

Brocade SLX-OS MIB Reference, 17r.1.01

Supporting the Brocade SLX 9850 and 9540 Devices

© 2017, Brocade Communications Systems, Inc. All Rights Reserved.

Brocade, the B-wing symbol, and MyBrocade are registered trademarks of Brocade Communications Systems, Inc., in the United States and in other countries. Other brands, product names, or service names mentioned of Brocade Communications Systems, Inc. are listed at www.brocade.com/en/legal/brocade-Legal-intellectual-property/brocade-legal-trademarks.html. Other marks may belong to third parties.

Notice: This document is for informational purposes only and does not set forth any warranty, expressed or implied, concerning any equipment, equipment feature, or service offered or to be offered by Brocade. Brocade reserves the right to make changes to this document at any time, without notice, and assumes no responsibility for its use. This informational document describes features that may not be currently available. Contact a Brocade sales office for information on feature and product availability. Export of technical data contained in this document may require an export license from the United States government.

The authors and Brocade Communications Systems, Inc. assume no liability or responsibility to any person or entity with respect to the accuracy of this document or any loss, cost, liability, or damages arising from the information contained herein or the computer programs that accompany it.

The product described by this document may contain open source software covered by the GNU General Public License or other open source license agreements. To find out which open source software is included in Brocade products, view the licensing terms applicable to the open source software, and obtain a copy of the programming source code, please visit <http://www.brocade.com/support/oscd>.

Contents

Preface	5
Document conventions.....	5
Notes, cautions, and warnings.....	5
Text formatting conventions.....	5
Command syntax conventions.....	6
Brocade resources.....	6
Document feedback.....	6
Contacting Brocade Technical Support.....	7
Brocade customers.....	7
Brocade OEM customers.....	7
About This Document	9
What's new in this document.....	9
Supported hardware and software.....	9
Interface module capabilities.....	9
Overview	11
SNMP Manager.....	11
SNMP Agent.....	11
Management information base.....	11
Port Information.....	12
Basic SNMP operation.....	12
Understanding MIBs.....	13
Brocade MIB structure.....	13
Access to MIB variables.....	14
Brocade MIBs.....	14
Standard MIBs.....	15
MIB loading order.....	17
Supported Standard MIB Objects	19
BFD MIB.....	20
Bridge MIB.....	23
Definitions of Managed Objects for BGP-4.....	24
Entity MIB (Version 3).....	25
Ethernet-like MIB.....	26
History.....	27
Host Resource MIB	28
IANA-ADDRESS-FAMILY-NUMBERS-MIB.....	29
IANAifType-MIB.....	30
IANA-RTPROTO-MIB.....	31
Interface group MIB.....	32
IP Forwarding MIB.....	33
IP MIB.....	34
IS-IS MIB.....	36
LAG MIB.....	38
LLDP MIB.....	39
LLDP-EXT-DOT1 MIB.....	40
LLDP-EXT-DOT3 MIB.....	41

MIB for the Transmission Control Protocol.....	42
MIB for the User Datagram Protocol.....	43
MPLS MIB.....	44
OSPF MIB.....	45
P-Bridge MIB.....	47
PAE MIB.....	48
Q-Bridge MIB.....	49
RIPv2-MIB.....	50
RMON MIB	51
RSTP MIB.....	52
SFLOW MIB (Version 5).....	53
SNMP Community MIB.....	54
SNMP-FRAMEWORK MIB.....	55
SNMPv2 MIB.....	56
SNMP target MIB.....	57
SNMP view-based ACM MIB.....	58
USM for SNMPv3 MIB.....	59
Supported Enterprise MIB Objects.....	61
CONTEXT-MAPPING-MIB overview.....	62
CPU utilization MIB.....	63
High Availability MIB overview.....	65
High Availability - FRU table.....	66
High Availability - FRU history table.....	67
High Availability - CP table.....	68
High Availability - MIB traps.....	69
Interface statistics and utilization.....	70
Memory utilization MIB.....	72
Optical monitoring.....	72
Optical lane monitoring table.....	73
Optical monitoring information table.....	75
SW-MIB overview.....	77
swEventTable.....	80
swSensorTable.....	81
TCAM MIB.....	81
TCAM profile.....	82
TCAM usage table.....	83
Traffic Manager MIB.....	83
Traffic Manager statistics table.....	84
Traffic Manager CPU VOQ statistics table.....	86
Traffic Manager VOQ ingress statistics table.....	87
VPLS MIB.....	88
VPLS configuration table.....	88
VPLS status table.....	89
History.....	90

Preface

- Document conventions..... 5
- Brocade resources..... 6
- Document feedback..... 6
- Contacting Brocade Technical Support..... 7

Document conventions

The document conventions describe text formatting conventions, command syntax conventions, and important notice formats used in Brocade 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.
<i>italic text</i>	Identifies text to enter in the GUI. Identifies emphasis. Identifies variables.
Courier font	Identifies document titles. 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.
<i>italic text</i>	Identifies a variable.
value	In Fibre Channel products, a fixed value provided as input to a command option is printed in plain text, for example, <code>--show WWN</code> .
[]	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. In Fibre Channel products, square brackets may be used instead for this purpose.
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, <code>member[member...]</code> .
\	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.

Brocade resources

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

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

Click the **Support** tab and select **Document Library** to access product documentation on MyBrocade or www.brocade.com. You can locate documentation by product or by operating system.

Release notes are bundled with software downloads on MyBrocade. Links to software downloads are available on the MyBrocade landing page and in the Document Library.

Document feedback

Quality is our first concern at Brocade, 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:

- Through the online feedback form in the HTML documents posted on www.brocade.com
- By sending your feedback to documentation@brocade.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 Brocade Technical Support

As a Brocade customer, you can contact Brocade Technical Support 24x7 online or by telephone. Brocade OEM customers should contact their OEM/solution provider.

Brocade customers

For product support information and the latest information on contacting the Technical Assistance Center, go to www.brocade.com and select **Support**.

If you have purchased Brocade product support directly from Brocade, use one of the following methods to contact the Brocade Technical Assistance Center 24x7.

Online	Telephone
<p>Preferred method of contact for non-urgent issues:</p> <ul style="list-style-type: none"> • Case management through the MyBrocade portal. • Quick Access links to Knowledge Base, Community, Document Library, Software Downloads and Licensing tools 	<p>Required for Sev 1-Critical and Sev 2-High issues:</p> <ul style="list-style-type: none"> • Continental US: 1-800-752-8061 • Europe, Middle East, Africa, and Asia Pacific: +800-AT FIBREE (+800 28 34 27 33) • Toll-free numbers are available in many countries. • For areas unable to access a toll-free number: +1-408-333-6061

Brocade OEM customers

If you have purchased Brocade product support from a Brocade OEM/solution provider, contact your OEM/solution provider for all of your product support needs.

- OEM/solution providers are trained and certified by Brocade to support Brocade® products.
- Brocade provides backline support for issues that cannot be resolved by the OEM/solution provider.
- Brocade Supplemental Support augments your existing OEM support contract, providing direct access to Brocade expertise. For more information, contact Brocade or your OEM.
- For questions regarding service levels and response times, contact your OEM/solution provider.

About This Document

- [What's new in this document.....](#) 9
- [Supported hardware and software.....](#) 9

What's new in this document

The following table includes descriptions of new information added to this guide for the SLX OS 17r.1.01 software release.

TABLE 1 Summary of enhancements in SLX OS release 17r.1.01

Feature	Description	Described in
There has been no enhancement to this guide for the SLX OS 17r.1.01 software release.		

For complete information, refer to the *SLX-OS 17r.1.01 Release Notes*.

Supported hardware and software

In those instances in which procedures or parts of procedures documented here apply to some devices but not to others, this guide identifies exactly which devices are supported and which are not.

Although many different software and hardware configurations are tested and supported by Brocade Communications Systems, Inc. for SLX-OS Release 17r.1.01, documenting all possible configurations and scenarios is beyond the scope of this document.

The following hardware platforms are supported by this release:

- Brocade SLX 9850-4 router
- Brocade SLX 9850-8 router
- Brocade SLX 9540 switch

To obtain information about other Brocade OS versions, refer to the documentation specific to that version.

Interface module capabilities

The following table lists the supported capabilities for the following Brocade SLX 9850 interface modules:

- BR-SLX9850-10Gx72S-M
- BR-SLX9850-100Gx36CQ-M
- BR-SLX9850-10Gx72S-D
- BR-SLX9850-100Gx36CQ-D

TABLE 2 Brocade SLX 9850 interface modules capabilities

Capability	Modular interface module
MPLS	Yes
Packet Buffer memory per interface module	12GB (BR-SLX9850-10Gx72S-M)

TABLE 2 Brocade SLX 9850 interface modules capabilities (continued)

Capability	Modular interface module
	36GB (BR-SLX9850-100Gx36CQ-M) 8GB (BR-SLX9850-10Gx72S-D) 24GB (BR-SLX9850-100Gx36CQ-D)

Overview

• SNMP Manager.....	11
• SNMP Agent.....	11
• Management information base.....	11
• Port Information.....	12
• Basic SNMP operation.....	12
• Understanding MIBs.....	13
• Standard MIBs.....	15
• MIB loading order.....	17

Simple Network Management Protocol (SNMP) is a set of protocols for managing complex networks. SNMP protocols are application layer protocols. Using SNMP, devices within a network send messages, called protocol data units (PDUs), to different parts of a network. Network management using SNMP requires three components:

- SNMP Manager
- SNMP Agent
- Management Information Base (MIB)
- Port Information

SNMP Manager

The SNMP Manager can communicate to the devices within a network using SNMP. Typically, the SNMP Manager is a network management system (NMS) that manages networks by monitoring the network parameters, and optionally, setting parameters in managed devices. Normally, the SNMP Manager sends read requests to the devices that host the SNMP Agent, to which the SNMP Agent responds with the requested data. In some cases, the managed devices can initiate the communication, and send data to the SNMP Manager using asynchronous events called traps.

SNMP Agent

The SNMP Agent is a software that resides in the managed devices in the network, and collects data from these devices. Each device hosts an SNMP Agent. The SNMP Agent stores the data, and sends the data when requested by an SNMP Manager. In addition, the SNMP Agent can asynchronously alert the SNMP Manager about events by using special PDUs called traps.

Management information base

SNMP Agents in the managed devices store the data about these devices in a database called the management information base (MIB). The MIB is a hierarchical database, which is structured on the standard specified in RFC 2578 (Structure of Management Information Version 2 [SMIPv2]).

The MIB is a database of objects that can be used by a network management system to manage and monitor devices on the network. The MIB can be retrieved by a network management system that uses 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.

Port Information

The following table provides information on ports that the device uses. When configuring the switch for various policies, take into consideration firewalls and other devices that may sit between device and your network or between the managers and the device.

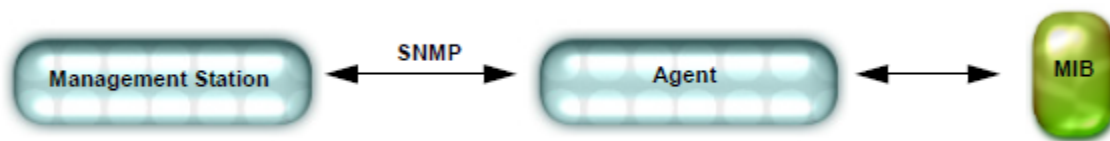
TABLE 3 Port Information

Port	Type	Common use	Comment
161	UDP	SNMP GET/SET/GETNEXT/ BULK	Disable the SNMP service on the remote host if you do not use it, or filter incoming UDP packets going to this port.
162	UDP	SNMP TRAPS/INFORMS	Sends traps/informs. Uses CLI command "no snmp-server enable trap" to disable the SNMP trap service. For outgoing source port, the available port number is picked in the port range.

Basic SNMP operation

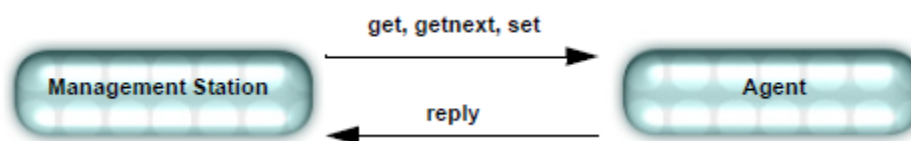
Every Brocade device carries an agent and management information base (MIB). The agent accesses information about a device and makes it available to an SNMP network management station.

FIGURE 1 SNMP structure



When active, the management station can "get" information or "set" information when it queries an agent. SNMP commands, such as get, set, getnext, and getbulk, are sent from the management station, and the agent replies immediately and send traps/notifications on any asynchronous events on the device. Agents use variables to report such data as the number of bytes and packets in and out of the device, or the number of broadcast messages sent and received. These variables are also known as managed objects. All managed objects are contained in the MIB.

FIGURE 2 SNMP query



The management station can also receive traps, unsolicited messages from the switch agent, if an unusual event occurs.

FIGURE 3 SNMP trap



The agent can receive queries from one or more management stations and can send traps to up to six management stations.

Understanding MIBs

The management information base (MIB) is a database of monitored and managed information on a device; in this case, a Brocade router. The MIB structure can be represented by a tree hierarchy. The root splits into three main branches: International Organization for Standardization (ISO), Consultative Committee for International Telegraph and Telephone (CCITT), and joint ISO/CCITT. These branches have short text strings and integers (OIDs) to identify them. Text strings describe object names, while integers allow software to create compact, encoded representations of the names.

