RUCKUS FastIron MIB Reference, 08.0.90

Supporting FastIron Software Release 08.0.90

Part Number: 53-1005569-06
Publication Date: 15 March 2023

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Contacting RUCKUS Customer Services and Support

The Customer Services and Support (CSS) organization is available to provide assistance to customers with active warranties on their RUCKUS products, and customers and partners with active support contracts.

For product support information and details on contacting the Support Team, go directly to the RUCKUS Support Portal using https://support.ruckuswireless.com, or go to https://www.commscope.com/ruckus and select **Support**.

What Support Do I Need?

Technical issues are usually described in terms of priority (or severity). To determine if you need to call and open a case or access the self-service resources, use the following criteria:

- Priority 1 (P1)—Critical. Network or service is down and business is impacted. No known workaround. Go to the **Open a Case** section.
- Priority 2 (P2)—High. Network or service is impacted, but not down. Business impact may be high. Workaround may be available. Go to the **Open a Case** section.
- Priority 3 (P3)—Medium. Network or service is moderately impacted, but most business remains functional. Go to the **Self-Service Resources** section.
- Priority 4 (P4)—Low. Requests for information, product documentation, or product enhancements. Go to the **Self-Service Resources** section.

Open a Case

When your entire network is down (P1), or severely impacted (P2), call the appropriate telephone number listed below to get help:

- Continental United States: 1-855-782-5871
- Canada: 1-855-782-5871
- Europe, Middle East, Africa, Central and South America, and Asia Pacific, toll-free numbers are available at https://support.ruckuswireless.com/contact-us and Live Chat is also available.
- Worldwide toll number for our support organization. Phone charges will apply: +1-650-265-0903

We suggest that you keep a physical note of the appropriate support number in case you have an entire network outage.

Self-Service Resources

The RUCKUS Support Portal at https://support.ruckuswireless.com offers a number of tools to help you to research and resolve problems with your RUCKUS products, including:

- Technical Documentation—https://support.ruckuswireless.com/documents
- Community Forums—https://community.ruckuswireless.com
- Knowledge Base Articles—https://support.ruckuswireless.com/answers
- Software Downloads and Release Notes—https://support.ruckuswireless.com/#products_grid
- Security Bulletins—https://support.ruckuswireless.com/security

Using these resources will help you to resolve some issues, and will provide TAC with additional data from your troubleshooting analysis if you still require assistance through a support case or RMA. If you still require help, open and manage your case at https://support.ruckuswireless.com/case_management.

Document Feedback

RUCKUS is interested in improving its documentation and welcomes your comments and suggestions.

You can email your comments to RUCKUS at #Ruckus-Docs@commscope.com.

When contacting us, include the following information:

- Document title and release number
- Document part number (on the cover page)
- Page number (if appropriate)

For example:

- RUCKUS SmartZone Upgrade Guide, Release 5.0
- Part number: 800-71850-001 Rev A
- Page 7

RUCKUS Product Documentation Resources

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

Release Notes and other user documentation are available at https://support.ruckuswireless.com/documents. You can locate the documentation by product or perform a text search. Access to Release Notes requires an active support contract and a RUCKUS Support Portal user account. Other technical documentation content is available without logging in to the RUCKUS Support Portal.

White papers, data sheets, and other product documentation are available at https://www.commscope.com/ruckus .

Online Training Resources

To access a variety of online RUCKUS training modules, including free introductory courses to wireless networking essentials, site surveys, and products, visit the RUCKUS Training Portal at https://commscopeuniversity.myabsorb.com/. The registration is a two-step process described in this video. You create a CommScope account and then register for, and request access for, CommScope University.

Document Conventions

The following table lists the text conventions that are used throughout this guide.

TABLE 1 Text Conventions

Convention	Description	Example
`monospace`	Identifies command syntax examples	`device(config)# interface ethernet 1/1/6`
bold	User interface (UI) components such as screen or page names, keyboard keys, software buttons, and field names	On the **Start** menu, click **All Programs**.
italics	Publication titles	Refer to the *RUCKUS Small Cell Release Notes* for more information.

Notes, Cautions, and Safety 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 some information that you must read before continuing with the current action or task.



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.

Command Syntax Conventions

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

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

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Supported hardware

This guide supports the following Ruckus products:

- RUCKUS ICX 7850 Series
- RUCKUS ICX 7750 Series
- RUCKUS ICX 7650 Series
- RUCKUS ICX 7450 Series
- RUCKUS ICX 7250 Series
- RUCKUS ICX 7150 Series

For information about what models and modules these devices support, see the hardware installation guide for the specific product family.

What's new in this document

The following table includes descriptions of the new information added to this guide for the FastIron 08.0.90b release.

TABLE 2 Summary of Enhancements in FastIron OS 08.0.90b

Feature	Description	Described in
Change in SNMP behavior	Starting with this release, accessing RADIUS or TACACS MIB objects via SNMP is enabled by default. Two related commands, **enable snmp configure-radius** and **enable snmp configure-tacacs**, are no longer needed and are deprecated.	The deprecated commands have been removed from the RADIUS general MIBs and RADIUS server (IPv4) tables and from the TACACS general group and TACACS server (IPv4) tables.
Updates to address defects	Minor updates on content throughout to address defects.	All chapters.
Minor editorial updates	Minor editorial updates were made throughout the Configuration Guide.	All chapters.

The following table includes descriptions of the new information added to this guide for the FastIron 08.0.90 release.

TABLE 3 Summary of Enhancements in FastIron OS 08.0.90

Feature	Description	Described in
SNMP support for the RUCKUS ICX 7850	Added support for the RUCKUS ICX 7850.	Refer to the following updated tables: • Registration MIB Definition on page 75 • Configured module table on page 121 • Switch port information on page 137 • Entity MIBs on page 302

TABLE 3 Summary of Enhancements in FastIron OS 08.0.90 (continued)

Feature	Description	Described in
SNMP support for stacking enhancements	Added stacking MIBS.	Refer to the following section: • Global objects for stacking on page 175 • Stacking configuration unit table on page 176
SNMP support for RFC 4087 IP Tunnel MIB	Added the tunnel interface table.	Refer to the section RFC 4087: IP Tunnel MIB on page 35.

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Introduction

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

Obtaining and installing the IP MIBs

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

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

Downloading the MIB from the Ruckus Support website

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

1. Go to support.ruckuswireless.com in your Web browser.
2. Log in with your user name and password.
3. Navigate to your RUCKUS ICX product.
4. Select the Downloads tab.
5. Click the name of the MIB that applies to your software release and product.
6. Click on the filename for the MIB file.
7. When the License Agreement opens, select "I understand and agree" and then click Download.

Downloading the MIB from the RUCKUS FTP site

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

Importing IP MIB into a UNIX environment

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

- CR/LF - Indicates the end of a line

- ^Z - Indicates the end of a file

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

Reloading MIBs into a third-party NMS

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

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

Standard objects

The IP MIB supports certain standard MIB objects, which are derived from Request for Comments (RFCs) documents. Refer to Supported Standard MIBs on page 19 for details on the supported standard MIBs.

Proprietary objects

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

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

SNMP support

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

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

Supported Standard MIBs

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- RFC compliance - management 20
- LLDP MIB support 21
- LLDP\LLDP-MED MIB support 21
- RFC 1493: Definitions of Managed Objects for Bridges 21
- RFC 1757: Remote Network Monitoring Management Information Base 23
- RFC 1850: OSPF Version 2 Management Information Base 23
- RFC 2096: IP Forwarding Table MIB 23
- RFC 2787: Definitions of Managed Objects for the Virtual Router Redundancy Protocol 24
- RFC 2863: The Interfaces Group MIB 26
- RFC 2932: IPv4 Multicast Routing MIB 31
- RFC 2933: Internet Group Management Protocol MIB 33
- RFC 2934: Protocol Independent Multicast MIB for IPv4 34
- RFC 3418: Management Information Base (MIB) for the SNMP 35
- RFC 4087: IP Tunnel MIB 35
- RFC 4133: Entity MIB (Version 3) 36
- RFC 4273: Definitions of Managed Objects for BGP-4 38
- draft-ietf-idr-bgp4-mibv2-12 MIB 39
- RFC 4293: Management Information Base for the Internet Protocol (IP) 47
- RFC 4836: MAU (Medium Attachment Unit) MIBs 48
- RFC 5676: Definitions of Managed Objects for Mapping SYSLOG Messages to Simple Network Management Protocol (SNMP) Notifications 49
- LLDP-MIB 49
- LLDP-EXT-DOT1-MIB 53
- LLDP-EXT-DOT3-MIB 56
- RFC 4560 - Ping MIB 59
- RFC 4560 - Traceroute MIB 66
- Standard MIBs 73

Supported on RUCKUS FastIron devices

RUCKUS FastIron devices support the following RFCs:

- 2819 - Remote Network Monitoring Management Information Base
- 2863 - The Interfaces Group MIB
- 3411 - SNMP Framework MIB

  NOTE
  In RFC 3411, the snmpEngineBoots object supports the maximum value 9999.

- 3412 - Message Processing and Dispatching (MPD) for the SNMP MIB
- 3413 - SNMP Target MIB
- 3414 - User-Security Model for SNMPv3 MIB
- 3415 - View-based Access Control Model for SNMP MIB

> **NOTE**
> The GET/SET operation is not supported on **vacmViewTreeFamilyTable** , **vacmAccessTable** , and **vacmSecurityToGroupTable** of RFC 3415.

