens after a successful download and validation of the manifest file and before the first image download takes place.
snTrapUpgradeSingleCmd Done brcdIp.0.1217	snAgGblTrap Message	Informational	The SNMP trap is generated when a single-command package upgrade is completed or partially completed. Refer to brcdSwPackageLoadResultTable for the results of the upgrade.
snTrapAutoUpgradeStart brcdIp.0.1218	snAgentBrd Index	Informational	The SNMP trap is generated when an auto-upgrade on a line card is started.
snTrapAutoUpgradeDone brcdIp.0.1219	snAgentBrd Index, snAgGblTrap Message	Informational	The SNMP trap is generated when an auto-upgrade of the interface module is completed.
snTrapTcamParityError brcdIp.0.1220	snAgentBrd Index, snAgGblTrap Message	Alerts	The SNMP trap is generated when the TCAM parity errors are detected on LP.
snTrapLPResetOnTcam Error brcdIp.0.1221	snAgentBrd Index, snAgGblTrap Message	Critical	The SNMP trap is generated when the LP reset happens due to TCAM parity errors crossing the threshold or TCAM integrity check failure.
snTrapSTPRootGuard Violation brcdIp.0.1230	snAgGblTrap Message	Informational	The SNMP trap is generated when STP Root Guard Violation occurs on a port. **Sample trap message:** `Foundry Trap: STP Root Guard Violation`

Trap name and number	Varbinds	Severity	Description and trap message
snTrapRSTPRootGuard Violation brcdIp.0.1231	snAgGblTrap Message	Informational	The SNMP trap is generated when RSTP Root Guard Violation occurs on a port. **Sample trap message:** `Foundry Trap: RSTP Root Guard Violation`

Unsupported MIB Objects

Unsupported MIBs

The following table lists the proprietary and standard MIB objects that are not supported on the MLX Series, XMR Series, MLX Series, CES 2000 Series, and CER 2000 Series devices.

Object	Object identifier
ifTestTable	1.3.6.1.2.1.31.1.3.1
ifRcvAddressTable	1.3.6.1.2.1.31.1.4.1
ipForwardNumber	1.3.6.1.2.1.4.24.1
ipForwardTable	1.3.6.1.2.1.4.24.2.1
rip2PeerTable	1.3.6.1.2.1.23.4.1
bgpPathAttrTable	1.3.6.1.2.1.15.5.1
ospfAreaRangeTable	1.3.6.1.2.1.14.5.1
sonetVTCurrentTable	1.3.6.1.2.1.10.39.3.1.1.1
sonetVTIntervalTable	1.3.6.1.2.1.10.39.3.1.2.1
sonetFarEndVTCurrentTable	1.3.6.1.2.1.10.39.3.2.1.1
sonetFarEndVTIntervalTable	1.3.6.1.2.1.10.39.3.2.2.1
mplsInSegmentLdpLspTable	1.3.6.1.2.1.10.166.4.1.3.6.1
mplsOutSegmentLdpLspTable	1.3.6.1.2.1.10.166.4.1.3.7.1
mplsLdpLspFecTable	1.3.6.1.2.1.10.166.4.1.3.10.1
isisRATableGroup	1.3.6.1.2.1.138.2.2.7
isisReachAddr	1.3.6.1.2.1.138.1.7
dot1agCfmStackTable	1.3.111.2.802.1.1.8.1.1.1
dot1agCfmVlanTable	1.3.111.2.802.1.1.8.1.3.1
dot1agCfmDefaultMdTable	1.3.111.2.802.1.1.8.1.2.4
dot1agCfmConfigErrorListTable	1.3.111.2.802.1.1.8.1.4.1
dot1agCfmMaCompTable	1.3.111.2.802.1.1.8.1.6.2
ieee8021CfmStackTable	1.3.111.2.802.1.1.8.1.1.2
ieee8021CfmDefaultMdTable	1.3.111.2.802.1.1.8.1.2.5
ieee8021CfmConfigErrorListTable	1.3.111.2.802.1.1.8.1.4.2
ipMRouteBoundaryTable	1.3.6.1.2.1.83.1.1.5
ipMRouteScopeNameTable	1.3.6.1.2.1.83.1.1.6
ipMRouteDifferentInIfPackets	1.3.6.1.2.1.83.1.1.2.1.9
ipMRouteOctets	1.3.6.1.2.1.83.1.1.2.1.10
ipMRouteRtType	1.3.6.1.2.1.83.1.1.2.1.15
ipMRouteHCOctets	1.3.6.1.2.1.83.1.1.2.1.16
ipMRouteNextHopPkts	1.3.6.1.2.1.83.1.1.3.1.11