Brocade MIB structure

Each MIB variable is assigned an object identifier (OID). The OID is the sequence of numeric labels on the nodes along a path from the root to the object. For example, as shown in the following figure, the sysDescr is:

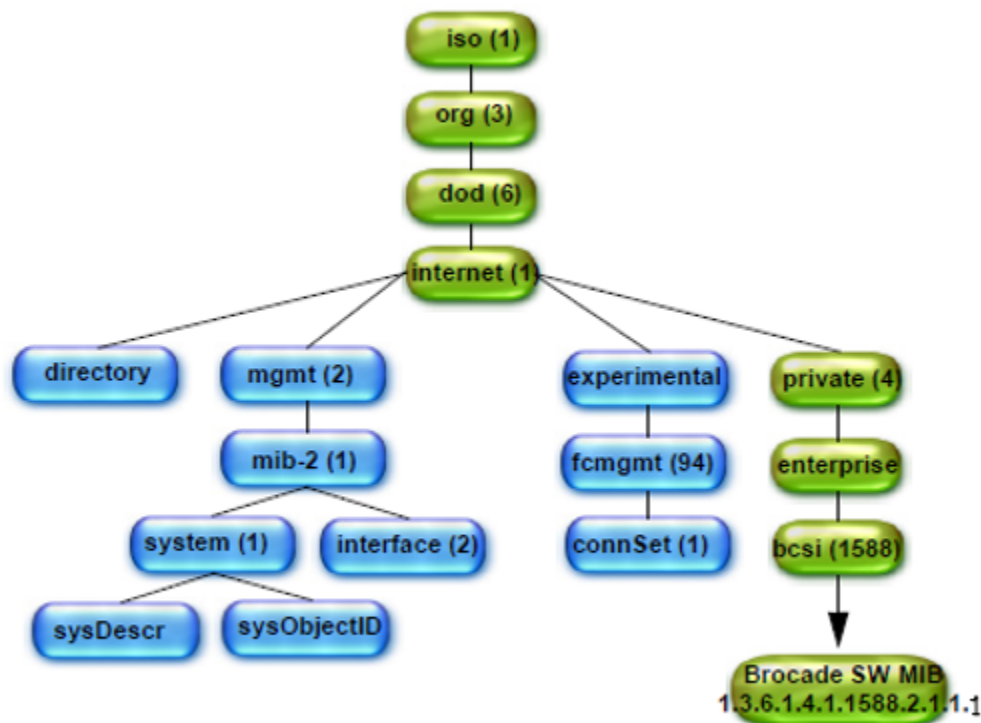
```
1.3.6.1.2.1.1.1
```

The corresponding name is:

```
iso.org.dod.internet.mgmt.mib-2.system.sysDescr
```

The other branches are part of the standard MIBs, and the portions relevant to configuring SNMP on a Brocade device are referenced in the remainder of this chapter.

FIGURE 4 Brocade MIB tree



Access to MIB variables

You can use a MIB browser to access the MIB variables. All MIB browsers load MIBs and perform queries.

Once loaded, MAX-ACCESS provides access levels between the agent and management station. The access levels are described in the following table.

TABLE 4 MIB access levels

Access level	Description
Not accessible/None	You cannot read or write to this variable.
Read-create	Specifies a tabular object that can be read, modified, or created as a new row in a table.
Read-only	You can only monitor information.
Read-write	You can read or modify this variable.
Accessible-to-notify	You can read this information only through traps.

Brocade MIBs

The Brocade MIB is a set of variables that are private extensions to the Internet standard MIBs. The Brocade agents support many Internet-standard MIBs. These standard MIBs are defined in RFC publications. To find specific MIB information, examine the Brocade proprietary MIB structure and the standard RFC MIBs supported by Brocade.

Brocade MIB files

The Brocade MIB files are as follows:

- APO-CAPABILITIES-MIB.mib
- APO-CONSORTIUM-MIB.mib
- APO-TARGET-PARAMS-MIB.mib
- BRCD_TC.mib
- BROCADE-CONTEXT-MAPPING-MIB.mib
- BROCADE-IEEE8021-PAE-CAPABILITY-MIB.mib
- BROCADE-IEEE8023-LAG-CAPABILITY-MIB.mib
- BROCADE-LLDP-CAPABILITY-MIB.mib
- BROCADE-LLDP-EXT-DOT3-CAPABILITY-MIB.mib
- BROCADE-MPLS-MIB.mib
- BROCADE-OPTICAL-MONITORING-MIB.mib
- BROCADE-PRODUCTS-MIB.mib
- BROCADE-REG-MIB.mib
- BROCADE-UDLD-MIB.mib
- HA.mib
- SNMP-RESEARCH-MIB.mib
- SWBase.mib
- System.mib
- USM-TARGET-TAG-MIB.mib

Obtaining the Brocade MIBs

You can download the Brocade-specific MIB files required for this release from the downloads area of MyBrocade. To download the Brocade-specific MIBs from MyBrocade, you must have a user name and password.

1. From your web browser, go to <http://my.brocade.com>.
2. Log in with your username and password.
3. Click the downloads tab.
4. On the downloads tab, under Product Downloads, select All Operating Systems from the Download by list.
5. Select SLX Operating System (SLX OS), and then navigate to the release.
6. Navigate to the link for the MIBs package and either open the file or save it to disk.

Standard MIBs

Standard MIBs are distributed through Brocade by shipping a concatenated file for Standard MIBs and Enterprise MIBs. You can also download the following MIBs from <http://www.oidview.com> or <http://www.ietf.org>:

- BFD-MIB
- BGP4-MIB
- BRIDGE-MIB

- ENTITY-MIB
- HOST-RESOURCE-MIB
- IANA-ADDRESS-FAMILY-NUMBERS-MIB
- IANA-RTPROTO-MIB
- IANAifType-MIB
- LLDP-MIB
- LLDP-EXT-DOT3-MIB
- LLDP-EXT-DOT1-MIB
- OSPF-MIB
- PAE-MIB
- P-BRIDGE-MIB
- Q-BRIDGE-MIB
- RFC 2856: HCNUM-TC MIB
- RFC 2863: The Interfaces Group MIB
- RFC 3289: Management Information Base for the Differentiated Services Architecture
- RFC 3593: PerfHist-TC-MIB
- RFC 3705: HC-PerfHist-TC-MIB
- RFC 3811: MPLS-TC-STD-MIB DEFINITIONS
- RFC 3813: Multiprotocol Label Switching (MPLS) Label Switching Router (LSR) Management Information Base (MIB)
- RFC 3815: Definitions of Managed Objects for the Multiprotocol Label Switching (MPLS), Label Distribution Protocol (LDP)
- RFC 4001: INET-ADDRESS-MIB
- RFC 4292: IP Forwarding Table MIB
- RFC 4293: Management Information Base for the Internet Protocol (IP)
- RMON-MIB
- RSTP-MIB
- SFLOW-MIB
- SNMP-FRAMEWORK-MIB
- SNMPv2-MIB
- SNMPv2-TC
- SNMPv3-MIB
- SNMP-MPD-MIB
- SNMP-TARGET-MIB
- SNMP-NOTIFICATION-MIB
- SNMP-USER-BASED-SM-MIB
- SNMP-VIEW-BASED-ACM-MIB
- SNMP-COMMUNITY-MIB
- TCP-MIB
- UDP-MIB

MIB loading order

Many MIBs use definitions that are defined in other MIBs. These definitions are listed in the IMPORTS section near the top of the MIB. When loading the Brocade MIBs, refer to the following table to ensure that any MIB dependencies are loading in the correct order.

NOTE

Before loading the Brocade MIB files, ensure that you have the correct version of SNMP for the SLX-OS. All versions of SLX-OS support SNMPv1, SNMPv2c, and SNMPv3. SNMPv2c informs are not supported.

TABLE 5 Brocade SNMP MIB dependencies

MIB Name	Dependencies
Brocade-REG.mib	SNMPv2-SMI MIB
Brocade-TC.mib	Brocade-REG-MIB SNMPv2-TC SNMPv2-SMI
BROCADE-PRODUCTS-MIB.mib	SNMPv2-SMI Brocade-REG-MIB
SWBASE-MIB.mib	SNMPv2-TC SNMPv2-SMI Brocade-REG-MIB
SYSTEM-MIB.mib	SNMPv2-TC Brocade-TC SWBASE-MIB
HA.mib	SNMPv2-SMI Brocade-REG-MIB SYSTEM-MIB ENTITY-MIB SNMPv2-TC
BROCADE-OPTICAL-MONITORING-MIB.mib	SNMPv2-SMI SNMPv2-CONF SNMPv2-TC SNMP-FRAMEWORK-MIB IF-MIB Brocade-REG-MIB
BROCADE-UDLD-MIB.mib	SNMPv2-SMI SNMPv2-CONF SNMPv2-TC SNMP-FRAMEWORK-MIB IF-MIB Brocade-REG-MIB
BROCADE-CONTEXT-MAPPING-MIB.mib	SNMPv2-SMI SNMPv2-CONF

TABLE 5 Brocade SNMP MIB dependencies (continued)

MIB Name	Dependencies
	SNMP-FRAMEWORK-MIB SNMPv2-TC Brocade-REG-MIB
BROCADE-MPLS-MIB.mib	SNMPv2-SMI SNMPv2-TC SNMPv2-TC MPLS-TC-STD-MIB Brocade-REG-MIB
BROCADE-INTERFACE-STATS-MIB.mib	SNMPv2-SMI SNMPv2-TC HCNUM-TC IF-MIB Brocade-REG-MIB
BROCADE-MODULE-CPU-UTIL-MIB.mib	SNMPv2-SMI Brocade-REG-MIB
BROCADE-MODULE-MEM-UTIL-MIB.mib	SNMPv2-SMI Brocade-REG-MIB
BROCADE-TCAM-MIB.mib	SNMPv2-SMI SNMPv2-TC Brocade-REG-MIB
BROCADE-TMSTATS-MIB.mib	SNMPv2-SMI IF-MIB Brocade-REG-MIB
SNMP-RESEARCH-MIB.mib	SNMPv2-SMI
USM-TARGET-TAG-MIB.mib	SNMP-RESEARCH-MIB SNMPv2-SMI SNMP-TARGET-MIB SNMP-USER-BASED-SM-MIB SNMPv2-CONF
APO-CONSORTIUM-MIB.mib	SNMPv2-SMI
APO-TARGET-PARAMS-MIB.mib	APO-CONSORTIUM-MIB SNMPv2-SMI SNMP-TARGET-MIB SNMPv2-CONF
APO-CAPABILITIES-MIB.mib	SNMPv2-SMI SNMP-FRAMEWORK-MIB APO-CONSORTIUM-MIB

Supported Standard MIB Objects

• BFD MIB.....	20
• Bridge MIB.....	23
• Definitions of Managed Objects for BGP-4.....	24
• Entity MIB (Version 3).....	25
• Ethernet-like MIB.....	26
• Host Resource MIB	28
• IANA-ADDRESS-FAMILY-NUMBERS-MIB.....	29
• IANAifType-MIB.....	30
• IANA-RTPROTO-MIB.....	31
• Interface group MIB.....	32
• IP Forwarding MIB.....	33
• IP MIB.....	34
• IS-IS MIB.....	36
• LAG MIB.....	38
• LLDP MIB.....	39
• LLDP-EXT-DOT1 MIB.....	40
• LLDP-EXT-DOT3 MIB.....	41
• MIB for the Transmission Control Protocol.....	42
• MIB for the User Datagram Protocol.....	43
• MPLS MIB.....	44
• OSPF MIB.....	45
• P-Bridge MIB.....	47
• PAE MIB.....	48
• Q-Bridge MIB.....	49
• RIPv2-MIB.....	50
• RMON MIB	51
• RSTP MIB.....	52
• SFLOW MIB (Version 5).....	53
• SNMP Community MIB.....	54
• SNMP-FRAMEWORK MIB.....	55
• SNMPv2 MIB.....	56
• SNMP target MIB.....	57
• SNMP view-based ACM MIB.....	58
• USM for SNMPv3 MIB.....	59

BFD MIB

The BFD MIB defines objects that help in modeling the Bidirectional Forwarding Detection protocol.

Supported object groups

Object group name	OID	Supported
bfdSessTable	1.3.6.1.2.1.222.1.2	Yes (read-only)
bfdSessPerfTable	1.3.6.1.2.1.222.1.3	Yes
bfdSessDiscMapTable	1.3.6.1.2.1.222.1.4	Yes
bfdSessIpMapTable	1.3.6.1.2.1.222.1.5	No
bfdAdminStatus	1.3.6.1.2.1.222.1.1.1	Yes (read-only)
bfdOperStatus	1.3.6.1.2.1.222.1.1.2	Yes
bfdNotificationsEnable	1.3.6.1.2.1.222.1.1.3	Yes (read-only)
bfdSessIndexNext	1.3.6.1.2.1.222.1.1.4	No

NOTE

BFD MIB does not support SNMP SET request.

TABLE 6 bfdSessTable

Object group name	OID
bfdSessIndex	1.3.6.1.2.1.222.1.2.1.1
bfdSessVersionNumber	1.3.6.1.2.1.222.1.2.1.2
bfdSessType	1.3.6.1.2.1.222.1.2.1.3
bfdSessDiscriminator	1.3.6.1.2.1.222.1.2.1.4
bfdSessRemoteDiscr	1.3.6.1.2.1.222.1.2.1.5
bfdSessDestinationUdpPort	1.3.6.1.2.1.222.1.2.1.6
bfdSessSourceUdpPort	1.3.6.1.2.1.222.1.2.1.7
bfdSessEchoSourceUdpPort	1.3.6.1.2.1.222.1.2.1.8
bfdSessAdminStatus	1.3.6.1.2.1.222.1.2.1.9
bfdSessOperStatus	1.3.6.1.2.1.222.1.2.1.10
bfdSessState	1.3.6.1.2.1.222.1.2.1.11
bfdSessRemoteHeardFlag	1.3.6.1.2.1.222.1.2.1.12
bfdSessDiag	1.3.6.1.2.1.222.1.2.1.13
bfdSessOperMode	1.3.6.1.2.1.222.1.2.1.14
bfdSessDemandModeDesiredFlag	1.3.6.1.2.1.222.1.2.1.15
bfdSessControlPlaneIndepFlag	1.3.6.1.2.1.222.1.2.1.16
bfdSessMultipointFlag	1.3.6.1.2.1.222.1.2.1.17
bfdSessInterface	1.3.6.1.2.1.222.1.2.1.18
bfdSessSrcAddrType	1.3.6.1.2.1.222.1.2.1.19
bfdSessSrcAddr	1.3.6.1.2.1.222.1.2.1.20
bfdSessDstAddrType	1.3.6.1.2.1.222.1.2.1.21
bfdSessDstAddr	1.3.6.1.2.1.222.1.2.1.22
bfdSessGTSM	1.3.6.1.2.1.222.1.2.1.23

TABLE 6 bfdSessTable (continued)

Object group name	OID
bfdSessGTSMTTL	1.3.6.1.2.1.222.1.2.1.24
bfdSessDesiredMinTxInterval	1.3.6.1.2.1.222.1.2.1.25
bfdSessReqMinRxInterval	1.3.6.1.2.1.222.1.2.1.26
bfdSessReqMinEchoRxInterval	1.3.6.1.2.1.222.1.2.1.27
bfdSessDetectMult	1.3.6.1.2.1.222.1.2.1.28
bfdSessNegotiatedInterval	1.3.6.1.2.1.222.1.2.1.29
bfdSessNegotiatedEchoInterval	1.3.6.1.2.1.222.1.2.1.30
bfdSessNegotiatedDetectMult	1.3.6.1.2.1.222.1.2.1.31
bfdSessAuthPresFlag	1.3.6.1.2.1.222.1.2.1.32
bfdSessAuthenticationType	1.3.6.1.2.1.222.1.2.1.33
bfdSessAuthenticationKeyID	1.3.6.1.2.1.222.1.2.1.34
bfdSessAuthenticationKey	1.3.6.1.2.1.222.1.2.1.35
bfdSessStorageType	1.3.6.1.2.1.222.1.2.1.36
bfdSessRowStatus	1.3.6.1.2.1.222.1.2.1.37