- 3418 - Management Information Base (MIB) for the SNMP (Refer to RFC 3418: Management Information Base (MIB) for the SNMP on page 35 for details.)
- 4188 - Definitions of Managed Objects for Bridges
- 4273 - Definitions of Managed Objects for BGP-4

The following standard MIBs are supported only on the RUCKUS FastIron X Series IPv6 devices:

- 2452 - IP Version 6 Management Information Base for the Transmission Control Protocol
- 2454 - IP Version 6 Management Information Base for the User Datagram Protocol
- 2465 - Management Information Base for IP Version 6: Textual Conventions and General Group

> **NOTE**
> RFC 2465 MIB support on RUCKUSFastIron X Series IPv6 devices is limited to **ipv6NetToMediaTable** and **ipv6AddrTable** only. The SET operation is not supported on **ipv6IfDescr** object of **ipv6IfTable**.

- 2466 - Management Information Base for IP Version 6: ICMPv6 Group
- 2932 - IPv4 Multicast Routing MIB
- 2933 - Internet Group Management Protocol MIB
- 2934 - Protocol Independent Multicast MIB for IPv4
- 4001 - Textual Conventions for Internet Network Addresses

RFC compliance - management

- 854 - TELNET
- 1445 - Administrative Model for SNMPv2 - Support for View Subtree (partially supported)
- 1492 - TACACS+
- 2030 - SNTP
- 2068 - HTTP
- 2284 - PPP EAP - Support EAP extension
- 2578 - SNMPv2
- 2579 - Textual Conventions for SMIv2
- 2865 - RADIUS
- 2866 - RADIUS Accounting
- 2868 - RADIUS Attributes for Tunnel Protocol (partially supported)
- 2869 - RADIUS Extensions - EAP Message (type 79) and Message-Authenticator (type 80)
- 3164 - BSD Syslog Protocol
- 3410 - SNMPvV3
- 3411 - Architecture for SNMP
- 3412 - Message Processing and Dispatching for SNMP
- 3413 - Simple Network Management Protocol (SNMP) Applications (partially supported)

- 3414 - USM for SNMPv3
- 3415 - VACM for SNMPvV3
- 3416 - Version 2 of the Protocol Operations for the SNMP
- 3579 - RADIUS Support for Extensible Authentication Protocol (EAP) (partially supported)
- 3584 - Coexistence between Version 1, Version 2, and Version 3 of the Internet-standard Network Management Framework
- 3815 - Managed Objects for the Multiprotocol Label Switching (MPLS) and Label Distribution Protocol (LDP)
- 3826 - The Advanced Encryption Standard (AES) Cipher Algorithm in the SNMP User-based Security Model
- 4188 - Definitions of Managed Objects for Bridges
- 4251 - The Secure Shell (SSH) Protocol Architecture
- 4252 - The Secure Shell (SSH) Authentication Protocol
- 4253 - The Secure Shell (SSH) Transport Protocol
- 4254 - The Secure Shell (SSH) Connection Protocol
- 4273 - Definitions of Managed Objects for BGP-4 (Refer to RFC 4273: Definitions of Managed Objects for BGP-4 on page 38 for details.)
- draft-ietf-idr-bgp4-mibv2-12 MIB on page 39 — Definitions of Managed Objects for the Fourth Version of Border Gateway Protocol (BGP-4), Second Version
- 4330 - Simple Network Time Protocol (SNTP) Version 4 for IPv4 and IPv6
- draft-grant-tacacs-02.txt - The TACACS+ Protocol
- draft-ietf-pwe3-pw-mib-11.txt - PW-STD-MIB Definitions (read-only)

LLDP MIB support

The following standard MIBs are supported on the RUCKUS ICX series devices with LLDP capability.

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

- LLDP-MIB on page 49
- LLDP-EXT-DOT1-MIB on page 53
- LLDP-EXT-DOT3-MIB on page 56

LLDP\LLDP-MED MIB support

The following standard MIBs are supported on the RUCKUS ICX devices with LLDP\LLDP-MED capability.

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

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

- LLDP-EXT-MED-MIB

RFC 1493: Definitions of Managed Objects for Bridges

The following groups are supported on RUCKUS ICX devices.

Object group name	Object identifier
dot1dBridge	1.3.6.1.2.1.17
dot1dBase	1.3.6.1.2.1.17.1
dot1dStp	1.3.6.1.2.1.17.2
dot1dTp	1.3.6.1.2.1.17.4
dot1dTpFdbTable	1.3.6.1.2.1.17.4.3
dot1dTpPortTable	1.3.6.1.2.1.17.4.4
dot1dTpHCPortTable	1.3.6.1.2.1.17.4.5
dot1dTpPortOverflowTable	1.3.6.1.2.1.17.4.6
dot1dExtBase	1.3.6.1.2.1.17.6.1.1
dot1dPortCapabilitiesTable	1.3.6.1.2.1.17.6.1.1.4
dot1dPortPriorityTable	1.3.6.1.2.1.17.6.1.2.1
dot1dTrafficClassTable	1.3.6.1.2.1.17.6.1.2.3
dot1dPortGarpTable	1.3.6.1.2.1.17.6.1.3.1

Object group name	Object identifier
dot1qBase	1.3.6.1.2.1.17.7.1.1
dot1qTp	1.3.6.1.2.1.17.7.1.2
dot1qFdbTable	1.3.6.1.2.1.17.7.1.2.1
dot1qTpFdbTable	1.3.6.1.2.1.17.7.1.2.2
dot1qVlan	1.3.6.1.2.1.17.7.1.4
dot1qVlanCurrentTable	1.3.6.1.2.1.17.7.1.4.2
dot1qVlanStaticTable	1.3.6.1.2.1.17.7.1.4.3
dot1qPortVlanTable	1.3.6.1.2.1.17.7.1.4.5
dot1vProtocol	1.3.6.1.2.1.17.7.1.5
dot1vProtocolGroupTable	1.3.6.1.2.1.17.7.1.5.1
dot1vProtocolPortTable	1.3.6.1.2.1.17.7.1.5.2

NOTE
The dot1dTpFdbTable (OID 1.3.6.1.2.1.17.4.3) in RFC 1493 is used to find dynamically learned MAC addresses. Statically configured MAC addresses are in the snFdbTable (refer to Forwarding database static table information on page 201).

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

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

RFC 1757: Remote Network Monitoring Management Information Base

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

RFC 1850: OSPF Version 2 Management Information Base

The following tables from RFC 1850 are supported on the RUCKUSFastIron devices.

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

RFC 2096: IP Forwarding Table MIB

RFC 2096 is supported on the RUCKUS FastIron devices. RFC 2096 replaces RFC 1213.

Object group name	Object identifier
ipCidrRouteDest	1.3.6.1.2.1.4.24.4.1.1
ipCidrRouteMask	1.3.6.1.2.1.4.24.4.1.2
ipCidrRouteTos	1.3.6.1.2.1.4.24.4.1.3
ipCidrRouteNextHop	1.3.6.1.2.1.4.24.4.1.4
ipCidrRouteIfIndex	1.3.6.1.2.1.4.24.4.1.5
ipCidrRouteType	1.3.6.1.2.1.4.24.4.1.6
ipCidrRouteProto	1.3.6.1.2.1.4.24.4.1.7

Object group name	Object identifier
ipCidrRouteAge	1.3.6.1.2.1.4.24.4.1.8
ipCidrRouteInfo	1.3.6.1.2.1.4.24.4.1.9
ipCidrRouteNextHopAS	1.3.6.1.2.1.4.24.4.1.10
ipCidrRouteMetric1	1.3.6.1.2.1.4.24.4.1.11
ipCidrRouteMetric2	1.3.6.1.2.1.4.24.4.1.12
ipCidrRouteMetric3	1.3.6.1.2.1.4.24.4.1.13
ipCidrRouteMetric4	1.3.6.1.2.1.4.24.4.1.14
ipCidrRouteMetric5	1.3.6.1.2.1.4.24.4.1.15
ipCidrRouteStatus	1.3.6.1.2.1.4.24.4.1.16

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

The ICX devices support RFC 2787, Definitions of Managed Objects for the Virtual Router Redundancy Protocol.

NOTE
SNMP support for VRRP MIBs is limited to only IPv4 and not supported on IPv6. The ICX devices support only VRRP version 2 MIBs.

NOTE
The following MIB tables in RFC 2787 support SNMP GET, SNMP SET, and SNMP WALK operations on the ICX devices.

The following are the VRRP MIB groups:

- vrrpOperations (OID: 1.3.6.1.2.1.68.1)
- vrrpStatistics (OID: 1.3.6.1.2.1.68.2)
- vrrpConformance (OID: 1.3.6.1.2.1.68.3) - This MIB group is not supported on the ICX devices.