Object	Object identifier
ipMRouteInterfaceInMcastOctets	1.3.6.1.2.1.83.1.1.4.1.5
ipMRouteInterfaceOutMcastOctets	1.3.6.1.2.1.83.1.1.4.1.6
ipMRouteInterfaceHCInMcastOctets	1.3.6.1.2.1.83.1.1.4.1.7
ipMRouteInterfaceHCOutMcastOctets	1.3.6.1.2.1.83.1.1.4.1.8
igmpInterfaceVersion1QuerierTimer	1.3.6.1.2.1.85.1.1.1.9
igmpInterfaceWrongVersionQueries	1.3.6.1.2.1.85.1.1.1.10
pimIpMRouteAssertRPTBit	1.3.6.1.3.61.1.1.4.1.4
pimIpMRouteFlags	1.3.6.1.3.61.1.1.4.1.5
mplsInterfacePerfTable	1.3.6.1.2.1.10.166.2.1.2
mplsOutSegmentPerfTable	1.3.6.1.2.1.10.166.2.1.8
mplsLabelStackTable	1.3.6.1.2.1.10.166.2.1.13
mplsInSegmentMapTable	1.3.6.1.2.1.10.166.2.1.14
mplsInterfaceLabelMinIn	1.3.6.1.2.1.10.166.2.1.1.1.2
mplsInterfaceLabelMaxIn	1.3.6.1.2.1.10.166.2.1.1.1.3
mplsInterfaceLabelMinOut	1.3.6.1.2.1.10.166.2.1.1.1.4
mplsInterfaceLabelMaxOut	1.3.6.1.2.1.10.166.2.1.1.1.5
mplsInSegmentIndexNext	1.3.6.1.2.1.10.166.2.1.3
mplsInSegmentInterface	1.3.6.1.2.1.10.166.2.1.4.1.2
mplsInSegmentPerfHCOctets	1.3.6.1.2.1.10.166.2.1.5.1.5
mplsInSegmentPerfOctets	1.3.6.1.2.1.10.166.2.1.5.1.1
mplsInSegmentPerfErrors	1.3.6.1.2.1.10.166.2.1.5.1.3
mplsInSegmentPerfDiscards	1.3.6.1.2.1.10.166.2.1.5.1.4
mplsInSegmentPerfDiscontinuityTime	1.3.6.1.2.1.10.166.2.1.5.1.6
mplsOutSegmentIndexNext	1.3.6.1.2.1.10.166.2.1.6
mplsOutSegmentInterface	1.3.6.1.2.1.10.166.2.1.7.1.2
mplsXCIndexNext	1.3.6.1.2.1.10.166.2.1.9
mplsLabelStackIndexNext	1.3.6.1.2.1.10.166.2.1.12
spdCompoundFilterTable	1.3.6.1.2.1.153.1.5
spdSubfiltersTable	1.3.6.1.2.1.153.1.6
spdIpOffsetFilterTable	1.3.6.1.2.1.153.1.8
spdTimeFilterTable	1.3.6.1.2.1.153.1.9
spdIpsoHeaderFilterTable	1.3.6.1.2.1.153.1.10
spdCompoundActionTable	1.3.6.1.2.1.153.1.11
spdSubactionsTable	1.3.6.1.2.1.153.1.12
diffServDataPath	1.3.6.1.2.1.97.1.1
diffServClfrNextFree	1.3.6.1.2.1.97.1.2.1
diffServClfrTable	1.3.6.1.2.1.97.1.2.2
diffServClfrElementNextFree	1.3.6.1.2.1.97.1.2.3
diffServClfrElementTable	1.3.6.1.2.1.97.1.2.4
diffServMultiFieldClfrNextFree	1.3.6.1.2.1.97.1.2.5
diffServMeter	1.3.6.1.2.1.97.1.3
diffServTBParam	1.3.6.1.2.1.97.1.4