TABLE 7 bfdSessPerf Table

Object group name	OID
bfdSessPerfCtrlPktIn	1.3.6.1.2.1.222.1.3.1.1
bfdSessPerfCtrlPktOut	1.3.6.1.2.1.222.1.3.1.2
bfdSessPerfCtrlPktDrop	1.3.6.1.2.1.222.1.3.1.3
bfdSessPerfCtrlPktDropLastTime	1.3.6.1.2.1.222.1.3.1.4
bfdSessPerfEchoPktIn	1.3.6.1.2.1.222.1.3.1.5
bfdSessPerfEchoPktOut	1.3.6.1.2.1.222.1.3.1.6
bfdSessPerfEchoPktDrop	1.3.6.1.2.1.222.1.3.1.7
bfdSessPerfEchoPktDropLastTime	1.3.6.1.2.1.222.1.3.1.8
bfdSessUpTime	1.3.6.1.2.1.222.1.3.1.9
bfdSessPerfLastSessDownTime	1.3.6.1.2.1.222.1.3.1.10
bfdSessPerfLastCommLostDiag	1.3.6.1.2.1.222.1.3.1.11
bfdSessPerfSessUpCount	1.3.6.1.2.1.222.1.3.1.12
bfdSessPerfDiscTime	1.3.6.1.2.1.222.1.3.1.13
bfdSessPerfCtrlPktInHC	1.3.6.1.2.1.222.1.3.1.14
bfdSessPerfCtrlPktOutHC	1.3.6.1.2.1.222.1.3.1.15
bfdSessPerfCtrlPktDropHC	1.3.6.1.2.1.222.1.3.1.16
bfdSessPerfEchoPktInHC	1.3.6.1.2.1.222.1.3.1.17
bfdSessPerfEchoPktOutHC	1.3.6.1.2.1.222.1.3.1.18
bfdSessPerfEchoPktDropHC	1.3.6.1.2.1.222.1.3.1.19

TABLE 8 bfdSessDiscMapTable

Object group name	OID
bfdSessDiscriminator	1.3.6.1.2.1.222.1.2.1.4
bfdSessDiscMapIndex	1.3.6.1.2.1.222.1.4.1.1

TABLE 9 BFD notifications

Object group name	OID
bfdSessUp	1.3.6.1.2.1.222.0.1
bfdSessDown	1.3.6.1.2.1.222.0.2

History

Release version	History
17r.1.00	This MIB was introduced.

Bridge MIB

The Bridge MIB module for managing devices that support IEEE 802.1D.

The Bridge-Identifier, as used in the Spanning Tree Protocol, to uniquely identify a bridge. Its first two octets (in network byte order) contain a priority value, and its last 6 octets contain the MAC address used to refer to a bridge in a unique fashion (typically, the numerically smallest MAC address of all ports on the bridge).

Supported object groups

Object group name	OID	Supported?
dot1dBase	1.3.6.1.2.1.17.1	Yes
dot1dStp	1.3.6.1.2.1.17.2	Yes
dot1dTp	1.3.6.1.2.1.17.4	Yes
dot1dStatic	1.3.6.1.2.1.17.5	Yes

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

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.

History

Release version	History
16r.1.00	This MIB was introduced.

Definitions of Managed Objects for BGP-4

The BGP4 MIB module defines the MIB objects for management of Border Gateway Protocol Version 4 (BGPv4). Both read-only and read-write operations are supported on this MIB through SNMP. The definitions of managed objects for BGP-4 table is based on the RFC 4273. This RFC obsoletes RFC 1657.

MIB objects

Objects and OID	Supported	Description
bgpVersion 1.3.6.1.2.1.15.1	Yes	The version of the BGP protocol.
bgpLocalAs 1.3.6.1.2.1.15.2	Yes	The local autonomous system number.
bgpPeerTable 1.3.6.1.2.1.15.3	Yes	This table contains information about BGP peers.
bgpIdentifier 1.3.6.1.2.1.15.4	Yes	The BGP identifier of the local system.
bgp4PathAttrTable 1.3.6.1.2.1.15.6	Yes	This table contains information about paths to destination networks received from all BGP peers.

History

Release version	History
16r.1.00	This MIB was introduced.

Entity MIB (Version 3)

The following objects from RFC 4133 Entity MIB are used for representing multiple physical and logical entities supported by a single SNMP agent. Only read-only operation is supported on this MIB through SNMP.

Supported object groups

NOTE

Entity MIB does not support SNMP SET request.

Objects	OID	Supported
entityPhysical	1.3.6.1.2.1.47.1.1	Yes (read-only)
entPhysicalTable	1.3.6.1.2.1.47.1.1.1	Yes
entPhysicalEntry	1.3.6.1.2.1.47.1.1.1.1	Yes
entPhysicalIndex	1.3.6.1.2.1.47.1.1.1.1.1	Yes
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
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
entPhysicalFirmwareRev	1.3.6.1.2.1.47.1.1.1.1.9	Yes
entPhysicalSoftwareRev	1.3.6.1.2.1.47.1.1.1.1.10	Yes
entPhysicalSerialNum	1.3.6.1.2.1.47.1.1.1.1.11	Yes
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
entPhysicalAssetID	1.3.6.1.2.1.47.1.1.1.1.15	Yes
entPhysicalsFRU	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
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
entityLogical	1.3.6.1.2.1.47.1.2	No
entityMapping	1.3.6.1.2.1.47.1.3	No

History

Release version	History
16r.1.00	This MIB was introduced.

Ethernet-like MIB

The following groups from RFC 3635 are supported on the Brocade SLX router devices. RFC 3635 provides definitions of managed objects for the ethernet-like interface types.

TABLE 10 Supported list of tables

Objects group name & OID	Description	Supported
dot3StatsTable 1.3.6.1.2.1.10.7.2	Statistics for a collection of ethernet-like interfaces attached to a particular system	Partial
dot3CollTable 1.3.6.1.2.1.10.7.5	A collection of collision histograms for a particular set of interfaces	No
dot3ControlTable 1.3.6.1.2.1.10.7.9	A table of descriptive and status information about the MAC Control sublayer on the ethernet-like interfaces attached to a particular system.	Yes
dot3PauseTable 1.3.6.1.2.1.10.7.10	A table of descriptive and status information about the MAC Control PAUSE function on the ethernet-like interfaces attached to a particular system.	Yes
dot3HCStatsTable 1.3.6.1.2.1.10.7.11	A table containing 64-bit versions of error counters from the dot3StatsTable.	Partial

TABLE 11 dot3StatsTable

Object group name	Object identifier	Supported
dot3StatsIndex	1.3.6.1.2.1.10.7.2.1.1	Ifindex
dot3StatsAlignmentErrors	1.3.6.1.2.1.10.7.2.1.2	No
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	No
dot3StatsMultipleCollisionFrames	1.3.6.1.2.1.10.7.2.1.5	No
dot3StatsSQETestErrors	1.3.6.1.2.1.10.7.2.1.6	No
dot3StatsDeferredTransmissions	1.3.6.1.2.1.10.7.2.1.7	No
dot3StatsLateCollisions	1.3.6.1.2.1.10.7.2.1.8	No
dot3StatsExcessiveCollisions	1.3.6.1.2.1.10.7.2.1.9	No
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	No
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	Deprecated
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	No
dot3StatsRateControlAbility	1.3.6.1.2.1.10.7.2.1.20	No
dot3StatsRateControlStatus	1.3.6.1.2.1.10.7.2.1.21	No

TABLE 12 dot3ControlTable

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

TABLE 13 dot3PauseTable

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	No
dot3HCInPauseFrames	1.3.6.1.2.1.10.7.10.1.5	Yes
dot3HCOutPauseFrames	1.3.6.1.2.1.10.7.10.1.6	No

TABLE 14 dot3HCStatsTable

Object group name	Object identifier	Supported?
dot3HCStatsAlignmentErrors	1.3.6.1.2.1.10.7.11.1.1	No
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
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
dot3HCStatsSymbolErrors	1.3.6.1.2.1.10.7.11.1.6	Yes

History

Release version	History
17r.1.00	This MIB was introduced.

Host Resource MIB

The Host Resource MIB module defines a uniform set of MIB objects useful for the management of host computers. Only read-only operation is supported on this MIB through SNMP.

Supported object groups

Object group name	OID	Supported?
hrSystem	1.3.6.1.2.1.25.1	Yes
hrStorage	1.3.6.1.2.1.25.2	Yes
hrDevice	1.3.6.1.2.1.25.3	Yes
hrSWRun	1.3.6.1.2.1.25.4	Yes
hrSWRunPerf	1.3.6.1.2.1.25.5	Yes
hrSWInstalled	1.3.6.1.2.1.25.6	Yes
hrMIBAdminInfo	1.3.6.1.2.1.25.7	Yes

History

Release version	History
16r.1.00	This MIB was introduced.

IANA-ADDRESS-FAMILY-NUMBERS-MIB

The ianaAddressFamilyNumbers MIB module defines the AddressFamilyNumbers textual convention.

Name	Description
AddressFamilyNumbers Syntax: Integer	The definition of this textual convention with the addition of newly assigned values is published periodically by the IANA, in either the Assigned Numbers RFC, or some derivative of it specific to Internet Network Management number assignments. (The latest arrangements can be obtained by contacting the IANA.)

History

Release version	History
16r.1.00	This MIB was introduced.

IANAifType-MIB

The ianaifType MIB module defines the IANAifType textual convention, and thus the enumerated values of the ifType object defined in MIB-II's ifTable.

ianaifType textual convention

Name	Description
IANAifType Syntax: Integer	This data type is used as the syntax of the ifType object in the (updated) definition of MIB-II's ifTable. The definition of this textual convention with the addition of newly assigned values is published periodically by the IANA, in either the Assigned Numbers RFC, or some derivative of it specific to Internet Network Management number assignments. (The latest arrangements can be obtained by contacting the IANA.)
IANAifTunnelType Syntax: Integer	The encapsulation method used by a tunnel.

History

Release version	History
16r.1.00	This MIB was introduced.

IANA-RTPROTO-MIB

The ianaRtProtoMIB module defines the IANAipRouteProtocol and IANAipMRouteProtocol textual conventions for use in MIBs which need to identify unicast or multicast routing mechanisms. Any additions or changes to the contents of this MIB module require either publication of an RFC, or Designated Expert Review as defined in RFC 2434, Guidelines for Writing an IANA Considerations Section in RFCs. The Designated Expert will be selected by the IESG Area Director(s) of the Routing Area.

ianaRtProtoMIB textual convention

Name	Description
IANAipRouteProtocol Syntax: Integer	A mechanism for learning routes. Inclusion of values for routing protocols is not intended to imply that those protocols need be supported.
IANAipMRouteProtocol Syntax: Integer	The multicast routing protocol. Inclusion of values for multicast routing protocols is not intended to imply that those protocols need be supported.

History

Release version	History
16r.1.00	This MIB was introduced.

Interface group MIB

The interface entry table is based on the RFC 2863 and it obsoletes RFC 2233. It contains information about the interfaces. Each sub-layer is considered to be an interface.

TABLE 15 MIB objects

Objects and OID	Supported	Description
ifTable 1.3.6.1.2.1.2.2	Yes (read-only)	An entry containing management information applicable to a particular interface.
ifXTable 1.3.6.1.2.1.31.1.1	Yes (read-only)	An entry containing additional management information applicable to a particular interface.
ifStackTable 1.3.6.1.2.1.31.1.2	No	Information on a particular relationship between two sub-layers, specifying that one sub-layer runs on 'top' of the other sub-layer. Each sub-layer corresponds to a conceptual row in the ifTable.
ifRcvAddressTable 1.3.6.1.2.1.31.1.4	No	This table contains an entry for each address (broadcast, multicast, or unicast) for which the system will receive packets or frames on a particular interface

History

Release version	History
16r.1.00	This MIB was introduced.

IP Forwarding MIB

The IP Forwarding MIB module defines MIB objects for the management of Classless Inter-domain Routing (CIDR) multipath IP routes. The IP forwarding MIB is based on RFC 4292 and it obsoletes RFC 2096.

MIB objects

Objects and OID	Supported	Description
inetCidrRouterNumber 1.3.6.1.2.1.4.24.6	Yes	The number of valid entries in the inetCidrRouteTable.
inetCidrRouteTable 1.3.6.1.2.1.4.24.7	Yes	The IP routing table on a router.
inetCidrRouteDiscards 1.3.6.1.2.1.4.24.8	Yes	The number of valid route entries that have been discarded from the inetCidrRouteTable.

History

Release version	History
16r.1.00	This MIB was introduced.

IP MIB

The Internet Protocol (IP) MIB module provides MIB objects for management of IP modules in an IP version-independent manner.

The IP MIB table is based on the RFC 4293.

Objects and OID	Supported	Description
ipForwarding 1.3.6.1.2.1.4.1	Yes (read-only)	The indication whether the entity is acting as a IPv4 router or not.
ipDefaultTTL 1.3.6.1.2.1.4.2	Yes (read-only)	The default value of TTL inserted into IPv4 datagrams.
ipReasmTimeout 1.3.6.1.2.1.4.13	Yes	The maximum number of seconds that received fragments are held before re-assembly.
ipv6IpForwarding 1.3.6.1.2.1.4.25	Yes (read-only)	The indication whether the entity is acting as a IPv6 router or not.
ipv6IpDefaultHopLimit 1.3.6.1.2.1.4.26	Yes (read-only)	The default value inserted in the hop limit field of the v6 header.
ipv4InterfaceTableLastChange 1.3.6.1.2.1.4.27	No	The value of sysUpTime at which a row in the IPv4 interface table was added, deleted, or updated.
ipv4InterfaceTable 1.3.6.1.2.1.4.28	Yes (read-only)	The table containing per-interface IPv4 specific information.
ipv6InterfaceTableLastChange 1.3.6.1.2.1.4.29	No	The value of sysUpTime at which a row in the IPv6 interface table was added, deleted, or updated.
ipv6InterfaceTable 1.3.6.1.2.1.4.30	Yes (read-only)	The table containing per-interface IPv6 specific information.
ipSystemStatsTable 1.3.6.1.2.1.4.31.1	No	The table containing system-wide IP version specific statistics.
ipIfStatsTableLastChange 1.3.6.1.2.1.4.31.2	No	The value of sysUpTime at which a row was added or deleted in the ipIfStatsTable.
ipIfStatsTable 1.3.6.1.2.1.4.31.3	No	The table containing per-interface traffic statistics.
ipAddressPrefixTable 1.3.6.1.2.1.4.32	No	The table allows the user to determine the source of an IP address or set of addresses and allows other tables to share the information.
ipAddressTable 1.3.6.1.2.1.4.34	Yes (read-only)	The table contains addressing information relevant to the entity's interfaces.
ipNetToPhysicalTable 1.3.6.1.2.1.4.35	Yes	The IP address translation table used for mapping between IP address to physical address.
ipv6ScopeZoneIndexTable 1.3.6.1.2.1.4.36	No	The table used to describe v6 unicast and multicast scope zones.
ipDefaultRouterTable 1.3.6.1.2.1.4.37	No	The table used to describe the default routers known to this entity.