VRRP operations table (vrrpOperTable)

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

Object	Object identifier	Supported?
vrrpNodeVersion	1.3.6.1.2.1.68.1.1	Yes. Supports VRRP v2 and always return the OID value 2 on RUCKUS ICX devices.
vrrpNotificationCntl	1.3.6.1.2.1.68.1.2	Yes. Controls VRRP enable/disable syslogs on the RUCKUS ICX devices.
vrrpOperTable	1.3.6.1.2.1.68.1.3	Yes
vrrpOperVrId	1.3.6.1.2.1.68.1.3.1.1	Yes
vrrpOperVirtualMacAddr	1.3.6.1.2.1.68.1.3.1.2	Yes
vrrpOperState	1.3.6.1.2.1.68.1.3.1.3	Yes
vrrpOperAdminState	1.3.6.1.2.1.68.1.3.1.4	Yes
vrrpOperPriority	1.3.6.1.2.1.68.1.3.1.5	Yes
vrrpOperIpAddrCount	1.3.6.1.2.1.68.1.3.1.6	Yes
vrrpOperMasterIpAddr	1.3.6.1.2.1.68.1.3.1.7	Yes

Object	Object identifier	Supported?
vrrpOperPrimaryIpAddr	1.3.6.1.2.1.68.1.3.1.8	Yes
vrrpOperAuthType	1.3.6.1.2.1.68.1.3.1.9	Yes. The value ipAuthenticationHeader(3)Type is not supported on RUCKUS ICX devices.
vrrpOperAuthKey	1.3.6.1.2.1.68.1.3.1.10	Yes. The value ipAuthenticationHeader(3)Type is not supported on the RUCKUS ICX devices.
vrrpOperAdvertisementInterval	1.3.6.1.2.1.68.1.3.1.11	Yes
vrrpOperPreemptMode	1.3.6.1.2.1.68.1.3.1.12	Yes
vrrpOperVirtualRouterUpTime	1.3.6.1.2.1.68.1.3.1.13	Yes. Returns always zero on RUCKUS ICX devices.
vrrpOperProtocol	1.3.6.1.2.1.68.1.3.1.14	Yes
vrrpOperRowStatus	1.3.6.1.2.1.68.1.3.1.15	Yes

VRRP associated IP address table (vrrpAssoIpAddrTable)

The table of addresses associated with the virtual router.

Object	Object identifier	Supported?
vrrpAssoIpAddr	1.3.6.1.2.1.68.1.4.1.1	Yes
vrrpAssoIpAddrRowStatus	1.3.6.1.2.1.68.1.4.1.2	Yes

VRRP statistics (vrrpStatistics)

The table of MIB objects represents the VRRP statistics.

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

VRRP router statistics (vrrpRouterStatsTable)

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

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

Object	Object identifier	Supported?
vrrpStatsPacketLengthErrors	1.3.6.1.2.1.68.2.4.1.12	Yes

RFC 2863: The Interfaces Group MIB

RFC 2863 is supported on the RUCKUS ICX series devices.

ifIndex

On the RUCKUS ICX devices, there are 64 ifIndexes per module.

The index ranges are subject to change from one release to the next.

ifIndex assignment persistance

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

- Physical ports
- Virtual ports
- Loopback ports
- Trunk ports
- IP/GRE tunnels

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

ifType for interfaces

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

TABLE 4 IF-MIB (RFC 2863) Interfaces object

ifInterface objects	Syntax
ifNumber 1.3.6.1.2.1.2.1	Integer32

Preserved SNMP statistics on interfaces

After configuring **snmp-server preserve-statistics,** the SNMP statistics listed in the following tables are separated from the CLI statistics. When the **clear statistics** *interface-type interface-id* command is entered, the command clears only CLI statistics, leaving the SNMP statistics intact.

IF-MIB (RFC 2863) ifTable objects

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

ifTable objects	Syntax
ifIndex 1.3.6.1.2.1.2.2.1.1	InterfaceIndex
ifDescr 1.3.6.1.2.1.2.2.1.2	DsiplayString
ifType 1.3.6.1.2.1.2.2.1.3	IANAifType
ifMtu 1.3.6.1.2.1.2.2.1.4	Integer32
ifSpeed 1.3.6.1.2.1.2.2.1.5	Gauge32
ifAdminStatus 1.3.6.1.2.1.2.2.1.7	PhysAddress
ifOperStatus 1.3.6.1.2.1.2.2.1.8	Integer
ifInOctets 1.3.6.1.2.1.2.2.1.10	Counter32
ifInUcastPkts 1.3.6.1.2.1.2.2.1.11	Counter32
ifInNUcastPkts 1.3.6.1.2.1.2.2.1.12 **NOTE** This object is deprecated on the RUCKUS FastIron devices.	Counter32
ifInDiscards 1.3.6.1.2.1.2.2.1.13	Counter32
ifInErrors 1.3.6.1.2.1.2.2.1.14	Counter32
ifInUnknownProtos 1.3.6.1.2.1.2.2.1.15	Counter32
ifOutOctets 1.3.6.1.2.1.2.2.1.16	Counter32
ifOutUcastPkts 1.3.6.1.2.1.2.2.1.17	Counter32
ifOutNUcastPkts 1.3.6.1.2.1.2.2.1.18	Counter32
ifOutDiscards 1.3.6.1.2.1.2.2.1.19	Counter32
ifOutErrors 1.3.6.1.2.1.2.2.1.20	Counter32

IF-MIB (RFC 2863) ifXTable objects

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

ifXTable objects	Syntax
ifName 1.3.6.1.2.1.31.1.1.1.1	DisplayString
ifInMulticastPkts 1.3.6.1.2.1.31.1.1.1.2	Counter32
ifInBroadcastPkts 1.3.6.1.2.1.31.1.1.1.3	Counter32
ifOutMulticastPkts 1.3.6.1.2.1.31.1.1.1.4	Counter32
ifOutBroadcastPkts 1.3.6.1.2.1.31.1.1.1.5	Counter32
ifHCInOctets 1.3.6.1.2.1.31.1.1.1.6	Counter64
ifHCInUcastPkts 1.3.6.1.2.1.31.1.1.1.7	Counter64
ifHCInMulticastPkts 1.3.6.1.2.1.31.1.1.1.8	Counter64
ifHCInBroadcastPkts 1.3.6.1.2.1.31.1.1.1.9	Counter64
ifHCOutOctets 1.3.6.1.2.1.31.1.1.1.10	Counter64
ifHCOutUcastPkts 1.3.6.1.2.1.31.1.1.1.11	Counter64
ifHCOutMulticastPkts 1.3.6.1.2.1.31.1.1.1.12	Counter64
ifHCOutBroadcastPkts 1.3.6.1.2.1.31.1.1.1.13	Counter64
ifLinkUpDownTrapEnable 1.3.6.1.2.1.31.1.1.1.14 **NOTE** This object is used to control the generation of traps of the physical and GRE tunnel interfaces. By default, traps are enabled per interfaces for physical interfaces and disabled for tunnel interfaces.	Integer
ifHighSpeed 1.3.6.1.2.1.31.1.1.1.15	Gauge32
ifPromiscuousMode 1.3.6.1.2.1.31.1.1.1.16	TruthValue
ifConnectorPresent 1.3.6.1.2.1.31.1.1.1.17	TruthValue

ifXTable objects	Syntax
ifAlias 1.3.6.1.2.1.31.1.1.1.18	DisplayString
ifCounterDiscontinuityTime 1.3.6.1.2.1.31.1.1.1.19	TimeStamp

EthernetLike-MIB (RFC 3635) dot3StatsTable objects (Ethernet ports only)

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

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

dot3StatsTable objects	Syntax
dot3StatsSymbolErrors 1.3.6.1.2.1.10.7.2.1.18	Counter32
dot3StatsDuplexStatus 1.3.6.1.2.1.10.7.2.1.19	Integer

dot3CollTable	Syntax
dot3CollCount 1.3.6.1.2.1.10.7.5.1.2	Integer32
dot3CollFrequencies 1.3.6.1.2.1.10.7.5.1.3	Counter32

dot3PauseTable	Syntax
dot3PauseAdminMode 1.3.6.1.2.1.10.7.10.1.1	Integer
dot3PauseOperMode 1.3.6.1.2.1.10.7.10.1.2	Integer
dot3InPauseFrames 1.3.6.1.2.1.10.7.10.1.3	Counter32
dot3OutPauseFrames 1.3.6.1.2.1.10.7.10.1.4	Counter32
dot3HCInPauseFrames 1.3.6.1.2.1.10.7.10.1.5	Counter64
dot3HCOutPauseFrames 1.3.6.1.2.1.10.7.10.1.6	Counter64

dot3HCStatsTable	Syntax
dot3HCStatsAlignmentErrors 1.3.6.1.2.1.10.7.11.1.1	Counter64
dot3HCStatsFCSErrors 1.3.6.1.2.1.10.7.11.1.2	Counter64
dot3HCStatsInternalMacTransmitErrors 1.3.6.1.2.1.10.7.11.1.3	Counter64
dot3HCStatsFrameTooLongs 1.3.6.1.2.1.10.7.11.1.4	Counter64
dot3HCStatsInternalMacReceiveErrors 1.3.6.1.2.1.10.7.11.1.5	Counter64
dot3HCStatsSymbolErrors 1.3.6.1.2.1.10.7.11.1.6	Counter64

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

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

etherStatsTable objects	Syntax
etherStatsDropEvents 1.3.6.1.2.1.16.1.1.1.3	Counter32

etherStatsTable objects	Syntax
etherStatsOctets 1.3.6.1.2.1.16.1.1.1.4	Counter32
etherStatsPkts 1.3.6.1.2.1.16.1.1.1.5	Counter32
etherStatsBroadcastPkts 1.3.6.1.2.1.16.1.1.1.6	Counter32
etherStatsMulticastPkts 1.3.6.1.2.1.16.1.1.1.7	Counter32
etherStatsCRCAlignErrors 1.3.6.1.2.1.16.1.1.1.8	Counter32
etherStatsUndersizePkts 1.3.6.1.2.1.16.1.1.1.9	Counter32
etherStatsOversizePkts 1.3.6.1.2.1.16.1.1.1.10	Counter32
etherStatsFragments 1.3.6.1.2.1.16.1.1.1.11	Counter32
etherStatsPkts64Octets 1.3.6.1.2.1.16.1.1.1.14	Counter32
etherStatsPkts65to127Octets 1.3.6.1.2.1.16.1.1.1.15	Counter32
etherStatsPkts128to255Octets 1.3.6.1.2.1.16.1.1.1.16	Counter32
etherStatsPkts256to511Octets 1.3.6.1.2.1.16.1.1.1.17	Counter32
etherStatsPkts512to1023Octets 1.3.6.1.2.1.16.1.1.1.18	Counter32
etherStatsPkts1024to1518Octets 1.3.6.1.2.1.16.1.1.1.19	Counter32
etherStatsOwner 1.3.6.1.2.1.16.1.1.1.20	OwnerString
etherStatsStatus 1.3.6.1.2.1.16.1.1.1.21	EntryStatus

RFC 2932: IPv4 Multicast Routing MIB

Set opteration is not supported on IPv4 Multicast Routing MIB. Only read option is available.