Object	Object identifier
diffServAction	1.3.6.1.2.1.97.1.5
diffServAlgDrop	1.3.6.1.2.1.97.1.6
diffServQueue	1.3.6.1.2.1.97.1.7
diffServScheduler	1.3.6.1.2.1.97.1.8
dot3adAggPortListTable	1.2.840.10006.300.43.1.1.2
dot3adAggPortTable	1.2.840.10006.300.43.1.2.1
dot3adAggPortStatsTable	1.2.840.10006.300.43.1.2.2
dot3adAggPortDebugTable	1.2.840.10006.300.43.1.2.3
dot3adTablesLastChanged	1.2.840.10006.300.43.1.3
dot3adAggCollectorMaxDelay	1.2.840.10006.300.43.1.1.1.1.11
snMSTrunkIfTable	brcdIp.1.1.3.6.3
pwPerfCurrentTable	brcdIp.3.1.2.1.3
pwPerfIntervalTable	brcdIp.3.1.2.1.4
pwEnetStatsTable	brcdIp.3.1.4.1.2
snRtIpFwdCacheTable	brcdIp.1.2.2.11.1
snQosProfileTable	brcdIp.1.1.3.14.1.1
snQosBindTable	brcdIp.1.1.3.14.2.1
fdrySntpServerTable	brcdIp.1.1.7.1.1.1
snNTPPollInterval	brcdIp.1.1.3.11.1.1
snNTPSync	brcdIp.1.1.3.11.1.5
snChasType	brcdIp.1.1.1.1.1
snChasMainBrdDescription	brcdIp.1.1.1.1.5
snChasMainPortTotal	brcdIp.1.1.1.1.6
snChasExpBrdDescription	brcdIp.1.1.1.1.7
snChasExpPortTotal	brcdIp.1.1.1.1.8
snChasStatusLeds	brcdIp.1.1.1.1.9
snChasTrafficLeds	brcdIp.1.1.1.1.10
snChasMediaLeds	brcdIp.1.1.1.1.11
snChasMainBrdId	brcdIp.1.1.1.1.13
snChasExpBrdId	brcdIp.1.1.1.1.14
snChasSpeedLeds	brcdIp.1.1.1.1.15
snChasPwrSupply2Table	brcdIp.1.1.1.2.2
snChasFan2Table	brcdIp.1.1.1.3.2
snAgConfigFromNVRAM	brcdIp.1.1.2.1.4
snAgWebMgmtServerTcpPort	brcdIp.1.1.2.1.64
snAgentBrdExpBrdId	brcdIp.1.1.2.2.1.1.6
snAgentBrdExpPortTotal	brcdIp.1.1.2.2.1.1.7
snAgentBrdExpBrdDescription	brcdIp.1.1.2.2.1.1.5
snAgentBrdTxTrafficLeds	brcdIp.1.1.2.2.1.1.15
snAgentBrdRxTrafficLeds	brcdIp.1.1.2.2.1.1.16
snAgentBrdStatusLeds	brcdIp.1.1.2.2.1.1.8
snAgentBrdMediaLeds	brcdIp.1.1.2.2.1.1.10

Object	Object identifier
snAgentBrdSpeedLeds	brcdIp.1.1.2.2.1.1.11
snAgentBrdAlarmLeds	brcdIp.1.1.2.2.1.1.14
snAgentBrdTrafficLeds	brcdIp.1.1.2.2.1.1.9
snAgentBrd2Table	brcdIp.1.1.2.2.2
snAgCfgEos	brcdIp.1.1.2.5
snStackPriSwitchMode	brcdIp.1.1.5.1.1
snStackMaxSecSwitch	brcdIp.1.1.5.1.2
snStackTotalSecSwitch	brcdIp.1.1.5.1.3
snStackSyncAllSecSwitch	brcdIp.1.1.5.1.4
snStackSmSlotIndex	brcdIp.1.1.5.1.5
snStackFmpSetProcess	brcdIp.1.1.5.1.6
snStackSecSwitchTable	brcdIp.1.1.5.2.1
snAgSysLogGblServer	brcdIp.1.1.2.6.1.9
snAgSysLogGblPersistenceEnable	brcdIp.1.1.2.6.1.11
snAgentConfigModule2Table	brcdIp.1.1.2.8.2
snAgSystemDRAMForBGP	brcdIp.1.1.2.12.4.4
snAgentHwICBMCounterTable	brcdIp.1.1.2.12.1
snAgSystemDRAMForOSPF	brcdIp.1.1.2.12.4.5
snAgSystemDebugTotalIn	brcdIp.1.1.2.12.5.1
snAgSystemDebugTotalOut	brcdIp.1.1.2.12.5.2
snAgSystemDebugCpuQueueRead	brcdIp.1.1.2.12.5.3
snAgSystemDebugDRAMBuffer	brcdIp.1.1.2.12.5.4
snAgSystemDebugBMBuffer	brcdIp.1.1.2.12.5.5
snAgSystemDebugBMFreeBuffer	brcdIp.1.1.2.12.5.6
snAgSystemDebugBMFreeBufferMgmt	brcdIp.1.1.2.12.5.7
snAgSystemDebugIpcGigLock	brcdIp.1.1.2.12.5.8
snAgSystemDebugDRAMGetError	brcdIp.1.1.2.12.5.9
snAgSystemDebugDRAMToBMCopyFail	brcdIp.1.1.2.12.5.10
snAgentTemp2Table	brcdIp.1.1.2.13.3
snCAMStatTable	brcdIp.1.1.2.12.3
snCAMIpStatTable	brcdIp.1.1.2.12.2
snCpuProcessTable	brcdIp.1.1.2.11.2
snChasUnitActualTemperature	brcdIp.1.1.1.4.1.1.4
snChasUnitWarningTemperature	brcdIp.1.1.1.4.1.1.5
snChasUnitShutdownTemperature	brcdIp.1.1.1.4.1.1.6
snSwGroupOperMode	brcdIp.1.1.3.1.1
snSwGroupDefaultCfgMode	brcdIp.1.1.3.1.4
snVLanGroupSetAllVLan	brcdIp.1.1.3.1.7
snSwPortSetAll	brcdIp.1.1.3.1.8
snPortStpSetAll	brcdIp.1.1.3.1.11
snSwProbePortNum	brcdIp.1.1.3.1.12
snSw8021qTagMode	brcdIp.1.1.3.1.13