Objects and OID	Supported	Description
ipv6RouterAdvertTable 1.3.6.1.2.1.4.39	Yes	The table containing information used to construct router advertisements.
icmpStatsTable 1.3.6.1.2.1.5.29	No	The table containing system-wide ICMP statistics.
icmpMsgStatsTable 1.3.6.1.2.1.5.30	No	The table containing per-version, per-message type counters.

History

Release version	History
16r.1.00	This MIB was introduced.
16r.1.01	Added ipNetToPhysicalTable to the supported list.
17r.1.00	Added multiple MIB objects with descriptions and also indicated support for specific MIB objects.

IS-IS MIB

The MIB module contains managed object definitions that help in modeling the Intermediate System to Intermediate System (IS-IS) routing protocol. The definitions of managed objects for IS-IS table is based on the RFC 4444.

Supported MIB object groups

NOTE

IS-IS MIB does not support SNMP SET request.

Objects group	OID	Supported
isisSysObject	1.3.6.1.2.1.138.1.1.1	Yes
isisManAreaAddrTable	1.3.6.1.2.1.138.1.1.2	Yes
isisAreaAddrTable	1.3.6.1.2.1.138.1.1.3	Yes
isisSummAddrTable	1.3.6.1.2.1.138.1.1.4	Yes
isisRedistributeAddrTable	1.3.6.1.2.1.138.1.1.5	Yes
isisRouterTable	1.3.6.1.2.1.138.1.1.6	No
isisSysLevelTable	1.3.6.1.2.1.138.1.2.1	Yes
isisNextCircIndex	1.3.6.1.2.1.138.1.3.1	Yes
isisCircTable	1.3.6.1.2.1.138.1.3.2	No
isisCircLevelTable	1.3.6.1.2.1.138.1.4.1	Yes
isisSystemCounterTable	1.3.6.1.2.1.138.1.5.1	Yes
isisCircuitCounterTable	1.3.6.1.2.1.138.1.5.2	Yes
isisPacketCounterTable	1.3.6.1.2.1.138.1.5.3	Yes
isisSAdjTable	1.3.6.1.2.1.138.1.6.1	Yes
isisSAdjAreaAddrTable	1.3.6.1.2.1.138.1.6.2	Yes
isisSAdjIPAddrTable	1.3.6.1.2.1.138.1.6.3	Yes
isisSAdjProtSuppTable	1.3.6.1.2.1.138.1.6.4	Yes
isisRATable	1.3.6.1.2.1.138.1.7.1	No
isisPRATable	1.3.6.1.2.1.138.1.8.1	No
isisLSPSummaryTable	1.3.6.1.2.1.138.1.9.1	Yes
isisLSPTLVTable	1.3.6.1.2.1.138.1.9.2	Yes
isisNotificationEntry	1.3.6.1.2.1.138.1.10.1	Yes

Supported MIB notifications

Notification name	OID	Supported
isisDatabaseOverload	1.3.6.1.2.1.138.0.1	Yes
isisManualAddressDrops	1.3.6.1.2.1.138.0.2	No
isisCorruptedLSPDetected	1.3.6.1.2.1.138.0.3	No
isisAttemptToExceedMaxSequence	1.3.6.1.2.1.138.0.4	No
isisDLenMismatch	1.3.6.1.2.1.138.0.5	Yes
isisMaxAreaAddressesMismatch	1.3.6.1.2.1.138.0.6	Yes

Notification name	OID	Supported
isisOwnLSPPurge	1.3.6.1.2.1.138.0.7	Yes
isisSequenceNumberSkip	1.3.6.1.2.1.138.0.8	Yes
isisAuthenticationTypeFailure	1.3.6.1.2.1.138.0.9	No
isisAuthenticationFailure	1.3.6.1.2.1.138.0.10	Yes
isisVersionSkew	1.3.6.1.2.1.138.0.11	No
isisAreaMismatch	1.3.6.1.2.1.138.0.12	Yes
isisRejectedAdjacency	1.3.6.1.2.1.138.0.13	No
isisLSPTooLargeToPropagate	1.3.6.1.2.1.138.0.14	No
isisOrigLSPBufferSizeMismatch	1.3.6.1.2.1.138.0.15	No
isisProtocolsSupportedMismatch	1.3.6.1.2.1.138.0.16	No
isisAdjacencyChange	1.3.6.1.2.1.138.0.17	Yes
isisLSPErrorDetected	1.3.6.1.2.1.138.0.18	Yes

History

Release version	History
17r.1.00	This MIB was introduced.

LAG MIB

The Link Aggregation module for managing IEEE 802.3ad.

Supported object groups

NOTE

The Brocade device provides only read-only support to the following object groups listed here.

Object group name	OID
dot3adAggIndex	1.2.840.10006.300.43.1.1.1.1.1
dot3adAggMACAddress	1.2.840.10006.300.43.1.1.1.1.2
dot3adAggActorSystemPriority	1.2.840.10006.300.43.1.1.1.1.3
dot3adAggActorSystemID	1.2.840.10006.300.43.1.1.1.1.4
dot3adAggAggregateOrIndividual	1.2.840.10006.300.43.1.1.1.1.5
dot3adAggActorAdminKey	1.2.840.10006.300.43.1.1.1.1.6
dot3adAggActorOperKey	1.2.840.10006.300.43.1.1.1.1.7
dot3adAggPartnerSystemID	1.2.840.10006.300.43.1.1.1.1.8
dot3adAggPartnerSystemPriority	1.2.840.10006.300.43.1.1.1.1.9
dot3adAggPartnerOperKey	1.2.840.10006.300.43.1.1.1.1.10
dot3adAggCollectorMaxDelay	1.2.840.10006.300.43.1.1.1.1.11

History

Release version	History
16r.1.00	This MIB was introduced.

LLDP MIB

The MIB module for LLDP configuration, statistics, local system data and remote systems data components.

Supported object groups

Object group name	OID	Supported?
IldpConfiguration	1.0.8802.1.1.2.1.1	Yes
IldpStatistics	1.0.8802.1.1.2.1.2	Yes
IldpLocalSystemData	1.0.8802.1.1.2.1.3	Yes
IldpRemoteSystemsData	1.0.8802.1.1.2.1.4	Yes
IldpExtensions	1.0.8802.1.1.2.1.5	Yes

History

Release version	History
16r.1.00	This MIB was introduced.

LLDP-EXT-DOT1 MIB

The LLDP MIB extension module for IEEE 802.1 organizationally defined discovery information.

Supported object groups

Object group name	OID	Supported?
lldpXdot1Config	1.0.8802.1.1.2.1.5.32962.1.1	Yes
lldpXdot1LocalData	1.0.8802.1.1.2.1.5.32962.1.2	Yes
lldpXdot1RemoteData	1.0.8802.1.1.2.1.5.32962.1.3	Yes

History

Release version	History
16r.1.00	This MIB was introduced.

LLDP-EXT-DOT3 MIB

The LLDP MIB extension module for IEEE 802.3 organizationally defined discovery information.

Supported object groups

Object group name	OID	Supported?
lldpXdot3Config	1.0.8802.1.1.2.1.5.4623.1.1	Yes
lldpXdot3LocalData	1.0.8802.1.1.2.1.5.4623.1.2	Yes
lldpXdot3RemoteData	1.0.8802.1.1.2.1.5.4623.1.3	Yes

History

Release version	History
16r.1.00	This MIB was introduced.

MIB for the Transmission Control Protocol

The Brocade SLX devices support MIBs for Transmission Control Protocol (TCP). The MIB for the TCP table is based on the RFC 4022.

MIB objects

Objects and OID	Support	Description
tcpConnectionTable 1.3.6.1.2.1.6.19	Read-only	This table contains information about existing TCP connections.
tcpListenerTable 1.3.6.1.2.1.6.20	Read-only	This table contains information about TCP listeners.

History

Release version	History
16r.1.00	This MIB was introduced.

MIB for the User Datagram Protocol

The Brocade SLX devices support MIBs for Transmission Control Protocol (TCP). The MIB for the TCP table is based on the RFC 4113.

MIB objects

Objects and OID	Supported	Description
udpEndpointTable 1.3.6.1.2.1.7.7	Yes	This table contains information about the UDP endpoints on which a local application is currently sending or receiving datagrams.

History

Release version	History
16r.1.00	This MIB was introduced.

MPLS MIB

The MIB module contains managed object definitions for Multiprotocol Label Switching (MPLS).

Supported object groups

Object group name	OID	Supported?
mplsLsrStdMIB	1.3.6.1.2.1.10.166.2	Yes
mplsInterfaceTable	1.3.6.1.2.1.10.166.2.1.1	Yes
mplsInterfacePerfTable	1.3.6.1.2.1.10.166.2.1.2	Yes
mplsInSegmentIndexNext	1.3.6.1.2.1.10.166.2.1.3	Yes
mplsInSegmentTable	1.3.6.1.2.1.10.166.2.1.4	Yes
mplsInSegmentPerfTable	1.3.6.1.2.1.10.166.2.1.5	Yes
mplsOutSegmentIndexNext	1.3.6.1.2.1.10.166.2.1.6	Yes
mplsOutSegmentTable	1.3.6.1.2.1.10.166.2.1.7	Yes
mplsOutSegmentPerfTable	1.3.6.1.2.1.10.166.2.1.8	Yes
mplsXCIndexNext	1.3.6.1.2.1.10.166.2.1.9	Yes
mplsXCTable	1.3.6.1.2.1.10.166.2.1.10	Yes
mplsMaxLabelStackDepth	1.3.6.1.2.1.10.166.2.1.11	Yes
mplsLabelStackIndexNext	1.3.6.1.2.1.10.166.2.1.12	Yes
mplsLabelStackTable	1.3.6.1.2.1.10.166.2.1.13	Yes
mplsInSegmentMapTable	1.3.6.1.2.1.10.166.2.1.14	Yes
mplsXCNotificationsEnable	1.3.6.1.2.1.10.166.2.1.15	Yes
mplsTeStdMIB	1.3.6.1.2.1.10.166.3	Yes
mplsTeScalars	1.3.6.1.2.1.10.166.3.1	Yes
mplsTeObjects	1.3.6.1.2.1.10.166.3.2	Yes
mplsLdpStdMIB	1.3.6.1.2.1.10.166.4	Yes
mplsLdpObjects	1.3.6.1.2.1.10.166.4.1	Yes
mplsLdpConformance	1.3.6.1.2.1.10.166.4.2	Yes

History

Release version	History
16r.1.00	This MIB was introduced.

OSPF MIB

The OSPF MIB module defines the MIB objects for management of the Open Shortest Path First version 2 (OSPFv2) protocol. Both read-only and read-write operations are supported on this MIB through SNMP.

The OSPF MIB table is based on the RFC 4750 that obsoletes RFC 1850.

Supported object groups

Objects group name	OID	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
ospfLsdbTable	1.3.6.1.2.1.14.4	Yes
ospfAreaRangeTable	1.3.6.1.2.1.14.5	Yes
ospfHostTable	1.3.6.1.2.1.14.6	Yes
ospffTable	1.3.6.1.2.1.14.7	Yes
ospffMetricTable	1.3.6.1.2.1.14.8	Yes
ospfVirtIfTable	1.3.6.1.2.1.14.9	Yes
ospfNbrTable	1.3.6.1.2.1.14.10	Yes
ospfVirtNbrTable	1.3.6.1.2.1.14.11	Yes
ospfExtLsdbTable	1.3.6.1.2.1.14.12	Yes
ospfRouteGroup	1.3.6.1.2.1.14.13	Yes
ospfAreaAggregateTable	1.3.6.1.2.1.14.14	Yes
ospfConformance	1.3.6.1.2.1.14.15	Yes
ospfTrap	1.3.6.1.2.1.14.16	Yes
ospfAdminStat	1.3.6.1.2.1.14.1.2	Yes (read-only)
ospfAreaBdrRtrStatus	1.3.6.1.2.1.14.1.4	Yes
ospfAreaLsaCountTable	1.3.6.1.2.1.14.20	No
ospfASBdrRtrStatus	1.3.6.1.2.1.14.1.5	Yes (read-only)
ospfAsLsaCksumSum	1.3.6.1.2.1.14.1.25	Yes
ospfAsLsaCount	1.3.6.1.2.1.14.1.24	Yes
ospfAsLsdbTable	1.3.6.1.2.1.14.19	No
ospfDemandExtensions	1.3.6.1.2.1.14.1.14	No
ospfDiscontinuityTime	1.3.6.1.2.1.14.1.28	No
ospfExitOverflowInterval	1.3.6.1.2.1.14.1.13	Yes
ospfExternLsaCksumSum	1.3.6.1.2.1.14.1.7	Yes
ospfExternLsaCount	1.3.6.1.2.1.14.1.6	Yes
ospfExtLsdbLimit	1.3.6.1.2.1.14.1.11	Yes
ospfLocalLsdbTable	1.3.6.1.2.1.14.17	No
ospfMulticastExtensions	1.3.6.1.2.1.14.1.12	No
ospfOpaqueLsaSupport	1.3.6.1.2.1.14.1.16	No
ospfOriginateNewLsas	1.3.6.1.2.1.14.1.9	Yes
ospfReferenceBandwidth	1.3.6.1.2.1.14.1.17	Yes

Objects group name	OID	Supported
ospfRestartAge	1.3.6.1.2.1.14.1.22	No
ospfRestartExitReason	1.3.6.1.2.1.14.1.23	No
ospfRestartInterval	1.3.6.1.2.1.14.1.19	No
ospfRestartStatus	1.3.6.1.2.1.14.1.21	No
ospfRestartStrictLsaChecking	1.3.6.1.2.1.14.1.20	No
ospfRestartSupport	1.3.6.1.2.1.14.1.18	No
ospfRFC1583Compatibility	1.3.6.1.2.1.14.1.15	Yes
ospfRouterId	1.3.6.1.2.1.14.1.1	Yes (read-only)
ospfRxNewLsas	1.3.6.1.2.1.14.1.10	Yes
ospfStubRouterAdvertisement	1.3.6.1.2.1.14.1.27	Yes (read-only)
ospfStubRouterSupport	1.3.6.1.2.1.14.1.26	Yes
ospfTOSupport	1.3.6.1.2.1.14.1.8	No
ospfVersionNumber	1.3.6.1.2.1.14.1.3	Yes
ospfVirtLocalLsdbTable	1.3.6.1.2.1.14.1.18	No

History

Release version	History
16r.1.00	This MIB was introduced.