Object group name	Object identifier	Supported?
ipMRouteStdMIB	1.3.6.1.2.1.83	Yes
ipMRouteMIBObjects	1.3.6.1.2.1.83.1	Yes
ipMRoute	1.3.6.1.2.1.83.1.1	Yes

Supported Standard MIBs
RFC 2932: IPv4 Multicast Routing MIB

Object group name	Object identifier	Supported?
ipMRouteEnable	1.3.6.1.2.1.83.1.1.1.0	Yes
ipMRouteTable	1.3.6.1.2.1.83.1.1.2	Yes
ipMRouteEntry	1.3.6.1.2.1.83.1.1.2.1	Yes
ipMRouteGroup	1.3.6.1.2.1.83.1.1.2.1.1	Yes
ipMRouteSource	1.3.6.1.2.1.83.1.1.2.1.2	Yes
ipMRouteSourceMask	1.3.6.1.2.1.83.1.1.2.1.3	Yes
ipMRouteUpstreamNeighbor	1.3.6.1.2.1.83.1.1.2.1.4	Yes
ipMRouteInIfIndex	1.3.6.1.2.1.83.1.1.2.1.5	Yes
ipMRouteUpTime	1.3.6.1.2.1.83.1.1.2.1.6	Yes
ipMRouteExpiryTime	1.3.6.1.2.1.83.1.1.2.1.7	Yes. Returns always zero on RUCKUS ICX devices.
ipMRoutePkts	1.3.6.1.2.1.83.1.1.2.1.8	Yes. Returns always zero on RUCKUS ICX devices.
ipMRouteDifferentInIfPackets	1.3.6.1.2.1.83.1.1.2.1.9	Yes. Returns always zero on RUCKUS ICX devices.
ipMRouteOctets	1.3.6.1.2.1.83.1.1.2.1.10	Yes. Returns always zero on RUCKUS ICX devices.
ipMRouteProtocol	1.3.6.1.2.1.83.1.1.2.1.11	Yes
ipMRouteRtProto	1.3.6.1.2.1.83.1.1.2.1.12	Yes
ipMRouteRtAddress	1.3.6.1.2.1.83.1.1.2.1.13	Yes
ipMRouteRtMask	1.3.6.1.2.1.83.1.1.2.1.14	Yes
ipMRouteRtType	1.3.6.1.2.1.83.1.1.2.1.15	Yes
ipMRouteHCOctets	1.3.6.1.2.1.83.1.1.2.1.16	Yes. Returns always zero on RUCKUS ICX devices.
ipMRouteNextHopTable	1.3.6.1.2.1.83.1.1.3	Yes
ipMRouteNextHopEntry	1.3.6.1.2.1.83.1.1.3.1	Yes
ipMRouteNextHopGroup	1.3.6.1.2.1.83.1.1.3.1.1	Yes
ipMRouteNextHopSource	1.3.6.1.2.1.83.1.1.3.1.2	Yes
ipMRouteNextHopSourceMask	1.3.6.1.2.1.83.1.1.3.1.3	Yes
ipMRouteNextHopIfIndex	1.3.6.1.2.1.83.1.1.3.1.4	Yes
ipMRouteNextHopAddress	1.3.6.1.2.1.83.1.1.3.1.5	Yes
ipMRouteNextHopState	1.3.6.1.2.1.83.1.1.3.1.6	Yes
ipMRouteNextHopUpTime	1.3.6.1.2.1.83.1.1.3.1.7	Yes
ipMRouteNextHopExpiryTime	1.3.6.1.2.1.83.1.1.3.1.8	Yes
ipMRouteNextHopClosestMemberHops	1.3.6.1.2.1.83.1.1.3.1.9	Yes
ipMRouteNextHopProtocol	1.3.6.1.2.1.83.1.1.3.1.10	Yes
ipMRouteNextHopPkts	1.3.6.1.2.1.83.1.1.3.1.11	Yes
ipMRouteInterfaceTable	1.3.6.1.2.1.83.1.1.4	Yes
IpMRouteInterfaceEntry	1.3.6.1.2.1.83.1.1.4.1	Yes
ipMRouteInterfaceIfIndex	1.3.6.1.2.1.83.1.1.4.1.1	Yes
ipMRouteInterfaceTtl	1.3.6.1.2.1.83.1.1.4.1.2	Yes
ipMRouteInterfaceProtocol	1.3.6.1.2.1.83.1.1.4.1.3	Yes
ipMRouteInterfaceRateLimit	1.3.6.1.2.1.83.1.1.4.1.4	Yes. Returns always zero on RUCKUS ICX devices.
ipMRouteInterfaceInMcastOctets	1.3.6.1.2.1.83.1.1.4.1.5	Yes. Returns counter value for physical interface. Returns zero for VE and LAG interfaces.
ipMRouteInterfaceOutMcastOctets	1.3.6.1.2.1.83.1.1.4.1.6	Yes. Returns counter value for physical interface. Returns zero for VE and LAG interfaces.

Object group name	Object identifier	Supported?
ipMRouteInterfaceHCInMcastOctets	1.3.6.1.2.1.83.1.1.4.1.7	Yes. Returns counter value for physical interface. Returns zero for VE and LAG interfaces.
ipMRouteInterfaceHCOutMcastOctets	1.3.6.1.2.1.83.1.1.4.1.8	Yes. Returns counter value for physical interface. Returns zero for VE and LAG interfaces.

RFC 2933: Internet Group Management Protocol MIB

Set opteration is not supported on IGMP Standard MIB. Only read option is available.

Object group name	Object identifier	Supported?
igmpStdMIB	1.3.6.1.2.1.85	Yes
igmpMIBObjects	1.3.6.1.2.1.85.1	Yes
igmpInterfaceTable	1.3.6.1.2.1.85.1.1	Yes
igmpInterfaceEntry	1.3.6.1.2.1.85.1.1.1	Yes
igmpInterfaceIfIndex	1.3.6.1.2.1.85.1.1.1.1	Yes
igmpInterfaceQueryInterval	1.3.6.1.2.1.85.1.1.1.2	Yes
igmpInterfaceStatus	1.3.6.1.2.1.85.1.1.1.3	Yes
igmpInterfaceVersion	1.3.6.1.2.1.85.1.1.1.4	Yes
igmpInterfaceQuerier	1.3.6.1.2.1.85.1.1.1.5	Yes
igmpInterfaceQueryMaxResponseTime	1.3.6.1.2.1.85.1.1.1.6	Yes
igmpInterfaceQuerierUpTime	1.3.6.1.2.1.85.1.1.1.7	Yes
igmpInterfaceQuerierExpiryTime	1.3.6.1.2.1.85.1.1.1.8	Yes
igmpInterfaceVersion1QuerierTimer	1.3.6.1.2.1.85.1.1.1.9	Yes
igmpInterfaceWrongVersionQueries	1.3.6.1.2.1.85.1.1.1.10	Yes
igmpInterfaceJoins	1.3.6.1.2.1.85.1.1.1.11	Yes
igmpInterfaceProxyIfIndex	1.3.6.1.2.1.85.1.1.1.12	Yes
igmpInterfaceGroups	1.3.6.1.2.1.85.1.1.1.13	Yes
igmpInterfaceRobustness	1.3.6.1.2.1.85.1.1.1.14	Yes
igmpInterfaceLastMembQueryIntvl	1.3.6.1.2.1.85.1.1.1.15	Yes
igmpCacheTable	1.3.6.1.2.1.85.1.2	Yes
igmpCacheEntry	1.3.6.1.2.1.85.1.2.1	Yes
igmpCacheAddress	1.3.6.1.2.1.85.1.2.1.1	Yes
igmpCacheIfIndex	1.3.6.1.2.1.85.1.2.1.2	Yes
igmpCacheSelf	1.3.6.1.2.1.85.1.2.1.3	Yes
igmpCacheLastReporter	1.3.6.1.2.1.85.1.2.1.4	Yes
igmpCacheUpTime	1.3.6.1.2.1.85.1.2.1.5	Yes
igmpCacheExpiryTime	1.3.6.1.2.1.85.1.2.1.6	Yes
igmpCacheStatus	1.3.6.1.2.1.85.1.2.1.7	Yes
igmpCacheVersion1HostTimer	1.3.6.1.2.1.85.1.2.1.8	Yes

RFC 2934: Protocol Independent Multicast MIB for IPv4

Set opteration is not supported on PIM Standard MIB. Only read option is available.