Object	Object identifier
snSwGlobalStpMode	brcdIp.1.1.3.1.14
snSwViolatorPortNumbe	brcdIp.1.1.3.1.17
snSwEosBufferSize	brcdIp.1.1.3.1.20
snVLanByPortEntrySize	brcdIp.1.1.3.1.21
snSwPortEntrySize	brcdIp.1.1.3.1.22
snFdbStationEntrySize	brcdIp.1.1.3.1.23
snPortStpEntrySize	brcdIp.1.1.3.1.24
snVLanByIpSubnetMaxSubnets	brcdIp.1.1.3.1.29
snVLanByIpxNetMaxNetworks	brcdIp.1.1.3.1.30
snSwMaxMacFilterPerSystem	brcdIp.1.1.3.1.36
snSwMaxMacFilterPerPort	brcdIp.1.1.3.1.37
snVLanByPortTable	brcdIp.1.1.3.2.1
snVLanByProtocolTable	brcdIp.1.1.3.2.2
snVLanByIpSubnetTable	brcdIp.1.1.3.2.3
snVLanByIpxNetTable	brcdIp.1.1.3.2.4
snVLanByATCableTable	brcdIp.1.1.3.2.5
snSwPortInfoTable	brcdIp.1.1.3.3.1
snVirtualMgmtInterface	brcdIp.1.1.3.3.2.12
snSwIfMacLearningDisable	brcdIp.1.1.3.3.5.1.59
snInterfaceLookup2Table	brcdIp.1.1.3.3.7
snIfIndexLookup2Table	brcdIp.1.1.3.3.8
snFdbStationPort	brcdIp.1.1.3.4.1.1.3
snFdbStationType	brcdIp.1.1.3.4.1.1.6
snPortStpTable	brcdIp.1.1.3.5.1
snTrunkTable	brcdIp.1.1.3.6.1
snMSTrunkTable	brcdIp.1.1.3.6.2
snSwSummaryMode	brcdIp.1.1.3.7.1
snMacFilterPortAccessTable	brcdIp.1.1.3.10.2
snMacSecurity	brcdIp.1.1.3.24.1
snPortMonitorTable	brcdIp.1.1.3.25.1
snRtBootpServer	brcdIp.1.2.2.1.4
snRtBootpRelayMax	brcdIp.1.2.2.1.5
snRtIpSetAllPortConfig	brcdIp.1.2.2.1.12
snRtIpStaticRouteTable	brcdIp.1.2.2.2
snRtIpFilterTable	brcdIp.1.2.2.3
snRtStaticArpTable	brcdIp.1.2.2.5
snRtIpPortAddrTable	brcdIp.1.2.2.6
snRtIpPortAccessTable	brcdIp.1.2.2.7
snRtIpPortConfigTable	brcdIp.1.2.2.8
snRtUdpBcastFwdPortTable	brcdIp.1.2.2.9.2.1
snRtUdpHelperTable	brcdIp.1.2.2.9.3.1
snIpAsPathAccessListTable	brcdIp.1.2.2.12