P-Bridge MIB

The P-Bridge MIB Extension module for managing Priority and Multicast Filtering, defined by IEEE 802.1D-1998, including Restricted Group Registration defined by IEEE 802.1t-2001.

Supported object groups

Object group name	OID	Supported?
dot1dBase	1.3.6.1.2.1.17.1	Yes
dot1dExtBase	1.3.6.1.2.1.17.6.1.1	Yes
dot1dPortPriority	1.3.6.1.2.1.17.6.1.2	Yes

History

Release version	History
16r.1.00	This MIB was introduced.

PAE MIB

The Port Access Entity module for managing IEEE 802.1X.

Supported object groups

Objects group name	OID	Supported
dot1xPaePortTable	1.0.8802.1.1.1.1.2	Yes (read-only)
dot1xAuthConfigTable	1.0.8802.1.1.1.1.2.1	Yes (read-only)

History

Release version	History
16r.1.00	This MIB was introduced.

Q-Bridge MIB

The VLAN Bridge MIB module manages Virtual Bridged Local Area Networks, as defined by IEEE 802.1Q-2003, including Restricted VLAN Registration defined by IEEE 802.1u-2001 and VLAN Classification defined by IEEE 802.1v-2001.

Supported object groups

Object group name	OID	Supported?
dot1qBase	1.3.6.1.2.1.17.7.1.1	Yes
dot1qTp	1.3.6.1.2.1.17.7.1.2	Yes
dot1qStatic	1.3.6.1.2.1.17.7.1.3	Yes
dot1qVlan	1.3.6.1.2.1.17.7.1.4	Yes
dot1vProtocol	1.3.6.1.2.1.17.7.1.5	Yes

History

Release version	History
16r.1.00	This MIB was introduced.

RIPv2-MIB

The MIB module to describe the RIP2 Version 2 Protocol.

Supported object groups

Objects group name	OID	Supported?
rip2Globals	1.3.6.1.2.1.23.1	Yes
rip2IfStatTable	1.3.6.1.2.1.23.2	Yes

History

Release version	History
16r.1.00	This MIB was introduced.

RMON MIB

Remote network monitoring devices, often called monitors or probes, are instruments that exist for the purpose of managing a network. This MIB defines objects for managing remote network monitoring devices.

Supported object groups

NOTE

RMON MIB does not support SNMP SET request.

Object group name	OID	Supported?
rmon	1.3.6.1.2.1.16	Yes
statistics	1.3.6.1.2.1.16.1	Yes
history	1.3.6.1.2.1.16.2	Yes
alarm	1.3.6.1.2.1.16.3	Yes
event	1.3.6.1.2.1.16.9	Yes

History

Release version	History
16r.1.00	This MIB was introduced.

RSTP MIB

The Bridge MIB Extension module for managing devices that support the Rapid Spanning Tree Protocol (RSTP) defined by IEEE 802.1w.

Supported object groups

Objects group name	OID	Supported?
dot1dStpVersion	1.3.6.1.2.1.17.2.16	Yes
dot1dStpTxHoldCount	1.3.6.1.2.1.17.2.17	Yes
dot1dStpExtPortTable	1.3.6.1.2.1.17.2.19	Yes

History

Release version	History
16r.1.00	This MIB was introduced.

SFLOW MIB (Version 5)

The sFlowMIB module manages the generation and transportation of sFlow data records.

Supported object groups

Objects group name	OID	Supported?
sFlowVersion	1.3.6.1.4.1.14706.1.1.1	Yes
sFlowAgentAddressType	1.3.6.1.4.1.14706.1.1.2	Yes
sFlowAgentAddress	1.3.6.1.4.1.14706.1.1.3	Yes
sFlowRcvrTable	1.3.6.1.4.1.14706.1.1.4	Yes
sFlowFsTable	1.3.6.1.4.1.14706.1.1.5	Yes
sFlowCpTable	1.3.6.1.4.1.14706.1.1.6	Yes

History

Release version	History
16r.1.00	This MIB was introduced.

SNMP Community MIB

The following lists the SNMP community MIB objects supported on the Brocade SLX devices.

The SNMP community MIB is based on the RFC 3584.

MIB objects

Objects and OID	Supported	Description
snmpCommunityTable 1.3.6.1.6.3.18.1.1	Yes	The table of community strings configured in the SNMP engine's Local Configuration Datastore (LCD).
snmpTargetAddrExtTable 1.3.6.1.6.3.18.1.2	Yes	The table of mask and maximum message size (mms) values associated with the snmpTargetAddrTable.

History

Release version	History
16r.1.00	This MIB was introduced.

SNMP-FRAMEWORK MIB

The SNMP Management Architecture MIB.

Supported object group

Object group name	OID	Supported?
snmpFrameworkAdmin	1.3.6.1.6.3.10.1	Yes
snmpFrameworkMIBObjects	1.3.6.1.6.3.10.2	Yes
snmpFrameworkMIBConformance	1.3.6.1.6.3.10.3	Yes

History

Release version	History
16r.1.00	This MIB was introduced.

SNMPv2 MIB

The MIB module for SNMP entities.

Supported object groups

NOTE

SNMPv2 MIB does not support SNMP SET request.

Object group name	OID	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

NOTE

The SNMPv2 MIB supports the SNMP message counters as well.

History

Release version	History
16r.1.00	This MIB was introduced.

SNMP target MIB

The SNMP-TARGET-MIB defines MIB objects that enable remote configuration of parameters used by an SNMP entity to generate SNMP messages. The read and read-write operation on snmpTargetAddrTable and snmpTargetParamsTable are supported via SNMP.

The SNMP target MIB table is based on the RFC 3413.

MIB objects

Objects and OID	Supported	Description
snmpTargetAddrTable 1.3.6.1.6.3.12.1.2	Yes	A table of transport addresses that is used in the generation of SNMP messages.
snmpTargetParamsTable 1.3.6.1.6.3.12.1.3	Yes	A table of SNMP target information that is used in the generation of SNMP messages.
snmpProxyTable 1.3.6.1.6.3.14.1.2	No	The table of translation parameters used by proxy forwarder applications for forwarding SNMP messages.
snmpNotifyTable 1.3.6.1.6.3.13.1.1	Yes	This table is used to select management targets that should receive notifications, as well as the type of notification that should be sent to each selected management target.
snmpNotifyFilterProfileTable 1.3.6.1.6.3.13.1.2	Yes	This table is used to associate a notification filter profile with a particular set of target parameters.
snmpNotifyFilterTable 1.3.6.1.6.3.13.1.3	Yes	The table of filter profiles. Filter profiles are used to determine whether specific management targets should receive particular notifications.

History

Release version	History
16r.1.00	This MIB was introduced.

SNMP view-based ACM MIB

The SNMP view-based ACM MIB defines the management information definitions for the view-based Access Control Model (ACM) for SNMP. The read and read-write operations on this MIB are supported via SNMP.

The SNMP view-based ACM MIB table is based on the RFC 3415.

MIB objects

Objects and OID	Supported	Description
vacmContextTable 1.3.6.1.6.3.16.1.1	Yes (read-only)	This table provides information to the SNMP command generator applications so that they can configure the vacmAccessTable to control access to all contexts at the SNMP entity.
vacmSecurityToGroupTable 1.3.6.1.6.3.16.1.2	Yes	This table maps a combination of securityModel and securityName into a groupName which is used to define an access control policy for a group of principals.
vacmAccessTable 1.3.6.1.6.3.16.1.4	Yes	The table of access rights for groups.

History

Release version	History
16r.1.00	This MIB was introduced.

USM for SNMPv3 MIB

The USM for SNMPv3 MIB describes the User-based Security Model (USM) for SNMPv3 used in the SNMP architecture. The read and read-write operations on this MIB are supported via SNMP.

The USM for SNMPv3 MIB table is based on the RFC 3414.

MIB objects

Objects and OID	Access	Description
usmUserTable 1.3.6.1.6.3.15.1.2.2	Yes	The table of users configured in the SNMP engine's Local Configuration Datastore (LCD).

History

Release version	History
16r.1.00	This MIB was introduced.

Supported Enterprise MIB Objects

• CONTEXT-MAPPING-MIB overview.....	62
• CPU utilization MIB.....	63
• High Availability MIB overview.....	65
• High Availability - FRU table.....	66
• High Availability - FRU history table.....	67
• High Availability - CP table.....	68
• High Availability - MIB traps.....	69
• Interface statistics and utilization.....	70
• Memory utilization MIB.....	72
• Optical monitoring.....	72
• SW-MIB overview.....	77
• swEventTable.....	80
• swSensorTable.....	81
• TCAM MIB.....	81
• Traffic Manager MIB.....	83
• VPLS MIB.....	88

CONTEXT-MAPPING-MIB overview

The descriptions of the MIB variables in this chapter come directly from the bcsiModules. The notes that follow the descriptions typically pertain to Brocade-specific information as provided by Brocade.

The MIB module is for VRF Context Mapping feature.

Objects and OID	Access	Description
BcmContextMappingMIB 1.3.6.1.4.1.1588.3.1.5	None	This MIB module represents the VRF Context Mapping feature.
bcmContextMappingTable 1.3.6.1.4.1.1588.3.1.5.1	Not accessible	This table provides mapping of SNMP context (represented by the value of 'vacmContextName') to various entities within entities contained within the managed device.
bcmContextMappingEntry 1.3.6.1.4.1.1588.3.1.5.1.1	Not accessible	This MIB module represents the VRF Context Mapping feature. An entry in this table represents a conceptual entry (row). Each entry represents a Context and has all the mapping information of the managed device.
bcmContextMappingVacmContextName 1.3.6.1.4.1.1588.3.1.5.1.1.1	Not accessible	This MIB module represents the VRF Context Mapping feature. This object is a human readable name identifying a specific SNMP VACM context of a specific SNMP entity.
bcmContextMappingVrfName 1.3.6.1.4.1.1588.3.1.5.1.1.2	Read-only	This MIB module represents the VRF Context Mapping feature. The value of an instance of this object identifies the name given to the VRF to which the SNMP context is mapped.
bcmContextMappingStorageType 1.3.6.1.4.1.1588.3.1.7.1.1.1.1.3	Read-only	The storage type for this conceptual row. Conceptual rows having the value 'permanent' need not allow write-access to any columnar objects in the row.
bcmContextMappingRowStatus 1.3.6.1.4.1.1588.3.1.7.1.1.1.1.4	Read-only	This object facilitates the creation, modification, or deletion of a conceptual row in this table.

History

Release version	History
16r.1.00	This MIB was introduced.

CPU utilization MIB

The CPU utilization MIB provides information about the statistical CPU utilization value within a module, in units of one hundredth of a percent.

The following table lists the slot number of module, CPU utilization interval, and CPU utilization 100th percent values.

TABLE 16 bcsiModuleCpuUtilTable

Objects and OID	Description
bcsiModuleCpuUtilTable 1.3.6.1.4.1.1588.3.1.12.1.1	The table is to list utilization for all CPUs. Access Type: MAX-ACCESS not-accessible
bcsiModuleCpuUtilEntry 1.3.6.1.4.1.1588.3.1.12.1.1.1	A row in the CPU utilization table. Type: BcsiModuleCpuUtilEntry Access Type: MAX-ACCESS not-accessible
bcsiModuleCpuUtilSlotNum 1.3.6.1.4.1.1588.3.1.12.1.1.1.1	This object holds the slot number of the module that contains the CPU. Slot number in SLX are: MM1 = 1, MM2 = 2, LC1 = 3, LC2 = 4 and so on. Type: Integer32 Access Type: MAX-ACCESS not-accessible
bcsiModuleCpuUtilInterval 1.3.6.1.4.1.1588.3.1.12.1.1.1.2	This object holds the value, in seconds, for this CPU utilization. CPU utilizations for the last 60 sec, 300 sec and 900 sec intervals are supported. Type: Integer32 Access Type: MAX-ACCESS not-accessible
bcsiModuleCpuUtil100thPercent 1.3.6.1.4.1.1588.3.1.12.1.1.1.3	This object holds the statistical CPU utilization in units of one-hundredth of a percent. For example, a value of 200 indicates 2 percent utilization. Type: Gauge32 Access Type: MAX-ACCESS read-only

The following table lists the related objects from snAgentCpuUtilTable.

TABLE 17 snAgentCpuUtilTable

Objects and OID	Description
snAgentCpuUtilTable 1.3.6.1.4.1.1991.1.1.2.11.1	The table is to list utilization for all CPUs. Access Type: MAX-ACCESS not-accessible
snAgentCpuUtilEntry 1.3.6.1.4.1.1991.1.1.2.11.1.1	A row in the CPU utilization table. Type: SnAgentCpuUtilEntry Access Type: MAX-ACCESS not-accessible
snAgentCpuUtilSlotNum 1.3.6.1.4.1.1991.1.1.2.11.1.1.1	This object holds the slot number of the module that contains the CPU. The slot number is like, for MM1 = 1, MM2 = 2, LC1 = 3, LC2 = 4 and so on. Type: Integer32 Access Type: MAX-ACCESS read-only
snAgentCpuUtilInterval 1.3.6.1.4.1.1991.1.1.2.11.1.1.3	This object holds the value, in seconds, for this CPU utilization. The CPU utilization values for 60 sec, 300 sec and 900 sec intervals are supported. Type: Integer32 Access Type: MAX-ACCESS read-only

TABLE 17 snAgentCpuUtilTable (continued)

Objects and OID	Description
snAgentCpuUtil100thPercent 1.3.6.1.4.1.1991.1.1.2.11.1.1.6	This object holds the statistical CPU utilization in units of one-hundredth of a percent. Type: Gauge32 Access Type: MAX-ACCESS read-only

History

Release version	History
17r.1.00	This MIB was introduced.