Object group name	Object identifier	Supported?
pimJoinPruneInterval	1.3.6.1.3.61.1.1.1	Yes
pimInterfaceTable	1.3.6.1.3.61.1.1.2	Yes
pimInterfaceEntry	1.3.6.1.3.61.1.1.2.1	Yes
pimInterfaceIfIndex	1.3.6.1.3.61.1.1.2.1.1	Yes
pimInterfaceAddress	1.3.6.1.3.61.1.1.2.1.2	Yes
pimInterfaceNetMask	1.3.6.1.3.61.1.1.2.1.3	Yes
pimInterfaceMode	1.3.6.1.3.61.1.1.2.1.4	Yes
pimInterfaceDR	1.3.6.1.3.61.1.1.2.1.5	Yes
pimInterfaceHelloInterval	1.3.6.1.3.61.1.1.2.1.6	Yes
pimInterfaceStatus	1.3.6.1.3.61.1.1.2.1.7	Yes
pimInterfaceJoinPruneInterval	1.3.6.1.3.61.1.1.2.1.8	Yes
pimInterfaceCBSRPreference	1.3.6.1.3.61.1.1.2.1.9	Yes
pimNeighborTable	1.3.6.1.3.61.1.1.3	Yes
pimNeighborEntry	1.3.6.1.3.61.1.1.3.1	Yes
pimNeighborAddress	1.3.6.1.3.61.1.1.3.1.1	Yes
pimNeighborIfIndex	1.3.6.1.3.61.1.1.3.1.2	Yes
pimNeighborUpTime	1.3.6.1.3.61.1.1.3.1.3	Yes
pimNeighborExpiryTime	1.3.6.1.3.61.1.1.3.1.4	Yes
pimNeighborMode	1.3.6.1.3.61.1.1.3.1.5	Yes
pimIpMRouteTable	1.3.6.1.3.61.1.1.4	Yes
pimIpMRouteEntry	1.3.6.1.3.61.1.1.4.1	Yes
pimIpMRouteUpstreamAssertTimer	1.3.6.1.3.61.1.1.4.1.1	Yes
pimIpMRouteAssertMetric	1.3.6.1.3.61.1.1.4.1.2	Yes
pimIpMRouteAssertMetricPref	1.3.6.1.3.61.1.1.4.1.3	Yes
pimIpMRouteAssertRPTBit	1.3.6.1.3.61.1.1.4.1.4	Yes. Returns always zero on RUCKUS ICX devices.
pimIpMRouteFlags	1.3.6.1.3.61.1.1.4.1.5	Yes
pimRPSetTable	1.3.6.1.3.61.1.1.6	Yes
pimRPSetEntry	1.3.6.1.3.61.1.1.6.1	Yes
pimRPSetGroupAddress	1.3.6.1.3.61.1.1.6.1.1	Yes
pimRPSetGroupMask	1.3.6.1.3.61.1.1.6.1.2	Yes
pimRPSetAddress	1.3.6.1.3.61.1.1.6.1.3	Yes
pimRPSetHoldTime	1.3.6.1.3.61.1.1.6.1.4	Yes
pimRPSetExpiryTime	1.3.6.1.3.61.1.1.6.1.5	Yes
pimRPSetComponent	1.3.6.1.3.61.1.1.6.1.6	Yes
pimIpMRouteNextHopTable	1.3.6.1.3.61.1.1.7	Yes
pimIpMRouteNextHopEntry	1.3.6.1.3.61.1.1.7.1.1	Yes
pimIpMRouteNextHopPruneReason	1.3.6.1.3.61.1.1.7.1.2	Yes
pimCandidateRPTable	1.3.6.1.3.61.1.1.11	Yes

Object group name	Object identifier	Supported?
pimCandidateRPEntry	1.3.6.1.3.61.1.1.11.1	Yes
pimCandidateRPGroupAddress	1.3.6.1.3.61.1.1.11.1.1	Yes
pimCandidateRPGroupMask	1.3.6.1.3.61.1.1.11.1.2	Yes
pimCandidateRPAddress	1.3.6.1.3.61.1.1.11.1.3	Yes
pimCandidateRPRowStatus	1.3.6.1.3.61.1.1.11.1.4	Yes
pimComponentTable	1.3.6.1.3.61.1.1.12	Yes
pimComponentEntry	1.3.6.1.3.61.1.1.12.1	Yes
pimComponentIndex	1.3.6.1.3.61.1.1.12.1.1	Yes
pimComponentBSRAddress	1.3.6.1.3.61.1.1.12.1.2	Yes
pimComponentBSRExpiryTime	1.3.6.1.3.61.1.1.12.1.3	Yes
pimComponentCRPHoldTime	1.3.6.1.3.61.1.1.12.1.4	Yes
pimComponentStatus	1.3.6.1.3.61.1.1.12.1.5	Yes

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

RFC 3418, Management Information Base (MIB) for the Simple Network Management Protocol (SNMP) is supported on the RUCKUS FastIron series devices.

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

RFC 4087: IP Tunnel MIB

The following tables in RFC 4087 are supported on the RUCKUSFastIron devices.

tunnelIfTable

The tunnelIfTable can be used to set the addresses of the tunnel endpoints and the encapsulation protocol.

Object names	Description
tunnelIfLocalAddress	Not Supported. Use tunnelIfLocalInetAddress.
tunnelIfRemoteAddress	Not Supported. Use tunnelIfRemoteInetAddress.
tunnelIfEncapsMethod	Read-only. Encapsulation method used by the tunnel. Only 6to4 (11), GRE (3), and Other (1) methods supported.
tunnelIfHopLimit	Read-write. The IPv4 TTL or IPv6 Hop Limit to use in the outer IP header. A value of 0 indicates that the value is copied from the payload's header.
tunnelIfSecurity	Read-only. None (1)=no security. IPsec (2)=IPsec security.
tunnelIfTOS	Read-write. A value of -1 indicates that the bits are copied from the payload's header. A value of -2 indicates that a traffic conditioner is invoked and more information may be available in a traffic conditioner MIB module. A value between 0 and 63 inclusive indicates that the bit field is set to the indicated value.
tunnelIfAddressType	Read-write. Address types: unknown (0), ipv4 (1), ipv6 (2), dns (16).
tunnelIfLocalInetAddress	Read-write. If the address is unknown, the value is 0.0.0.0 for IPv4 or :: for IPv6. The type of this object is given by tunnelIfAddressType.
tunnelIfRemoteInetAddress	Read-write. If the address is unknown or the tunnel is not a point-to-point link (e.g., a 6to4 tunnel), the value is 0.0.0.0 for tunnels over IPv4 or :: for tunnels over IPv6.
tunnelIfEncapsLimit	Not supported. Read-write. Value of -1 indicates that no limit is present.

tunnelInetConfigTable

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

Object names	Description
tunnelInetConfigAddressType	Not-accessible
tunnelInetConfigLocalAddress	Not-accessible
tunnelInetConfigRemoteAddress	Not-accessible
tunnelInetConfigEncapsMethod	Not-accessible
tunnelInetConfigIfIndex	Read-only.
tunnelInetConfigStatus	Read-only. Always returns active(1).
tunnelInetConfigStorageType	Read-only. Always returns nonVolatile(3).

RFC 4133: Entity MIB (Version 3)

RFC 4133, Entity MIB (Version 3) is supported on the ICX devices.

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

Object group name	Object identifier	Supported?
entPhysicalVendorType	1.3.6.1.2.1.47.1.1.1.1.3	Yes. **NOTE** This object is defined for assigning vendor type OIDs (For example, brcdIp.1.17.1.3.2.2 and brcdIp.1.17.1.5.2) to various physical entities such as chassis, power supply, fan, MP, SFM, and various types of LP modules.
entPhysicalContainedIn	1.3.6.1.2.1.47.1.1.1.1.4	Yes
entPhysicalClass	1.3.6.1.2.1.47.1.1.1.1.5	Yes
entPhysicalParentRelPos	1.3.6.1.2.1.47.1.1.1.1.6	Yes
entPhysicalName	1.3.6.1.2.1.47.1.1.1.1.7	Yes
entPhysicalHardwareRev	1.3.6.1.2.1.47.1.1.1.1.8	Yes. Default to empty string.
entPhysicalFirmwareRev	1.3.6.1.2.1.47.1.1.1.1.9	Yes. **NOTE** The information is displayed for the power supply of the RUCKUS ICX devices.
entPhysicalSoftwareRev	1.3.6.1.2.1.47.1.1.1.1.10	Yes. Default to empty string.
entPhysicalSerialNum	1.3.6.1.2.1.47.1.1.1.1.11	Yes. Read-only.
entPhysicalMfgName	1.3.6.1.2.1.47.1.1.1.1.12	Yes
entPhysicalModelName	1.3.6.1.2.1.47.1.1.1.1.13	Yes
entPhysicalAlias	1.3.6.1.2.1.47.1.1.1.1.14	Yes. Read-only.
entPhysicalAssetID	1.3.6.1.2.1.47.1.1.1.1.15	Yes. Read-only.
entPhysicalIsFRU	1.3.6.1.2.1.47.1.1.1.1.16	Yes
entPhysicalMfgDate	1.3.6.1.2.1.47.1.1.1.1.17	Yes
entPhysicalUris	1.3.6.1.2.1.47.1.1.1.1.18	Yes. Read-only.
entPhysicalContainsTable	1.3.6.1.2.1.47.1.3.3	Yes
entLastChangeTime	1.3.6.1.2.1.47.1.4.1	Yes
entConfigChange	1.3.6.1.2.1.47.2.0.1	Yes **NOTE** This notification is generated when the value of entLastChangeTime is changed, and occurs if the time interval is 5 minutes between the changes in the entLastChangeTime.