Object	Object identifier
snIpCommunityListTable	brcdIp.1.2.2.13
snIpPrefixListMask	brcdIp.1.2.2.14.1.6
snRtIpPortIfAccessTable	brcdIp.1.2.2.19
snFsrp	brcdIp.1.2.7
snPOSInfoTable	brcdIp.1.2.14.1.1
snAgAclBindToPortTable	brcdIp.1.2.2.15.3
fdrySntp	brcdIp.1.1.7
fdryRadius	brcdIp.1.1.8
fdryTacacs	brcdIp.1.1.9
fdryTrap	brcdIp.1.1.10
snIpx	brcdIp.1.2.1
snIgmp	brcdIp.1.2.6
snAppleTalk	brcdIp.1.2.10
snL4	brcdIp.1.1.4
fdryAcl	brcdIp.1.2.16
snStack	brcdIp.1.1.5
snMacAuth	brcdIp.1.1.3.28
snArpInfo	brcdIp.1.1.3.22
fdryDns2MIB	brcdIp.1.1.3.34
fdryMacVlanMIB	brcdIp.1.1.3.32
fdryDaiMIB	brcdIp.1.1.3.35
fdryDhcpSnoopMIB	brcdIp.1.1.3.36
fdryIpSrcGuardMIB	brcdIp.1.1.3.37
fdryIpv6MIB	brcdIp.1.2.17.1
snWireless	brcdIp.1.1.3.23
snStacking	brcdIp.1.1.3.31
snAgentPoe	brcdIp.1.1.2.14
brcdDot1xAuth	brcdIp.1.1.3.38
snVsrpVirRtrSave	brcdIp.1.1.3.21.3.1.1.18
snVsrpVirRtrRxArpPktDropCnts	brcdIp.1.1.3.21.3.1.1.21
snVsrpVirRtrRxIpPktDropCnts	brcdIp.1.1.3.21.3.1.1.22
snVsrpVirRtrRxHelloIntMismatchCnts	brcdIp.1.1.3.21.3.1.1.23
snVsrpVirRtrRxHigherPriorityCnts	brcdIp.1.1.3.21.3.1.1.28
snRtIpRipRedisEnable	brcdIp.1.2.3.1.3
snRtIpRipSetAllPortConfig	brcdIp.1.2.3.1.5
snRtIpRipGblFiltList	brcdIp.1.2.3.1.6
snRtIpRipFiltOnAllPort	brcdIp.1.2.3.1.7
snRtIpRipEcmpEnable	brcdIp.1.2.3.1.9
snRtIpRipRedisAction	brcdIp.1.2.3.3.1.2
snRtIpRipRedisIp	brcdIp.1.2.3.3.1.4
snRtIpRipRedisMask	brcdIp.1.2.3.3.1.5
snRtIpRipRedisMatchMetric	brcdIp.1.2.3.3.1.6

Object	Object identifier
snRtIpRipStats	brcdIp.1.2.3.9
snAgSystemDebug	brcdIp.1.1.2.12.5
snRtIpRipPortConfigTable	brcdIp.1.2.3.2
snRtIpRipRouteFilterTable	brcdIp.1.2.3.4
snRtIpRipPortAccessTable	brcdIp.1.2.3.6
snRtIpRipPortIfConfigTable	brcdIp.1.2.3.7
snRtIpRipPortIfAccessTable	brcdIp.1.2.3.8
snOspfAreaTable	brcdIp.1.2.4.2
snOspfAddrRange	brcdIp.1.2.4.3
snOspfIntf	brcdIp.1.2.4.4
snOspfVirtIfTable	brcdIp.1.2.4.5
snOspfRedisTable	brcdIp.1.2.4.6
snOspfNbrTable	brcdIp.1.2.4.7
snOspfVirtNbrTable	brcdIp.1.2.4.8
snOspfLsdbTable	brcdIp.1.2.4.9
snOspfExtLsdbTable	brcdIp.1.2.4.10
snOspfAreaStatusTable	brcdIp.1.2.4.11
snOspfIfStatusTable	brcdIp.1.2.4.12
snOspfVirtIfStatusTable	brcdIp.1.2.4.13
snOspfRoutingInfoTable	brcdIp.1.2.4.14
snOspfSetTrap	brcdIp.1.2.4.15
snOspfRouterId	brcdIp.1.2.4.1.1
snOspfASBdrRtrStatus	brcdIp.1.2.4.1.3
snOspfRedisMode	brcdIp.1.2.4.1.4
snOspfDefaultOspfMetricValue	brcdIp.1.2.4.1.5
snOspfExternLSACount	brcdIp.1.2.4.1.6
snOspfExternLSACksumSum	brcdIp.1.2.4.1.7
snOspfOriginateNewLSAs	brcdIp.1.2.4.1.8
snOspfRxNewLSAs	brcdIp.1.2.4.1.9
snOspfOspfRedisMetricType	brcdIp.1.2.4.1.10
snOspfExtLsdbLimit	brcdIp.1.2.4.1.11
snOspfExitOverflowInterval	brcdIp.1.2.4.1.12
snOspfRfc1583Compatibility	brcdIp.1.2.4.1.13
snOspfRouterIdFormat	brcdIp.1.2.4.1.14
snOspfDistance	brcdIp.1.2.4.1.15
snOspfDistanceIntra	brcdIp.1.2.4.1.16
snOspfDistanceInter	brcdIp.1.2.4.1.17
snOspfDistanceExternal	brcdIp.1.2.4.1.18
snBgp4GenAlwaysCompareMed	brcdIp.1.2.11.1.1
snBgp4GenAutoSummary	brcdIp.1.2.11.1.2
snBgp4GenDefaultLocalPreference	brcdIp.1.2.11.1.3
snBgp4GenDefaultInfoOriginate	brcdIp.1.2.11.1.4