High Availability MIB overview

The HA-MIB provides information about the High Availability features of SLX-OS. The descriptions of each of the MIB variables in this chapter come directly from the HA-MIB itself.

The object types in HA-MIB are organized into the following groups:

- High Availability group
- HA-MIB traps

Objects and OID	Access	Description
haStatus 1.3.6.1.4.1.1588.2.1.2.1.1	None	Indicates whether the system is redundant.

History

Release version	History
16r.1.00	This MIB was introduced.

High Availability - FRU table

Objects and OID	Access	Description
fruTable 1.3.6.1.4.1.1588.2.1.2.1.5	None	This table inventories the available FRU slots. This table contains an entry for each entry in the entPhysicalTable that has entPhysicalClass set to "Container (5)" and has a child entry having entPhysicalIsFRU set to "true (1)".
fruClass 1.3.6.1.4.1.1588.2.1.2.1.5.1.1	Read-only	The type of the FRU object that this slot can hold.
fruStatus 1.3.6.1.4.1.1588.2.1.2.1.5.1.2	Read-only	The current status of the FRU object in the slot.
fruObjectNum 1.3.6.1.4.1.1588.2.1.2.1.5.1.3	Read-only	The slot number of the blade and the unit number for everything else.
fruSupplierId 1.3.6.1.4.1.1588.2.1.2.1.5.1.4	Read-only	The supplier ID.
fruSupplierPartNum 1.3.6.1.4.1.1588.2.1.2.1.5.1.5	Read-only	The supplier part number.
fruSupplierSerialNum 1.3.6.1.4.1.1588.2.1.2.1.5.1.6	Read-only	The supplier serial number.
fruSupplierRevCode 1.3.6.1.4.1.1588.2.1.2.1.5.1.7	Read-only	The supplier revision code.
fruPowerConsumption 1.3.6.1.4.1.1588.2.1.2.1.5.1.8	Read-only	The power consumption of the switch blades. This object has values only for core and switch blades. For other FRUs, this object returns zero.

History

Release version	History
16r.1.00	This MIB was introduced.

High Availability - FRU history table

Objects and OID	Access	Description
fruHistoryTable 1.3.6.1.4.1.1588.2.1.2.1.6	None	This table gives the contents of the entire history log of the FRU events.
fruHistoryIndex 1.3.6.1.4.1.1588.2.1.2.1.6.1.1	Read-only	Index of the FRU event in the history table.
fruHistoryClass 1.3.6.1.4.1.1588.2.1.2.1.6.1.2	Read-only	The type of the FRU object related to the event.
fruHistoryObjectNum 1.3.6.1.4.1.1588.2.1.2.1.6.1.3	Read-only	The slot number of the blade and the unit number for everything else.
fruHistoryEvent 1.3.6.1.4.1.1588.2.1.2.1.6.1.4	Read-only	The type of the FRU event.
fruHistoryTime 1.3.6.1.4.1.1588.2.1.2.1.6.1.5	Read-only	The time this event happened.
fruHistoryFactoryPartNum 1.3.6.1.4.1.1588.2.1.2.1.6.1.6	Read-only	The factory part number of the FRU object.
fruHistoryFactorySerialNum 1.3.6.1.4.1.1588.2.1.2.1.6.1.7	Read-only	The factory serial number of the FRU object.

History

Release version	History
16r.1.00	This MIB was introduced.

High Availability - CP table

Objects and OID	Access	Description
cpTable 1.3.6.1.4.1.1588.2.1.2.1.7	None	This table lists all the control cards in the system.
cpStatus 1.3.6.1.4.1.1588.2.1.2.1.7.1.1	Read-only	The current status of the control card.
cpIpAddress 1.3.6.1.4.1.1588.2.1.2.1.7.1.2	Read-only	The IP address of the Ethernet interface of this control card.
cpIpMask 1.3.6.1.4.1.1588.2.1.2.1.7.1.3	Read-only	The IP mask of the Ethernet interface of this control card.
cpIpGateway 1.3.6.1.4.1.1588.2.1.2.1.7.1.4	Read-only	The IP address of the IP gateway for this control card.
cpLastEvent 1.3.6.1.4.1.1588.2.1.2.1.7.1.5	Read-only	The last event related to this control card.

History

Release version	History
16r.1.00	This MIB was introduced.

High Availability - MIB traps

Trap name and OID	Varbinds	Description
fruStatusChanged 1.3.6.1.4.1.1588.2.1.2.2.0.1	entPhysicalName fruStatus fruClass fruObjectNum	This trap is sent when the status of any FRU object is changed.
cpStatusChanged 1.3.6.1.4.1.1588.2.1.2.2.0.2	cpStatus cpLastEvent swID swSsn	This trap is sent when the status of any control card object is changed.
fruHistoryTrap 1.3.6.1.4.1.1588.2.1.2.2.0.3	fruHistoryClass fruHistoryObjectNum fruHistoryEvent fruHistoryTime fruHistoryFactoryPartNum fruHistoryFactorySerialNum	This trap is sent when an FRU is added or removed.

History

Release version	History
16r.1.00	This MIB was introduced.

Interface statistics and utilization

Interface statistics and utilization supports SNMP monitoring of additional interface statistics and interface utilization.

Usage Guidelines

The following table specifies all MIB objects that are supported for in and out interface statistics and interface utilization.

The table displays the following information:

- Traffic received on an interface in:
 - number of bits per second
 - number of packets per second
 - network utilization in the hundredth of a percent
- Total number of jumbo packets received on an interface.
- Traffic transmitted out of an interface in:
 - number of bits per second
 - number of packets per second
 - network utilization in the hundredth of a percent

MIB objects

Objects and OID	Access	Description
bcsilfStatsTable 1.3.6.1.4.1.1588.3.1.11.1.1 Syntax: Sequence of BcsilfStatsEntry	None	This table consists of in and out interface statistics value, and in and out interface utilization value.
bcsilfStatsEntry 1.3.6.1.4.1.1588.3.1.11.1.1.1 Syntax: BcsilfStatsEntry	None	An entry in the bcsilfStats table that indicates the statistics and utilization on an interface.
bcsilfStatsInBitsPerSec 1.3.6.1.4.1.1588.3.1.11.1.1.1.1 Syntax: CounterBasedGauge64	Read-only	This object holds the number of bits per second received on the interface.
bcsilfStatsOutBitsPerSec 1.3.6.1.4.1.1588.3.1.11.1.1.1.2 Syntax: CounterBasedGauge64	Read-only	This object holds the number of bits per second transmitted out of the interface.
bcsilfStatsInPktsPerSec 1.3.6.1.4.1.1588.3.1.11.1.1.1.3 Syntax: Gauge32	Read-only	This object holds the number of packets per second received on the interface.
bcsilfStatsOutPktsPerSec 1.3.6.1.4.1.1588.3.1.11.1.1.1.4 Syntax: Gauge32	Read-only	This object holds the number of packets per second transmitted out of the interface.
bcsilfStatsInUtilization 1.3.6.1.4.1.1588.3.1.11.1.1.1.5	Read-only	This object holds the input network utilization in hundredths of a percent.

Objects and OID	Access	Description
Syntax: Unsigned32		
bcsilfStatsOutUtilization 1.3.6.1.4.1.1588.3.1.11.1.1.1.6 Syntax: Unsigned32	Read-only	This object holds the output network utilization in hundredths of a percent.
bcsilfStatsInJumboFrames 1.3.6.1.4.1.1588.3.1.11.1.1.1.7 Syntax: Counter64	Read-only	This object holds the total number of jumbo packets received on the interface.
bcsilfWatermarkTable 1.3.6.1.4.1.1588.3.1.11.1.2 Syntax: Sequence of BcsilfWatermarkEntry	None	It is the table to display the highest and lowest Tx/Rx BitRate and PktRate of a port for the current and previous 1 hour or 24 hour window.

History

Release version	History
17r.1.00	This MIB was introduced.

Memory utilization MIB

The memory utilization MIB provides information about the the dynamic memory that is currently utilized within this module, in units of one-hundredth of a percent. It also shows the available total memory in kilobytes and the total memory in kilobytes within this module.

The following table lists the slot number of module, total memory, available memory, and memory utilization 100th percent values.

TABLE 18 bcsiModuleMemUtilTable

Objects and OID	Description
bcsiModuleMemUtilTable 1.3.6.1.4.1.1588.3.1.13.1.1	The table is to list memory utilization of modules. Access Type: MAX-ACCESS not-accessible
bcsiModuleMemUtilEntry 1.3.6.1.4.1.1588.3.1.13.1.1.1	A row in the Memory utilization table. Type: BcsiModuleMemUtilEntry Access Type: MAX-ACCESS not-accessible
bcsiModuleMemUtilSlotNum 1.3.6.1.4.1.1588.3.1.13.1.1.1.1	This object holds the slot number of the module that contains the memory. Slot number are: MM1 = 1, MM2 = 2, LC1 = 3, LC2 = 4 and so on. Type: Integer32 Access Type: MAX-ACCESS not-accessible
bcsiModuleMemTotal 1.3.6.1.4.1.1588.3.1.13.1.1.1.2	This object holds the total memory in kilobytes within the module. Type: Unsigned32 Units: "kilo Bytes" Access Type: MAX-ACCESS read-only
bcsiModuleMemAvailable 1.3.6.1.4.1.1588.3.1.13.1.1.1.3	This object holds the available total memory in kilobytes within this module. Type: Gauge32 Units: "kilo Bytes" Access Type: MAX-ACCESS read-only
bcsiModuleMemUtil100thPercent 1.3.6.1.4.1.1588.3.1.13.1.1.1.4	This object holds the dynamic memory that is currently utilized within this module, in units of one-hundredth of a percent. Type: Gauge32 Access Type: MAX-ACCESS read-only

History

Release version	History
17r.1.00	This MIB was introduced.

Optical monitoring

Optical lane monitoring table

The following table displays the optical parameters table for Temperature, Tx Power, Rx Power, and Tx Bias Current values and the status for all lanes within a 40G Optic of type SR4 and LR4, 100G optic of type LR4 and LR10. LR4 and SR4 have 4 lanes per optic, LR10 has 10 lanes per optic.

Objects and OID	Access	Description
bcsiOptMonLaneTable 1.3.6.1.4.1.1588.3.1.8.1.1	None	This table lists the instrumented parameters of all lanes within a 40 G optic of type SR4 and LR4, 100G optic of type LR4 and LR10. LR4 and SR4 have 4 lanes per optic and LR10 has 10 lanes per optic.
bcsiOptMonLaneEntry 1.3.6.1.4.1.1588.3.1.8.1.1.1	None	Only the <i>ifIndices</i> of optical interfaces whose parameters need to be monitored will be used to index this table.
bcsiOptMonLaneNum 1.3.6.1.4.1.1588.3.1.8.1.1.1.1 Syntax: Unsigned32	None	This object 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.
bcsiOptMonLaneTemperature 1.3.6.1.4.1.1588.3.1.8.1.1.1.2 Syntax: SnmpAdminString	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 (Celsius), followed by whether the measured value is normal, high/low alarm, or high/low warning.
bcsiOptMonLaneTxPowerStatus 1.3.6.1.4.1.1588.3.1.8.1.1.1.3 Syntax: Integer	Read-only	This object holds the value of the transmitter optical signal power for the lane in the interface, measured in decibel-milliwatts (dBm), followed by whether this is a normal value, or high or low warning or alarm. bcsiOptMonLaneTxPowerStatus is one of the following status: <ul style="list-style-type: none"> • notSupported (1) • notApplicable (2) • highAlarm (3) • highWarn (4) • normal (5) • lowWarn (6) • lowAlarm (7)
bcsiOptMonLaneTxPower 1.3.6.1.4.1.1588.3.1.8.1.1.1.4 Syntax: SnmpAdminString	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.
bcsiOptMonLaneTxPowerVal 1.3.6.1.4.1.1588.3.1.8.1.1.1.5 Syntax: Unsigned32	Read-only	The value of the transmitter optical signal power for the lane in the interface, measured in microwatt.
bcsiOptMonLaneRxPowerStatus 1.3.6.1.4.1.1588.3.1.8.1.1.1.6 Syntax: Integer	Read-only	The status of the receiver optical signal power for the lane in the interface, indicating whether this is normal or an alarm is present. bcsiOptMonLaneTxPowerStatus is one of the following status: <ul style="list-style-type: none"> • notSupported (1) • notApplicable (2) • highAlarm (3) • highWarn (4) • normal (5) • lowWarn (6) • lowAlarm (7)

Objects and OID	Access	Description
bcsiOptMonLaneRxPower 1.3.6.1.4.1.1588.3.1.8.1.1.1.7 Syntax: SnmpAdminString	Read-only	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, high/low warning, or an alarm.
bcsiOptMonLaneRxPowerVal 1.3.6.1.4.1.1588.3.1.8.1.1.1.8 Syntax: Unsigned32	Read-only	The value of the receiver optical signal power for the lane in the interface, measured in microwatt.
bcsiOptMonLaneTxBiasCurrent 1.3.6.1.4.1.1588.3.1.8.1.1.1.9 Syntax: SnmpAdminString	Read-only	The Tx Bias Current. It is measured in mA, and is followed by whether this is a normal value, high/low warning, or an alarm.

History

Release version	History
16r.1.00	This MIB was introduced.
16r.1.01	Changed the Object names and OIDs. Introduced two new objects bcsiOptMonLaneTxPowerVal and bcsiOptMonLaneRxPowerVal.
17r.1.00	Temperature, Tx Power, Rx Power, and Tx Bias Current values are displayed.

Optical monitoring information table

The following table displays the optical monitoring information table for Temperature, Tx Power, Rx Power, and Tx Bias Current values and the status values.