RFC 4273: Definitions of Managed Objects for BGP-4

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

Object group name	Object identifier	Notes
bgpVersion	1.3.6.1.2.1.15.1	The vector of the supported BGP version numbers.
bgpLocalAS	1.3.6.1.2.1.15.2	The local autonomous system number.
bgpPeerTable	1.3.6.1.2.1.15.3	The bgpPeerRemoteAs object is the remote autonomous system number received in the BGP OPEN message.
bgpPeerEntry	1.3.6.1.2.1.15.3.1	-
bgpPeerIdentifier	1.3.6.1.2.1.15.3.1.1	-
bgpPeerState	1.3.6.1.2.1.15.3.1.2	-
bgpPeerAdminStatus	1.3.6.1.2.1.15.3.1.3	-
bgpPeerNegotiatedVersion	1.3.6.1.2.1.15.3.1.4	-
bgpPeerLocalAddr	1.3.6.1.2.1.15.3.1.5	-
bgpPeerLocalPort	1.3.6.1.2.1.15.3.1.6	-
bgpPeerRemoteAddr	1.3.6.1.2.1.15.3.1.7	-
bgpPeerRemotePort	1.3.6.1.2.1.15.3.1.8	-
bgpPeerRemoteAs	1.3.6.1.2.1.15.3.1.9	-
bgpPeerInUpdates	1.3.6.1.2.1.15.3.1.10	-
bgpPeerOutUpdates	1.3.6.1.2.1.15.3.1.11	-
bgpPeerInTotalMessages	1.3.6.1.2.1.15.3.1.12	-
bgpPeerOutTotalMessages	1.3.6.1.2.1.15.3.1.13	-
bgpPeerLastError	1.3.6.1.2.1.15.3.1.14	-
bgpPeerFsmEstablishedTransitions	1.3.6.1.2.1.15.3.1.15	-
bgpPeerFsmEstablishedTime	1.3.6.1.2.1.15.3.1.16	-
bgpPeerConnectRetryInterval	1.3.6.1.2.1.15.3.1.17	SET operation is not supported.
bgpPeerHoldTime	1.3.6.1.2.1.15.3.1.18	-
bgpPeerKeepAlive	1.3.6.1.2.1.15.3.1.19	-
bgpPeerHoldTimeConfigured	1.3.6.1.2.1.15.3.1.20	-
bgpPeerKeepAliveConfigured	1.3.6.1.2.1.15.3.1.21	-
bgpPeerMinASOriginationInterval	1.3.6.1.2.1.15.3.1.22	SET operation is not supported.
bgpPeerMinRouteAdvertisementInterval	1.3.6.1.2.1.15.3.1.23	-
bgpPeerInUpdateElapsedTime	1.3.6.1.2.1.15.3.1.24	-
bgpIdentifier	1.3.6.1.2.1.15.4	-
bgp4PathAttrTable	1.3.6.1.2.1.15.6	-
bgp4PathAttrEntry	1.3.6.1.2.1.15.6.1	-
bgp4PathAttrPeer	1.3.6.1.2.1.15.6.1.1	-
bgp4PathAttrIpAddrPrefixLen	1.3.6.1.2.1.15.6.1.2	-
bgp4PathAttrIpAddrPrefix	1.3.6.1.2.1.15.6.1.3	-
bgp4PathAttrOrigin	1.3.6.1.2.1.15.6.1.4	-

Object group name	Object identifier	Notes
bgp4PathAttrASPathSegment	1.3.6.1.2.1.15.6.1.5	This object is the sequence of AS path segments. Each AS path segment is represented by a triplet of *type* , *length* , and *value* .
bgp4PathAttrNextHop	1.3.6.1.2.1.15.6.1.6	-
bgp4PathAttrMultiExitDisc	1.3.6.1.2.1.15.6.1.7	-
bgp4PathAttrLocalPref	1.3.6.1.2.1.15.6.1.8	-
bgp4PathAttrAtomicAggregate	1.3.6.1.2.1.15.6.1.9	-
bgp4PathAttrAggregatorAS	1.3.6.1.2.1.15.6.1.10	The AS number of the last BGP4 speaker that performed route aggregation. A value of zero (0) indicates the absence of this attribute.
bgp4PathAttrAggregatorAddr	1.3.6.1.2.1.15.6.1.11	-
bgp4PathAttrCalcLocalPref	1.3.6.1.2.1.15.6.1.12	-
bgp4PathAttrBest	1.3.6.1.2.1.15.6.1.13	-
bgp4PathAttrUnknown	1.3.6.1.2.1.15.6.1.14	-

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

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

BGP4v2 per-peer session management information

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

Name, OID, and syntax	Access	Description
bgp4V2PeerTable brcdIp.3.5.1.1.2	None	The BGP4v2 per-peer table. The table contains one entry per BGP peer and the information about the connections with the BGP peers.
bgp4V2PeerInstance brcdIp.3.5.1.1.2.1.1 Syntax: Unsigned32	None	Specifies the routing instance index. Some of the BGP implementations permit the creation of multiple instances of a BGP routing process. The implementations that do not support multiple routing instances, return 1 for this object. The VRF index is used to identify the peer instance. The VRF index is a zero-based index.
bgp4V2PeerLocalAddrType brcdIp.3.5.1.1.2.1.2 Syntax: InetAddressType	None	Specifies the address family of a local-end peering session. The following address types are supported: • ipv4(1) • ipv6(2)
bgp4V2PeerLocalAddr brcdIp.3.5.1.1.2.1.3 Syntax: InetAddress	None	Specifies the local IP address of the received BGP connection.

Name, OID, and syntax	Access	Description
bgp4V2PeerRemoteAddrType brcdIp.3.5.1.1.2.1.4 Syntax: InetAddressType	None	Specifies the address family of a remote end peering session. The following address types are supported: • ipv4(1) • ipv6(2)
bgp4V2PeerRemoteAddr brcdIp.3.5.1.1.2.1.5 Syntax: InetAddress	None	Specifies the remote IP address of the received BGP peer.
bgp4V2PeerLocalPort brcdIp.3.5.1.1.2.1.6 Syntax: InetPortNumber	Read-only	Indicates the local port for the TCP connection between the BGP peers.
bgp4V2PeerLocalAs brcdIp.3.5.1.1.2.1.7 Syntax: InetAutonomousSystemNumber	Read-only	Indicates a Autonomous System (AS) is the peering session that represents itself to the remote peer. Some implementations of BGP can represent itself as multiple autonomous systems.
bgp4V2PeerLocalIdentifier brcdIp.3.5.1.1.2.1.8 Syntax: Bgp4V2IdentifierTC	Read-only	Specifies the BGP identifier of the local system for the peering session. It is required that all the values of bgp4V2PeerLocalIdentifier and bgp4V2PeerInstance objects must be identical.
bgp4V2PeerRemotePort brcdIp.3.5.1.1.2.1.9 Syntax: InetPortNumber	Read-only	Specifies the remote port for the TCP connection between the BGP peers. **NOTE** The objects bgp4V2PeerLocalAddr, bgp4V2PeerLocalPort, bgp4V2PeerRemoteAddr, and bgp4V2PeerRemotePort provides the appropriate references to the standard MIB TCP connection table or to the IPv6 TCP MIB as referenced in RFC 4022.
bgp4V2PeerRemoteAs brcdIp.3.5.1.1.2.1.10 Syntax: InetAutonomousSystemNumber	Read-only	Specifies the remote AS number received in the BGP OPEN message.
bgp4V2PeerRemoteIdentifier brcdIp.3.5.1.1.2.1.11 Syntax: Bgp4V2IdentifierTC	Read-only	Specifies the BGP identifier of the received remote BGP peer. The entry received must be 0.0.0.0 unless the bgp4V2PeerState is in the openconfirm(5) or in established(6) state.
bgp4V2PeerAdminStatus brcdIp.3.5.1.1.2.1.12 Syntax: Integer	Read-only	Specifies whether the BGP finite state machine (FSM) for the remote peer is halted or running, the BGP FSM for a remote peer is halted after processing a stop event. Likewise, if in the running state after processing a start event. The bgp4V2PeerState is in the idle state when the FSM is halted. Although, some extensions such as Graceful Restart leaves the peer in the idle state with the FSM running. • halted(1) • running(2)

Name, OID, and syntax	Access	Description
bgp4V2PeerState brcdIp.3.5.1.1.2.1.13 Syntax: Integer	Read-only	Indicates the BGP peer connection states: • idle(1) • connect(2) • active(3) • opensent(4) • openconfirm(5) • established(6)
bgp4V2PeerDescription brcdIp.3.5.1.1.2.1.14 Syntax: SnmpAdminString	Read-only	Specifies a user-configured description identifying the peer. The object must contain a description that is unique within the existing BGP instance for the peer.