Object	Object identifier
snBgp4GenFastExternalFallover	brcdIp.1.2.11.1.5
snBgp4GenNextBootNeighbors	brcdIp.1.2.11.1.6
snBgp4GenNextBootRoutes	brcdIp.1.2.11.1.7
snBgp4GenSynchronization	brcdIp.1.2.11.1.8
snBgp4GenKeepAliveTime	brcdIp.1.2.11.1.9
snBgp4GenHoldTime	brcdIp.1.2.11.1.10
snBgp4GenRouterId	brcdIp.1.2.11.1.11
snBgp4GenTableMap	brcdIp.1.2.11.1.12
snBgp4GenDefaultMetric	brcdIp.1.2.11.1.14
snBgp4GenMaxNeighbors	brcdIp.1.2.11.1.15
snBgp4GenMinNeighbors	brcdIp.1.2.11.1.16
snBgp4GenMaxRoutes	brcdIp.1.2.11.1.17
snBgp4GenMinRoutes	brcdIp.1.2.11.1.18
snBgp4GenMaxAddrFilters	brcdIp.1.2.11.1.19
snBgp4GenMaxAggregateAddresses	brcdIp.1.2.11.1.20
snBgp4GenMaxAsPathFilters	brcdIp.1.2.11.1.21
snBgp4GenMaxCommunityFilters	brcdIp.1.2.11.1.22
snBgp4GenMaxNetworks	brcdIp.1.2.11.1.23
snBgp4GenMaxRouteMapFilters	brcdIp.1.2.11.1.24
snBgp4GenNeighPrefixMinValue	brcdIp.1.2.11.1.25
snBgp4GenOperNeighbors	brcdIp.1.2.11.1.26
snBgp4GenOperRoutes	brcdIp.1.2.11.1.27
snBgp4GenRoutesInstalled	brcdIp.1.2.11.1.29
snBgp4GenAsPathInstalled	brcdIp.1.2.11.1.30
snBgp4ExternalDistance	brcdIp.1.2.11.1.31
snBgp4InternalDistance	brcdIp.1.2.11.1.32
snBgp4LocalDistance	brcdIp.1.2.11.1.33
snBgp4OperNumOfAttributes	brcdIp.1.2.11.1.34
snBgp4NextBootMaxAttributes	brcdIp.1.2.11.1.35
snBgp4ClusterId	brcdIp.1.2.11.1.36
snBgp4ClientToClientReflection	brcdIp.1.2.11.1.37
snBgp4GenTotalNeighbors	brcdIp.1.2.11.1.38
snBgp4GenMaxPaths	brcdIp.1.2.11.1.39
snBgp4GenConfedId	brcdIp.1.2.11.1.40
snBgp4GenConfedPeers	brcdIp.1.2.11.1.41
snBgp4GenDampening	brcdIp.1.2.11.1.42
snBgp4GenDampenHalfLife	brcdIp.1.2.11.1.43
snBgp4GenDampenReuse	brcdIp.1.2.11.1.44
snBgp4GenDampenSuppress	brcdIp.1.2.11.1.45
snBgp4GenDampenMaxSuppress	brcdIp.1.2.11.1.46
snBgp4GenDampenMap	brcdIp.1.2.11.1.47
snBgp4AddrFilterTable	brcdIp.1.2.11.2.1