Objects and OID	Access	Description
bcsiOptMonInfoTable 1.3.6.1.4.1.1588.3.1.8.1.2	None	This table lists the instrumented parameters of all optical interfaces.
bcsiOptMonInfoEntry 1.3.6.1.4.1.1588.3.1.8.1.2.1 Syntax: BcsiOptMonInfoEntry	None	Only the <i>ifIndices</i> of optical interfaces whose parameters need to be monitored will be used to index this table.
bcsiOptMonInfoTemperature 1.3.6.1.4.1.1588.3.1.8.1.2.1.1 Syntax: DisplayString	Read-only	This object holds the value of the transmitter laser diode temperature for the lane in the interface. It indicates the health of the transmitter. The format is xxx.yyyy C (Celsius), followed by whether the measured value is normal, high/low alarm, or high/low warning. For 100G LR4 and LR10 optic, this object returns the average temperature for all lanes.
bcsiOptMonInfoTxPowerStatus 1.3.6.1.4.1.1588.3.1.8.1.2.1.2 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. bcsiOptMonInfoTxPowerStatus is one of the following status: <ul style="list-style-type: none"> • notSupported (1) • notApplicable (2) • highAlarm (3) • highWarn (4) • normal (5) • lowWarn (6) • lowAlarm (7)
bcsiOptMonInfoTxPower 1.3.6.1.4.1.1588.3.1.8.1.2.1.3 Syntax: DisplayString	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/low warning or alarm. For 100G LR4 and LR10 optic, this returns the aggregated Tx Power for all lanes.
bcsiOptMonInfoTxPowerVal 1.3.6.1.4.1.1588.3.1.8.1.2.1.4 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 returns the aggregated Tx Power for all lanes.
bcsiOptMonInfoRxPowerStatus 1.3.6.1.4.1.1588.3.1.8.1.2.1.5 Syntax: Integer	Read-only	This object holds the status of the receiver optical signal power for the interface, indicating whether this is normal or an alarm is present. bcsiOptMonLaneTxPowerStatus is one of the following status: <ul style="list-style-type: none"> • notSupported (1) • notApplicable (2) • highAlarm (3) • highWarn (4) • normal (5) • lowWarn (6) • lowAlarm (7)
bcsiOptMonInfoRxPower 1.3.6.1.4.1.1588.3.1.8.1.2.1.6 Syntax: DisplayString	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, or high/low warning or alarm. For 100G LR4 and LR10 optic, this returns the aggregated Rx Power for all lanes.

Objects and OID	Access	Description
bcsiOptMonInfoRxPowerVal 1.3.6.1.4.1.1588.3.1.8.1.2.1.7 Syntax: Unsigned32	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 returns the aggregated Rx Power for all lanes.
bcsiOptMonInfoTxBiasCurrent 1.3.6.1.4.1.1588.3.1.8.1.2.1.8 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. For 100G LR4 and LR10 optic, this returns the aggregated Tx Bias Current for all lanes.

History

Release version	History
17r.1.00	This MIB was introduced.

SW-MIB overview

The descriptions of the MIB variables in this chapter come directly from the Switch MIB. The notes that follow the descriptions typically pertain to Brocade-specific information as provided by Brocade.

TABLE 19 Switch base MIB

Objects and OID	Access	Description
sw 1.3.6.1.4.1.1588.2.1.1.1	None	The OID sub-tree for the Brocade Silkworm Series of Fibre Channel Switches.

TABLE 20 Switch system group MIBs

Objects and OID	Access	Description
swSystem 1.3.6.1.4.1.1588.2.1.1.1.1	None	The MIB module is for system information.
swCurrentDate 1.3.6.1.4.1.1588.2.1.1.1.1.1	Read-only	The object displays the current date in textual format.
swBootDate 1.3.6.1.4.1.1588.2.1.1.1.1.2	Read-only	The date and time when the system last booted.
swFWLastUpdated 1.3.6.1.4.1.1588.2.1.1.1.1.3	Read-only	The date when the firmware was last updated to the switch.
swFlashLastUpdated 1.3.6.1.4.1.1588.2.1.1.1.1.4	Read-only	The date and time when the flash was last updated.
swBootPromLastUpdated 1.3.6.1.4.1.1588.2.1.1.1.1.5	Read-only	The date and time when the Boot PROM was last updated.
swFirmwareVersion 1.3.6.1.4.1.1588.2.1.1.1.1.6	Read-only	The current version of the firmware.
swOperStatus 1.3.6.1.4.1.1588.2.1.1.1.1.7	Read-only	The current operational status of the switch. Possible values: <ul style="list-style-type: none"> • online (1) - The switch is accessible by an external FC port. • offline (2) - The switch is not accessible. • testing (3) - The switch is in a built-in test mode and is not accessible by an external Fibre Channel port. • faulty (4) - The switch is not operational.
swFlashDLOperStatus 1.3.6.1.4.1.1588.2.1.1.1.1.11	Read-only	The operational status of the flash. Possible values: <ul style="list-style-type: none"> • unknown (0) - Indicates that the operational status of the flash is unknown. • swCurrent (1) - Indicates that the flash contains the current firmware image or configuration file. • swFwUpgraded (2) - Indicates that the flash contains the upgraded image from the swFlashDLHost.0. • swCfUploaded (3) - Indicates that the switch configuration file has been uploaded to the host. • swCfDownloaded (4) - Indicates that the switch configuration file has been downloaded from the host.

TABLE 20 Switch system group MIBs (continued)

Objects and OID	Access	Description
		<ul style="list-style-type: none"> swFwCorrupted (5) - Indicates that the firmware in the flash of the switch is corrupted.
swFlashDLAdmStatus 1.3.6.1.4.1.1588.2.1.1.1.12	Read-write	<p>The state of the flash.</p> <p>Possible values:</p> <ul style="list-style-type: none"> swCurrent (1) - The flash contains the current firmware image or configuration file. swFwUpgrade (2) - The firmware in the flash is to be upgraded from the host specified. swCfUpload (3) - The switch configuration file is to be uploaded to the host specified. swCfDownload (4) - The switch configuration file is to be downloaded from the host specified. swFwCorrupted (5) - The firmware in the flash is corrupted. This value is for informational purposes only; however, setting swFlashDLAdmStatus to this value is not allowed.
swBeaconOperStatus 1.3.6.1.4.1.1588.2.1.1.1.18	Read-only	<p>The current operational status of the switch beacon.</p> <p>Possible values:</p> <ul style="list-style-type: none"> on (1) - The LEDs on the front panel of the switch run alternately from left to right and right to left. The color is yellow. off (2) - Each LED is in its regular status, indicating color and state.
swBeaconAdmStatus 1.3.6.1.4.1.1588.2.1.1.1.19	Read-write	<p>The desired status of the switch beacon.</p> <p>Possible values:</p> <ul style="list-style-type: none"> on (1) - The LEDs on the front panel of the switch run alternately from left to right and right to left. Set the color to yellow. off (2) - Set each LED to its regular status, indicating color and state.
swDiagResult 1.3.6.1.4.1.1588.2.1.1.1.20	Read-only	<p>The result of the power-on self-test (POST) diagnostics.</p> <p>Possible values:</p> <ul style="list-style-type: none"> sw-ok (1) - The switch is okay. sw-faulty (2) - The switch has experienced an unknown fault. sw-embedded-port-fault (3) - The switch has experienced an embedded port fault.
swNumSensors 1.3.6.1.4.1.1588.2.1.1.1.21	Read-only	The number of sensors inside the switch.
swEtherIPAddress 1.3.6.1.4.1.1588.2.1.1.1.25	Read-only	The IP address of the Ethernet interface of this logical switch.
swEtherIPMask 1.3.6.1.4.1.1588.2.1.1.1.26	Read-only	The IP mask of the Ethernet interface of this logical switch.
swIPv6Address 1.3.6.1.4.1.1588.2.1.1.1.29	None	The IPv6 address.
swIPv6Status 1.3.6.1.4.1.1588.2.1.1.1.30	None	<p>The current status of the IPv6 address.</p> <p>Possible values:</p> <ul style="list-style-type: none"> tentative (1) preferred (2) ipdeprecated (3)

TABLE 20 Switch system group MIBs (continued)

Objects and OID	Access	Description
		<ul style="list-style-type: none"> <li data-bbox="841 310 993 340">inactive (4)

History

Release version	History
16r.1.00	This MIB was introduced.

swEventTable

Objects and OID	Access	Description
swEvent 1.3.6.1.4.1.1588.2.1.1.1.8	None	The OID sub-tree for the switch event group.
swEventTable 1.3.6.1.4.1.1588.2.1.1.1.8.5	Read-only	The table of event entries.
swEventIndex 1.3.6.1.4.1.1588.2.1.1.1.8.5.1.1	Read-only	This object identifies the event entry.
swEventTimeInfo 1.3.6.1.4.1.1588.2.1.1.1.8.5.1.2	Read-only	The date and time that this event occurred.
swEventLevel 1.3.6.1.4.1.1588.2.1.1.1.8.5.1.3	Read-only	The severity level of this event entry. Possible values: <ul style="list-style-type: none"> • critical (1) • error (2) • warning (3) • informational (4) • debug (5)
swEventRepeatCount 1.3.6.1.4.1.1588.2.1.1.1.8.5.1.4	Read-only	This object indicates the number of times this particular event has occurred.
swEventDescr 1.3.6.1.4.1.1588.2.1.1.1.8.5.1.5	Read-only	A textual description of the event.
swEventVfid 1.3.6.1.4.1.1588.2.1.1.1.8.5.1.6	Read-only	This object identifies the Virtual Fabric ID.

History

Release version	History
16r.1.00	This MIB was introduced.

swSensorTable

Objects and OID	Access	Description
swSensorTable 1.3.6.1.4.1.1588.2.1.1.1.1.22	None	The table of sensor entries.
swSensorIndex 1.3.6.1.4.1.1588.2.1.1.1.1.22.1.1	Read-only	The index of the sensor.
swSensorType 1.3.6.1.4.1.1588.2.1.1.1.1.22.1.2	Read-only	The type of sensor. Possible values: <ul style="list-style-type: none"> temperature (1) fan (2) power-supply (3)
swSensorStatus 1.3.6.1.4.1.1588.2.1.1.1.1.22.1.3	Read-only	The current status of the sensor. Possible values: <ul style="list-style-type: none"> unknown (1) faulty (2) below-min (3) - The sensor value is below the minimal threshold. nominal (4) above-max (5) - The sensor value is above the maximum threshold. absent (6) - The sensor is missing.
swSensorValue 1.3.6.1.4.1.1588.2.1.1.1.1.22.1.4	Read-only	The current value (reading) of the sensor. The unknown value -2147483648 indicates the maximum value of integer value; it also means that the sensor does not have the capability to measure the actual value. The temperature sensor value is in Celsius, the fan value is in RPM (revolutions per minute), and the power supply sensor reading is unknown.
swSensorInfo 1.3.6.1.4.1.1588.2.1.1.1.1.22.1.5	Read-only	Additional information on the sensor. It contains the sensor type and number, in textual format; for example: Temp 3, Fan 6, and so on.

History

Release version	History
16r.1.00	This MIB was introduced.

TCAM MIB

TCAM profile

The following object identifies the Ternary Content-Addressable Memory (TCAM) partition profiles.

MIB objects

Object and OID	Access	Description
bcsITCAMProfile 1.3.6.1.4.1.1588.3.1.14.1.1.1	Read-only	This object identifies TCAM partition profile. Each profile adjusts the partitions to optimize the device for corresponding applications.

History

Release version	History
17r.1.00	This MIB was introduced.

TCAM usage table

The following table contains information about the CAM usage of the entity.

MIB objects

Object and OID	Access	Description
bcsiTCAMUsageTable 1.3.6.1.4.1.1588.3.1.14.1.2.1	None	This table contains information of the entity's TCAM usage.
bcsiTCAMUsageEntry 1.3.6.1.4.1.1588.3.1.14.1.2.1.1	None	An entry containing management information applicable to TCAM usage.
bcsiTCAMUsageSlot 1.3.6.1.4.1.1588.3.1.14.1.2.1.1.1	None	A number which uniquely identifies a line card in the device.
bcsiTCAMUsageProcessor 1.3.6.1.4.1.1588.3.1.14.1.2.1.1.2	None	A number which uniquely identifies the network processor within a line card in the device.
bcsiTCAMUsageFeature 1.3.6.1.4.1.1588.3.1.14.1.2.1.1.3	None	This object identifies the feature within the line card and network processor.
bcsiTCAMUsageContainerId 1.3.6.1.4.1.1588.3.1.14.1.2.1.1.4	Read-only	This object identifies the bank container which can refer to a single bank or multiple TCAM banks.
bcsiTCAMUsageDBId 1.3.6.1.4.1.1588.3.1.14.1.2.1.1.5	Read-only	This object identifies the logical database.
bcsiTCAMUsageSize 1.3.6.1.4.1.1588.3.1.14.1.2.1.1.6	Read-only	This object indicates if the size for this feature in the current profile is fixed or dynamic.
bcsiTCAMUsageCurrentUsage 1.3.6.1.4.1.1588.3.1.14.1.2.1.1.7	Read-only	This object indicates the current usage of TCAM entries by this feature.
bcsiTCAMUsageMaxLimit 1.3.6.1.4.1.1588.3.1.14.1.2.1.1.8	Read-only	This object indicates the maximum Limit of TCAM entries available for this feature.
bcsiTCAMUsageFreeCountContainer 1.3.6.1.4.1.1588.3.1.14.1.2.1.1.9	Read-only	This object indicates the number of free entries in the container that is associated with the TCAM logical database used by this feature. Used for debugging purpose.
bcsiTCAMUsageFreeCountDB 1.3.6.1.4.1.1588.3.1.14.1.2.1.1.10	Read-only	This object indicates the number of free entries in the TCAM logical database used by this feature. Used for debugging purpose.
bcsiTCAMUsageFreeCountFeature 1.3.6.1.4.1.1588.3.1.14.1.2.1.1.11	Read-only	This object indicates the number of free entries available for this feature. Used for debugging purpose.

History

Release version	History
17r.1.00	This MIB was introduced.

Traffic Manager MIB

Traffic Manager statistics table

The following table contains the Traffic Manager-related statistics. Use the **show tm statistics** command to display information about the Traffic Manager-related statistics.