BGP4v2 per-peer error management information

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

Name, OID, and syntax	Access	Description
bgp4V2PeerErrorsTable brcdIp.3.5.1.1.3	None	On a per-peer basis, the table reflects the last protocol-defined error encountered and reported on the peer session.
bgp4V2PeerLastErrorCodeReceived brcdIp.3.5.1.1.3.1.1 Syntax: Unsigned32	Read-only	Specifies the last error code received from the peer through a notification message on the connection. The field is zero(0), if no error occurs.
bgp4V2PeerLastErrorSubCodeReceived brcdIp.3.5.1.1.3.1.2 Syntax: Unsigned32	Read-only	Specifies the last error subcode received from the peer through a notification message on the connection. The field is zero(0), if no error occurs.
bgp4V2PeerLastErrorReceivedTime brcdIp.3.5.1.1.3.1.3 Syntax: TimeStamp	Read-only	Indicates the time stamp when the last notification is received from the peer.
bgp4V2PeerLastErrorReceivedText brcdIp.3.5.1.1.3.1.4 Syntax: SnmpAdminString	Read-only	Specifies the implementation-specific explanation of the error reported.
bgp4V2PeerLastErrorReceivedData brcdIp.3.5.1.1.3.1.5 Syntax: Octet String	Read-only	Specifies the data of the last error code received by the peer. As per RFC 2578, some implementations have limitations dealing with Octet Strings that are larger than 255. So, the data is truncated.
bgp4V2PeerLastErrorCodeSent brcdIp.3.5.1.1.3.1.6 Syntax: Unsigned32	Read-only	Specifies the last error code sent to the peer through a notification message on the connection. The field is zero(0), if no error occurs.
bgp4V2PeerLastErrorSubCodeSent brcdIp.3.5.1.1.3.1.7 Syntax: Unsigned32	Read-only	Specifies the last error subcode sent to the peer through a notification message on the connection. The field is zero(0), if no error occurs.
bgp4V2PeerLastErrorSentTime brcdIp.3.5.1.1.3.1.8 Syntax: TimeStamp	Read-only	Indicates the time stamp when the last notification is sent to the peer.

Name, OID, and syntax	Access	Description
bgp4V2PeerLastErrorSentText brcdIp.3.5.1.1.3.1.9 Syntax: SnmpAdminString	Read-only	Specifies the implementation-specific explanation of the error reported.
bgp4V2PeerLastErrorSentData brcdIp.3.5.1.1.3.1.10 Syntax: Octet String	Read-only	Specifies the data of the last error code sent to the peer. As per RFC 2578, some implementations have limitations dealing with Octet Strings that are larger than 255. So, the data is truncated.

BGP4v2 per-peer event times table

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

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

BGP4v2 NLRI table

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

Name, OID, and syntax	Access	Description
bgp4V2NlriTable brcdIp.3.5.1.1.9	None	The BGP4v2-received path attribute table contains information about paths to destination networks received from all the BGP4 peers. Collectively, this represents the Adj-Ribs-In. For NLRI, the route in which the bgp4V2NlriBest object is true represents the route that is installed in the LocRib from the Adj-Ribs-In.
bgp4V2NlriIndex brcdIp.3.5.1.1.9.1.1 Syntax: Unsigned32	None	Specifies the index that allows multiple instances of a base prefix for a certain AFI-SAFI from a given peer. This is used to allow a peer in future implementations to send more than a single route instance and allow extensions that extend an NLRI field to send the same prefix while utilizing other extension-specific information. The index is always 1.

Name, OID, and syntax	Access	Description
bgp4V2NlriAfi brcdIp.3.5.1.1.9.1.2 Syntax: Bgp4V2AddressFamilyIdentifierTC	None	Specifies the address family of the prefix for NLRI. **NOTE** It is not necessary that an AFI definition is equivalent to an InetAddressType.
bgp4V2NlriSafi brcdIp.3.5.1.1.9.1.3 Syntax: Bgp4V2SubsequentAddressFamilyIdentifierTC	None	Specifies the subsequent address family of the prefix for NLRI.
bgp4V2NlriPrefixType brcdIp.3.5.1.1.9.1.4 Syntax: InetAddressType	None	Specifies the type of the IP address prefix in an NLRI field. The value of the object is derived from the appropriate value from the bgp4V2NlriAfi field. Where an appropriate InetAddressType is not available, the value of the object is unknown(0).
bgp4V2NlriPrefix brcdIp.3.5.1.1.9.1.5 Syntax: InetAddress	None	Indicates an IP address prefix in an NLRI field. The object is an IP address containing the prefix with the length specified by the bgp4V2NlriPrefixLen object. Any bits beyond the length specified by the bgp4V2NlriPrefixLen object are set to zero(0).
bgp4V2NlriPrefixLen brcdIp.3.5.1.1.9.1.6 Syntax: InetAddressPrefixLength	None	Indicates the length in bits of the address prefix in an NLRI field.
bgp4V2NlriBest brcdIp.3.5.1.1.9.1.7 Syntax: TruthVal	Read-only	Indicates whether the route is chosen as the best BGP4 route for the destination.
bgp4V2NlriCalcLocalPref brcdIp.3.5.1.1.9.1.8 Syntax: Unsigned32	Read-only	Specifies the degree of preference calculated by the receiving BGP4 speaker for an advertised route. The value of the object is zero (0) where the prefix is ineligible.
bgp4V2NlriOrigin brcdIp.3.5.1.1.9.1.9 Syntax: Integer	Read-only	Specifies the ultimate origin of the path information: • igp(1) - The networks that are interior. • egp(2) - The networks learned through an Exterior Gateway Protocol (EGP). • incomplete(3) - The networks that are learned by some other means.
bgp4V2NlriNextHopAddrType brcdIp.3.5.1.1.9.1.10 Syntax: InetAddressType	Read-only	Specifies the address family of the address for the border router that is used to access the destination network.

Name, OID, and syntax	Access	Description
bgp4V2NlriNextHopAddr brcdIp.3.5.1.1.9.1.11 Syntax: InetAddress	Read-only	Specifies the address of the border router that is used to access the destination network. The address is the next-hop address received in the update packet associated with the prefix: • For RFC 2545 style double nexthops, the object contains the global scope next hop. • For bgpPathAttrLinkLocalNextHop, the object contains the link local scope next hop, if it is present. • For bgp4V2NlriNextHopAddr, the object contains the link local next hop, if a mechanism is developed to use only a link local next hop.
bgp4V2NlriLinkLocalNextHopAddrType brcdIp.3.5.1.1.9.1.12 Syntax: InetAddressType	Read-only	Specifies the address type for an IPv6 link local address. The object is present only when receiving RFC 2545 style double nexthops. The object is present optionally in BGP implementations that do not support IPv6. The value of the object is unknown(0) when there is no IPv6 link local next hop present.
bgp4V2NlriLinkLocalNextHopAddr brcdIp.3.5.1.1.9.1.13 Syntax: InetAddress	Read-only	Indicates the value that contains an IPv6 link local address and is present only when receiving RFC 2545 style double nexthops. The object is present optionally in BGP implementations that do not support IPv6. The length of the object is zero(0) when there is no IPv6 link local next hop present.
bgp4V2NlriLocalPrefPresent brcdIp.3.5.1.1.9.1.14 Syntax: TruthVal	Read-only	Indicates if the value is true when the LOCAL_PREF value is sent in the UPDATE message. The value is always true.
bgp4V2NlriLocalPref brcdIp.3.5.1.1.9.1.15 Syntax: Unsigned32	Read-only	Specifies the degree of preference of the originating BGP4 speaker for an advertised route.
bgp4V2NlriMedPresent brcdIp.3.5.1.1.9.1.16 Syntax: TruthVal	Read-only	Indicates if the value is true when a Multi-Exit Discriminator (MED) value is sent in the UPDATE message.
bgp4V2NlriMed brcdIp.3.5.1.1.9.1.17 Syntax: Unsigned32	Read-only	Indicates the metric used to discriminate between multiple exit points to an adjacent autonomous system. When an MED value is absent but has a calculated default value, the object will contain the calculated value.
bgp4V2NlriAtomicAggregate brcdIp.3.5.1.1.9.1.18 Syntax: TruthVal	Read-only	Indicates if the value is true when the ATOMIC_AGGREGATE path attribute is present and indicates that NLRI cannot be made more specific.
bgp4V2NlriAggregatorPresent brcdIp.3.5.1.1.9.1.19 Syntax: TruthVal	Read-only	Indicates if the value is true when the AGGREGATOR path attribute is sent in the UPDATE message.

Name, OID, and syntax	Access	Description
bgp4V2NlriAggregatorAS brcdIp.3.5.1.1.9.1.20 Syntax: InetAutonomousSystemNumber	Read-only	Specifies an AS number of the last BGP4 speaker that performed route aggregation. The value of the object is zero(0) when the bgp4V2NlriAggregatorPresent object is false.
bgp4V2NlriAggregatorAddr brcdIp.3.5.1.1.9.1.21 Syntax: Bgp4V2IdentifierTC	Read-only	Specifies the IP address of the last BGP4 speaker that performed route aggregation. The value of the object is 0.0.0.0 when the bgp4V2NlriAggregatorPresent object is false.
bgp4V2NlriAsPathCalcLength brcdIp.3.5.1.1.9.1.22 Syntax: Unsigned32	Read-only	Indicates the value that represents the calculated length of the AS-Path according to the rules in the BGP specification. The value is used in route selection.
bgp4V2NlriAsPathString brcdIp.3.5.1.1.9.1.23 Syntax: SnmpAdminString	Read-only	Specifies a string depicting the AS-Path to the network, which is received from the peer that is advertised. The format of the string is implementation-dependent and it must be designed for operator readability. SnmpAdminString is capable of representing a maximum of 255 characters. This may lead to the string being truncated in the presence of a large AS-Path. **NOTE** It is recommended that when the content of the object is truncated, the final three octets should be reserved for the ellipses string (...). The bgp4V2NlriAsPath object gives access to the full AS-Path.