Object	Object identifier
snBgp4AggregateAddrTable	brcdIp.1.2.11.3.1
snBgp4AsPathFilterTable	brcdIp.1.2.11.4.1
snBgp4CommunityFilterTable	brcdIp.1.2.11.5.1
snBgp4NeighGenCfgTable	brcdIp.1.2.11.6.1
snBgp4NeighDistGroupTable	brcdIp.1.2.11.7.1
snBgp4NeighFilterGroupTable	brcdIp.1.2.11.8.1
snBgp4NeighRouteMapTable	brcdIp.1.2.11.9.1
snBgp4NetworkTable	brcdIp.1.2.11.10.1
snBgp4RedisTable	brcdIp.1.2.11.11.1
snBgp4RouteMapFilterTable	brcdIp.1.2.11.12.1
snBgp4RouteMapMatchTable	brcdIp.1.2.11.13.1
snBgp4RouteMapSetTable	brcdIp.1.2.11.14.1
snBgp4NeighOperStatusTable	brcdIp.1.2.11.15.1
snBgp4RouteOperStatusTable	brcdIp.1.2.11.16.1
snBgp4AttributeTable	brcdIp.1.2.11.18.1
snBgp4ClearNeighborCmdTable	brcdIp.1.2.11.19.1
snBgp4NeighPrefixGroup	brcdIp.1.2.11.20
snPimHelloTime	brcdIp.1.2.9.1.3
snPimVInterfaceTable	brcdIp.1.2.9.1.7
snPimNeighborTable	brcdIp.1.2.9.1.8
snPimVIfStatTable	brcdIp.1.2.9.1.9
snPimSMMIBObjects	brcdIp.1.2.9.2
snVrrpIntf	brcdIp.1.2.12.2
snVrrpVirRtr	brcdIp.1.2.12.3
snVrrpIntf2	brcdIp.1.2.12.4
snVrrpVirRtr2	brcdIp.1.2.12.5
snVrrpIfStateChangeTrap	brcdIp.1.2.12.1.2
snVrrpIfMaxNumVridPerIntf	brcdIp.1.2.12.1.3
snVrrpIfMaxNumVridPerSystem	brcdIp.1.2.12.1.4
snVrrpClearVrrpStat	brcdIp.1.2.12.1.5
snVrrpGroupOperModeVrrpextended	brcdIp.1.2.12.1.6
snAgent	brcdIp.4
snSci	brcdIp.1.1.6
brcdTMMcastStreamQStatsTable	brcdIp.1.14.2.1.2.6
snAgentBrdMemoryUtil100thPercent	brcdIp.1.1.2.2.1.1.28

Traps

The following table lists the traps that are added in the Unified IP MIB file but not supported on the MLX Series, XMR Series, MLX Series, CES 2000 Series, and CER 2000 Series devices.

Trap name	Trap number
snTrapChasPwrSupply	brcdIp.0.1
snTrapLockedAddressViolation	brcdIp.0.2
snTrapOspfIfStateChange	brcdIp.0.3
snTrapOspfVirtIfStateChange	brcdIp.0.4
snOspfNbrStateChange	brcdIp.0.5
snOspfVirtNbrStateChange	brcdIp.0.6
snOspfIfConfigError	brcdIp.0.7
snOspfVirtIfConfigError	brcdIp.0.8
snOspfIfAuthFailure	brcdIp.0.9
snOspfVirtIfAuthFailure	brcdIp.0.10
snOspfIfRxBadPacket	brcdIp.0.11
snOspfVirtIfRxBadPacket	brcdIp.0.12
snOspfTxRetransmit	brcdIp.0.13
ospfVirtIfTxRetransmit	brcdIp.0.14
snOspfOriginateLsa	brcdIp.0.15
snOspfMaxAgeLsa	brcdIp.0.16
snOspfLsdbOverflow	brcdIp.0.17
snOspfLsdbApproachingOverflow	brcdIp.0.18
snTrapL4MaxSessionLimitReached	brcdIp.0.19
snTrapL4TcpSynLimitReached	brcdIp.0.20
snTrapL4RealServerUp	brcdIp.0.21
snTrapL4RealServerDown	brcdIp.0.22
snTrapL4RealServerPortUp	brcdIp.0.23
snTrapL4RealServerPortDown	brcdIp.0.24
snTrapL4RealServerMaxConnectionLimitReached	brcdIp.0.25
snTrapL4BecomeStandby	brcdIp.0.26
snTrapL4BecomeActive	brcdIp.0.27
snTrapLockedAddressViolation2	brcdIp.0.32
snTrapFsrpIfStateChange	brcdIp.0.33
snTrapL4GslbRemoteUp	brcdIp.0.39
snTrapL4GslbRemoteDown	brcdIp.0.40
snTrapL4GslbRemoteControllerUp	brcdIp.0.41
snTrapL4GslbRemoteControllerDown	brcdIp.0.42
snTrapL4GslbHealthCheckIpUp	brcdIp.0.43
snTrapL4GslbHealthCheckIpDown	brcdIp.0.44
snTrapL4GslbHealthCheckIpPortUp	brcdIp.0.45
snTrapL4GslbHealthCheckIpPortDown	brcdIp.0.46
snTrapL4FirewallBecomeStandby	brcdIp.0.47
snTrapL4FirewallBecomeActive	brcdIp.0.48
snTrapL4FirewallPathUp	brcdIp.0.49
snTrapL4FirewallPathDown	brcdIp.0.50
snTrapL4ContentVerification	brcdIp.0.55