MIB objects

Objects and OID	Access	Description
bcstiMStatsTable (OID: .1.3.6.1.4.1.1588.3.1.15.1.2.2)	None	Table contains information of Traffic Manager(TM) counters.
bcstiMStatsEntry (OID: .1.3.6.1.4.1.1588.3.1.15.1.2.2.1)	None	An entry containing TM counter information.
bcstiMStatsSlot (OID: .1.3.6.1.4.1.1588.3.1.15.1.2.2.1.1)	None	Slot number which uniquely identifies a line card. The line card must be physically present and operationally up.
bcstiMStatsTower (OID: .1.3.6.1.4.1.1588.3.1.15.1.2.2.1.2)	None	Tower number which uniquely identifies the network processor TM within a line card in the system.
bcstiMStatsDescription (OID: .1.3.6.1.4.1.1588.3.1.15.1.2.2.1.3)	Read-only	This object gives the description of this entry.
bcstiMStatsTotalIngressPkts (OID: .1.3.6.1.4.1.1588.3.1.15.1.2.2.1.4)	Read-only	A count of all packets entering into this TM.
bcstiMStatsIngressCPUPkts (OID: .1.3.6.1.4.1.1588.3.1.15.1.2.2.1.5)	Read-only	A count of all packets entering into this TM destined for the CPU.
bcstiMStatsIngressEnqueuePkts (OID: .1.3.6.1.4.1.1588.3.1.15.1.2.2.1.6)	Read-only	A count of all packets entering ingress queues on this TM.
bcstiMStatsIngressDequeuePkts (OID: .1.3.6.1.4.1.1588.3.1.15.1.2.2.1.7)	Read-only	A count of all packets de-queued from ingress queues and forwarded on this TM.
bcstiMStatsIngressTotalDiscardPkts (OID: .1.3.6.1.4.1.1588.3.1.15.1.2.2.1.8)	Read-only	A count of all packets failing to enter ingress queues on this TM.
bcstiMStatsIngressOldestDiscardPkts (OID: .1.3.6.1.4.1.1588.3.1.15.1.2.2.1.9)	Read-only	A count of all packets entering ingress queues on this TM, but deleted later due to buffer being full.
bcstiMStatsIngressResolvedToBeDropped (OID: .1.3.6.1.4.1.1588.3.1.15.1.2.2.1.10)	Read-only	A count of all packets entering ingress queues on this TM, but resolved to be dropped.
bcstiMStatsIngressCRCErrorCount (OID: .1.3.6.1.4.1.1588.3.1.15.1.2.2.1.11)	Read-only	A count of all packets entering ingress queues on this TM, but found to have bad CRC.
bcstiMStatsEgressREDiscardPkts (OID: .1.3.6.1.4.1.1588.3.1.15.1.2.2.1.12)	Read-only	A count of all packets entering egress queues on this TM and discarded due to reassembly errors.
bcstiMStatsEgressFilterDiscardPkts (OID: .1.3.6.1.4.1.1588.3.1.15.1.2.2.1.13)	Read-only	A count of all packets entering egress queues on this TM and discarded due to filtering.
bcstiMStatsEgressDiscardUCPkts (OID: .1.3.6.1.4.1.1588.3.1.15.1.2.2.1.14)	Read-only	A count of all unicast packets failing to enter egress queues on this TM.
bcstiMStatsEgressDiscardMCPkts (OID: .1.3.6.1.4.1.1588.3.1.15.1.2.2.1.15)	Read-only	A count of all multicast packets failing to enter egress queues on this TM.

Objects and OID	Access	Description
bcslTMStatsEgressUnicastPkts (OID: .1.3.6.1.4.1.1588.3.1.15.1.2.2.1.16)	Read-only	A count of all unicast packets entering egress queues and forwarded out on this TM.
bcslTMStatsEgressMulticastPkts (OID: .1.3.6.1.4.1.1588.3.1.15.1.2.2.1.17)	Read-only	A count of all multicast packets entering egress queues and forwarded out on this TM.
bcslTMStatsEgressFQPPkts (OID: .1.3.6.1.4.1.1588.3.1.15.1.2.2.1.18)	Read-only	A count of all FQP packets entering egress queues and forwarded out on this TM.

History

Release version	History
17r.1.00	This MIB was introduced.

Traffic Manager CPU VOQ statistics table

The bcsiTMVOQCPUGroupStatsTable contains information about the Traffic Manager(TM) VOQ (Virtual Output Queue) counters for CPU groups. Use the **show tm voq-statistics cpu-group** command to display information about the TM counters for the CPU groups.

MIB objects

Objects and OID	Access	Description
bcsiTMVOQCPUGroupStatsTable (OID: .1.3.6.1.4.1.1588.3.1.15.1.3.2)	None	Table contains information about TM VOQ counters for CPU groups.
bcsiTMVOQCPUGroupStatsEntry (OID: .1.3.6.1.4.1.1588.3.1.15.1.3.2.1)	None	An entry containing TM VOQ counter information for CPU groups.
bcsiTMVOQCPUGroupStatsSlot (OID: .1.3.6.1.4.1.1588.3.1.15.1.3.2.1.1)	None	Slot number which uniquely identifies a line card. The line card must be physically present and operationally up.
bcsiTMVOQCPUGroupStatsGroup (OID: .1.3.6.1.4.1.1588.3.1.15.1.3.2.1.2)	None	The CPU group of the packets stored in this queue. The CPU group value lies between 0 and 12.
bcsiTMVOQCPUGroupStatsPriority (OID: .1.3.6.1.4.1.1588.3.1.15.1.3.2.1.3)	None	The priority of the packets stored in this queue. The priority value lies between 0 and 7.
bcsiTMVOQCPUGroupStatsDescription (OID: .1.3.6.1.4.1.1588.3.1.15.1.3.2.1.4)	Read-only	This object gives the description of this entry.
bcsiTMVOQCPUGroupStatsEnQPkts (OID: .1.3.6.1.4.1.1588.3.1.15.1.3.2.1.5)	Read-only	A count of all packets entering ingress queues for this priority in this CPU group.
bcsiTMVOQCPUGroupStatsEnQBytes (OID: .1.3.6.1.4.1.1588.3.1.15.1.3.2.1.6)	Read-only	A count of bytes entering ingress queues for this priority in this CPU group.
bcsiTMVOQCPUGroupStatsTotalDiscardPkts (OID: .1.3.6.1.4.1.1588.3.1.15.1.3.2.1.7)	Read-only	A count of all packets failing to enter ingress queues for this priority in this CPU group.
bcsiTMVOQCPUGroupStatsTotalDiscardBytes (OID: .1.3.6.1.4.1.1588.3.1.15.1.3.2.1.8)	Read-only	A count of bytes failing to enter ingress queues for this priority in this CPU group.
bcsiTMVOQCPUGroupStatsCurrQDepth (OID: .1.3.6.1.4.1.1588.3.1.15.1.3.2.1.9)	Read-only	The current queue depth for this priority in this CPU group.
bcsiTMVOQCPUGroupStatsMaxQDepth (OID: .1.3.6.1.4.1.1588.3.1.15.1.3.2.1.10)	Read-only	The maximum queue depth for this priority in this CPU group, since last read by any entity.

History

Release version	History
17r.1.00	This MIB was introduced.

Traffic Manager VOQ ingress statistics table

The bcsITMVOQIngressStatsTable contains information Traffic Manager(TM) VOQ (Virtual Output Queue) counters for ingress tower for an egress port and priority. Use the **show tm voq-statistics ingress-device** command to display information about the TM VOQ counters for the ingress tower. The GET-NEXT request is not fully functional in this table.

MIB objects

Objects and OID	Access	Description
bcsITMVOQIngressStatsTable (OID: .1.3.6.1.4.1.1588.3.1.15.1.3.3)	None	Table contains information TM VOQ counters for ingress tower for an egress port and priority.
bcsITMVOQIngressStatsEntry (OID: .1.3.6.1.4.1.1588.3.1.15.1.3.3.1)	None	An entry containing TM VOQ counter information for ingress tower for an egress port and priority.
bcsITMVOQIngressStatsSlot (OID: .1.3.6.1.4.1.1588.3.1.15.1.3.3.1.1)	None	Slot number which uniquely identifies a line card. The line card must be physically present and operationally up.
bcsITMVOQIngressStatsTower (OID: .1.3.6.1.4.1.1588.3.1.15.1.3.3.1.2)	None	Tower number which uniquely identifies the network processor TM within a line card in the system.
bcsITMVOQIngressStatsEgressPort (OID: .1.3.6.1.4.1.1588.3.1.15.1.3.3.1.3)	None	The value of ifIndex corresponding to the egress port.
bcsITMVOQIngressStatsPriority (OID: .1.3.6.1.4.1.1588.3.1.15.1.3.3.1.4)	None	The priority of the packets stored in this queue. The priority value lies between 0 and 7.
bcsITMVOQIngressStatsDescription (OID: .1.3.6.1.4.1.1588.3.1.15.1.3.3.1.5)	Read-only	This object gives the description of this entry.
bcsITMVOQIngressStatsEnQPkts (OID: .1.3.6.1.4.1.1588.3.1.15.1.3.3.1.6)	Read-only	A count of all packets entering ingress queues for this priority, destined for the specified egress port.
bcsITMVOQIngressStatsEnQBytes (OID: .1.3.6.1.4.1.1588.3.1.15.1.3.3.1.7)	Read-only	A count of bytes entering ingress queues for this priority, destined for the specified egress port.
bcsITMVOQIngressStatsTotalDiscardPkts (OID: .1.3.6.1.4.1.1588.3.1.15.1.3.3.1.8)	Read-only	A count of all packets failing to enter ingress queues for this priority, destined for the specified egress port.
bcsITMVOQIngressStatsTotalDiscardBytes (OID: .1.3.6.1.4.1.1588.3.1.15.1.3.3.1.9)	Read-only	A count of bytes failing to enter ingress queues for this priority, destined for the specified egress port.
bcsITMVOQIngressStatsCurrQDepth (OID: .1.3.6.1.4.1.1588.3.1.15.1.3.3.1.10)	Read-only	The current queue depth for this priority, destined for the specified egress port.
bcsITMVOQIngressStatsMaxQDepth (OID: .1.3.6.1.4.1.1588.3.1.15.1.3.3.1.11)	Read-only	The maximum queue depth for this, destined for the specified egress port, since last read by any entity.

History

Release version	History
17r.1.00	This MIB was introduced.

VPLS MIB

The VPLS MIB defines objects that help in modeling the Virtual Private LAN Service (VPLS) protocol.

The following table lists the MIB modules that are part of the VPLS MIB.

TABLE 21 VPLS MIB

MIB name and OID	Supported	Description
VPLS-GENERIC-MIB 1.3.6.1.2.1.10.274	Partial (read-only)	Contains generic managed object definitions for VPLS.
VPLS-LDP-MIB 1.3.6.1.2.1.10.275	No	Contains managed object definitions for LDP-signaled VPLS.
VPLS-BGP-MIB 1.3.6.1.2.1.10.276	No	Contains managed object definitions for BGP signaled VPLS.

The following objects listed support VPLS-GENERIC-MIB.

TABLE 22 VPLS-GENERIC-MIB objects

Object group name and OID	Supported	Description
vplsConfigTable 1.3.6.1.2.1.10.274.1.2	Yes	This table specifies information for configuring and monitoring VPLS.
vplsStatusTable 1.3.6.1.2.1.10.274.1.3	Yes	This table provides information for monitoring VPLS.

NOTE

None of the traps are supported.

VPLS configuration table

The following table lists the objects that are supported for the vplsConfigTable.

TABLE 23 vplsConfigTable

Object name, OID, and syntax	Supported	Description
vplsConfigIndex 1.3.6.1.2.1.10.274.1.2.1.1 Syntax: Unsigned 32	Read-only	Unique index for the conceptual row identifying a VPLS.
vplsConfigName 1.3.6.1.2.1.10.274.1.2.1.2 Syntax: SnmpAdminString	Read-only	Name of the VPLS. If there is no local name for this object, then this object should contain a zero-length octet string.
vplsConfigDescr 1.3.6.1.2.1.10.274.1.2.1.3 Syntax: SnmpAdminString	Read-only	A text string containing information about the VPLS. If there is no information for this VPLS, then this object should contain a zero-length octet string.
vplsConfigAdminStatus 1.3.6.1.2.1.10.274.1.2.1.4 Syntax: INTEGER	Read-only	The desired administrative state of the VPLS.

TABLE 23 vplsConfigTable (continued)

Object name, OID, and syntax	Supported	Description
vplsConfigMacLearning 1.3.6.1.2.1.10.274.1.2.1.6 Syntax: TruthValue	Read-only	This object specifies if MAC learning is enabled in the VPLS. If this object is true, then MAC learning is enabled. If it is false, then MAC learning is disabled.
vplsConfigDiscardUnknownDest 1.3.6.1.2.1.10.274.1.2.1.7 Syntax: TruthValue	Read-only	If the value of this object is true, then those frames received with an unknown destination MAC are discarded in this VPLS. If it is false, then the packets are processed.
vplsConfigMacAging 1.3.6.1.2.1.10.274.1.2.1.8 Syntax: TruthValue	Read-only	If the value of this object is 'true', then the MAC aging process is enabled in this VPLS. If it is false, then the MAC aging process is disabled.
vplsConfigFwdFullHighWatermark 1.3.6.1.2.1.10.274.1.2.1.10 Syntax: Unsigned 32	No	This object specifies the utilization of the forwarding database for a specific VPLS instance at which the vplsFwdFullAlarmRaised notification is sent. The value of this object must be higher than vplsConfigFwdFullLowWatermark. This object returns a value of 0.
vplsConfigFwdFullLowWatermark 1.3.6.1.2.1.10.274.1.2.1.11 Syntax: Unsigned 32	No	This object specifies the utilization of the forwarding database for a specific VPLS instance at which the vplsFwdFullAlarmCleared notification is sent. The value of this object must be less than vplsConfigFwdFullHighWatermark. This object returns a value of 0.
vplsConfigRowStatus 1.3.6.1.2.1.10.274.1.2.1.12 Syntax: RowStatus	Read-only	This object is for creating, modifying, and deleting this row.
vplsConfigMtu 1.3.6.1.2.1.10.274.1.2.1.13 Syntax: Unsigned 32	Read-only	The value of this object specifies the MTU of the specific VPLS instance. This can be used to limit the MTU to a value lower than the MTU supported by the associated pseudo wires.
vplsConfigVpnId 1.3.6.1.2.1.10.274.1.2.1.14 Syntax: VpnIdOrZero	Read-only	This objects indicates the IEEE 802-1990 VPN ID of the associated VPLS.
vplsConfigStorageType 1.3.6.1.2.1.10.274.1.2.1.15 Syntax: StorageType	Read-only	This variable indicates the storage type for this row.
vplsConfigSignalingType 1.3.6.1.2.1.10.274.1.2.1.16 Syntax: INTEGER	Read-only	Desired signaling type of the VPLS. If the value of this object is ldp (1), then a corresponding entry in vplsLdpConfigTable is required. If the value of this object is bgp(2), then a corresponding entry in vplsBgpConfigTable is required. If the value of this object is none (3), then it indicates a static configuration of pseudo wire labels.

VPLS status table

The following table lists the objects that are supported for the vplsStatusTable.

TABLE 24 vplsStatusTable

Object name, OID, and syntax	Supported	Description
vplsStatusOperStatus 1.3.6.1.2.1.10.274.1.3.1.1 Syntax: INTEGER	Yes	The current operational state of this VPLS.
vplsStatusPeerCount 1.3.6.1.2.1.10.274.1.3.1.2 Syntax: Counter32	Yes	This objects specifies the number of peers (pseudo wires) present in this VPLS instance.

History

Release version	History
17r.1.00	This MIB was introduced.