Trap name	Trap number
snTrapBgpPeerUp	brcdIp.0.65
snTrapBgpPeerDown	brcdIp.0.66
snTrapL4RealServerResponseTimeLowerLimit	brcdIp.0.67
snTrapL4RealServerResponseTimeUpperLimit	brcdIp.0.68
snTrapL4TcpAttackRateExceedMax	brcdIp.0.69
snTrapL4TcpAttackRateExceedThreshold	brcdIp.0.70
snTrapL4ConnectionRateExceedMax	brcdIp.0.71
snTrapL4ConnectionRateExceedThreshold	brcdIp.0.72
snTrapMacAuthEnable	brcdIp.0.85
snTrapMacAuthDisable	brcdIp.0.86
snTrapMacAuthMACAccepted	brcdIp.0.87
snTrapMacAuthMACRejected	brcdIp.0.88
snTrapMacAuthPortDisabled	brcdIp.0.89
snTrapL4RealServerPortMaxConnectionLimitReached	brcdIp.0.119
snTrapL4LinkDown	brcdIp.0.120
snTrapL4LinkUp	brcdIp.0.121
snTrapPortPriorityChange	brcdIp.0.122
snTrapAutoPortDisableTrigger	brcdIp.0.123
snTrapAutoPortDisableRelease	brcdIp.0.124
snTrapPnPStatusChange	brcdIp.0.125
snTrapWirelessIsrpPeerStateChange	brcdIp.0.126
snTrapWirelessStationStateChange	brcdIp.0.127
snTrapWirelessStationRoamingEventTriggered	brcdIp.0.128
snTrapWirelessSappStateChange	brcdIp.0.129
snTrapExternalPowerConnectionStatus	brcdIp.0.130
snTrapWebAuthEnabled	brcdIp.0.139
snTrapWebAuthDisabled	brcdIp.0.140
snTrapIpConfigChange	brcdIp.0.141
snTrapIpv6ConfigChange	brcdIp.0.142
snTrapMacAuthRadiusTimeout	brcdIp.0.143
snTrapDot1xRadiusTimeout	brcdIp.0.144
snTrapMacBasedVlanEnabled	brcdIp.0.147
snTrapMacBasedVlanDisabled	brcdIp.0.148
snTrapChasFanNormal	brcdIp.0.149
snTrapMstpBPDUGuardDetect	brcdIp.0.153
snTrapErrorDisableAction	brcdIp.0.154
snTrapStaticMulticastMacConfigAdd	brcdIp.0.158
snTrapStaticMulticastMacConfigRemove	brcdIp.0.159
snTrapPortLoopDetection	brcdIp.0.161
snTrapNoFreeTcamEntry	brcdIp.0.162
snTrapStackingMasterElected	brcdIp.0.163
snTrapStackingUnitAdded	brcdIp.0.164

Trap name	Trap number
snTrapStackingUnitDeleted	brcdIp.0.165
snTrapStackingChasPwrSupplyOK	brcdIp.0.166
snTrapStackingChasPwrSupplyFailed	brcdIp.0.167
snTrapStackingChasFanNormal	brcdIp.0.168
snTrapStackingChasFanFailed	brcdIp.0.169
snTrapStackingManagementMACChanged	brcdIp.0.170
snTrapStackingTemperatureWarning	brcdIp.0.171
snTrapChasPwrSupplyRPSAdd	brcdIp.0.174
snTrapChasPwrSupplyRPSRemove	brcdIp.0.175