Name, OID, and syntax	Access	Description
bgp4V2NlriAsPath brcdIp.3.5.1.1.9.1.24 Syntax: Octet String	Read-only	Specifies the contents of the BGP4 AS_PATH attribute to provide an authorized form of the BGP4 AS_PATH along with the human-readable bgp4V2NlriAsPathString object that can be truncated. The object is parsed using the rules defined for four-octet autonomous systems as defined in RFC 4893. RFC 4271 and RFC 5065 define the general format of the AS_PATH attribute and its code points. The AS_PATH attribute is composed of a sequence of AS segments. Each AS segment is represented in the following fields: • The path segment type and path segment are one octet in length each. Any one of the following can represent the path segment type field: – 1 - AS_SET (RFC 4721) – 2 - AS_SEQUENCE (RFC 4721) – 3 - AS_CONFED_SEQUENCE (RFC 3065) – 4 - AS_CONFED_SET (RFC 3065) • The path segment length field contains the number of autonomous systems (not the number of octets) in the path segment value field. • The path segment value field contains one or more autonomous system numbers, each encoded as a four octet length field in network-byte order. **NOTE** An SNMP agent can truncate the objects that are less than its maximum theoretical length of 4072 octets. It is recommended that when such truncation occurs on the boundary of an encoded AS, the partial AS be discarded from the object and the object size adjusted accordingly. When such truncation happens, either alone or in conjunction with the truncation of a partially encoded AS, it will yield an empty path segment value. In that case, the path segment type and path segment length components of the truncated AS_PATH attributue are also discarded and the object size is adjusted accordingly.
bgp4V2NlriPathAttrUnknown brcdIp.3.5.1.1.9.1.25 Syntax: Octet String	Read-only	Specifies the path attributes that are not understood by the implementation are presented. These path attributes use the type, length, and value encoding from RFC 4271. **NOTE** An SNMP agent can truncate the objects that are less than its maximum theoretical length of 4072 octets.

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

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

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

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

Object group name	Object identifier	Supported IP version	Access
IP scalar variables	1.3.6.1.2.1.4	IPv4 and IPv6	Only the following objects have read-write access: • ipDefaultTTL • ipv6IpDefaultHopLimit • ipv6IpForwarding All other scalar variables are read-only. **NOTE** GET operation is not supported on the RUCKUSFastIron devices for the ipv6InterfaceTableLastChange scalar object.
ipAddrTable	1.3.6.1.2.1.4.20	IPv4 and IPv6	The table of addressing information relevant to this entity's IP addresses. This table has been deprecated, as a new IP version-neutral table has been added. It is loosely replaced by the ipAddressTable although several objects that weren't deemed useful weren't carried forward while another (ipAdEntReasmMaxSize) was moved to the ipv4InterfaceTable.
ipNetToMediaTable	1.3.6.1.2.1.4.22	IPv4	All objects are read-only.
ipCidrRouteTable	1.3.6.1.2.1.4.24.4	IPv4 and IPv6	This entity's IP Routing table. This table has been deprecated in favor of the IP version neutral inetCidrRouteTable.
inetCidrRouteTable	1.3.6.1.2.1.4.24.7	IPv4 and IPv6	This entity's IP Routing table.
ipv6InterfaceTable	1.3.6.1.2.1.4.30	IPv6	All objects are read-only.
ipNetToPhysicalTable	1.3.6.1.2.1.4.35		
ipSystemStatsTable			
ipIfStatsTableLastChange Syntax: TimeStamp	1.3.6.1.2.1.4.31.2	IPv4 and IPv6	All objects are read-only.
ipAddressTable	1.3.6.1.2.1.4.34	IPv4 and IPv6	All objects are read-only.
icmp	1.3.6.1.2.1.5	IPv4 and IPv6	
icmpStatsTable	1.3.6.1.2.1.5.29		All objects are read-only.
icmpMsgStatsTable	1.3.6.1.2.1.5.30		All objects are read-only.
tcp	1.3.6.1.2.1.6	IPv4 and IPv6	
tcpConnTable	1.3.6.1.2.1.6.13	IPv4	
ipv6TcpConnTable	1.3.6.1.2.1.6.16	IPv6	
tcpConnectionTable	1.3.6.1.2.1.6.19	IPv4 and IPv6	
tcpListenerTable	1.3.6.1.2.1.6.20	IPv4 and IPv6	All objects are read-only.
udp	1.3.6.1.2.1.7	IPv4 and IPv6	
udpTable	1.3.6.1.2.1.7.5	IPv4	All objects are read-only.
ipv6UdpTable	1.3.6.1.2.1.7.6	IPv6	All objects are read-only.

Object group name	Object identifier	Supported IP version	Access
udpEndpointTable	1.3.6.1.2.1.7.7	IPv4 and IPv6	Not-accessible

RFC 4836: MAU (Medium Attachment Unit) MIBs

The following tables list the supported MIB objects from RFC 4836.

NOTE
The rpMauTable, rpJackTable, and ifJackTable objects are not supported from RFC 4836.

ifMauTable

The following table lists the ifMauTable objects. SET operations are not supported on the following table.

Object group name	Object identifier	Supported?
ifMauIfIndex	1.3.6.1.2.1.26.2.1.1.1	Yes
ifMauIndex	1.3.6.1.2.1.26.2.1.1.2	Yes
ifMauType	1.3.6.1.2.1.26.2.1.1.3	Yes
ifMauStatus	1.3.6.1.2.1.26.2.1.1.4	Yes
ifMauMediaAvailable	1.3.6.1.2.1.26.2.1.1.5	Yes
ifMauMediaAvailableStateExits	1.3.6.1.2.1.26.2.1.1.6	No
ifMauJabberState	1.3.6.1.2.1.26.2.1.1.7	No
ifMauJabberingStateEnters	1.3.6.1.2.1.26.2.1.1.8	No
ifMauFalseCarriers	1.3.6.1.2.1.26.2.1.1.9	No
ifMauTypeList	1.3.6.1.2.1.26.2.1.1.10	No
ifMauDefaultType	1.3.6.1.2.1.26.2.1.1.11	Yes
ifMauAutoNegSupported	1.3.6.1.2.1.26.2.1.1.12	Yes
ifMauTypeListBits	1.3.6.1.2.1.26.2.1.1.13	No
ifMauHCFalseCarriers	1.3.6.1.2.1.26.2.1.1.14	No

ifMauAutoNegTable

The following table lists the ifMauAutoNegTable objects. SET operations are not supported on the following table.

Object group name	Object identifier	Supported?
ifMauAutoNegAdminStatus	1.3.6.1.2.1.26.5.1.1.1	Yes
ifMauAutoNegRemoteSignaling	1.3.6.1.2.1.26.5.1.1.2	Yes
ifMauAutoNegConfig	1.3.6.1.2.1.26.5.1.1.4	Yes
ifMauAutoNegRestart	1.3.6.1.2.1.26.5.1.1.8	Yes
ifMauAutoNegCapabilityBits	1.3.6.1.2.1.26.5.1.1.9	Yes
ifMauAutoNegCapAdvertisedBits	1.3.6.1.2.1.26.5.1.1.10	Yes
ifMauAutoNegCapReceivedBits	1.3.6.1.2.1.26.5.1.1.11	No
ifMauAutoNegRemoteFaultAdvertised	1.3.6.1.2.1.26.5.1.1.12	Yes
ifMauAutoNegRemoteFaultReceived	1.3.6.1.2.1.26.5.1.1.13	Yes

RFC 5676: Definitions of Managed Objects for Mapping SYSLOG Messages to Simple Network Management Protocol (SNMP) Notifications

The RUCKUS ICX devices are provided with the following SNMP MIB objects to represent SYSLOG messages.

NOTE
This enhancement supports SYSLOG RFC 3164 and RFC 5424. RFC 3164 is enabled by default while RFC 5424 needs to be configured. Use **logging enable rfc5424** command to generate syslog specific to RFC 5424 and **no logging enable rfc5424** command to generate syslog specific to RFC 3164. RFC 5424 obsoletes RFC 3164.

NOTE
Use **snmp-server enable traps syslog** command to enable SYSLOG traps.

SYSLOG objects

The following table lists the SYSLOG message scalar objects.

NOTE
The syslogMsgTable and syslogMsgSDTable are not supported.

Object	Object identifier	Supported?
syslogTCMIB	1.3.6.1.2.1.173	Yes
syslogMsgControl	1.3.6.1.2.1.192.1.1	Yes
syslogMsgTableMaxSize	1.3.6.1.2.1.192.1.1.1	Yes
syslogMsgEnableNotifications	1.3.6.1.2.1.192.1.1.2	Yes

The following table lists the SYSLOG notifications.

Object	Object identifier	Supported?
syslogMsgNotifications	1.3.6.1.2.1.192.0	Yes
syslogMsgNotification	1.3.6.1.2.1.192.0.1	Yes
syslogMsgobjects	1.3.6.1.2.1.192.1	Yes
syslogMsgConformance	1.3.6.1.2.1.192.0.2	Yes

LLDP-MIB

The following tables in the LLDP-MIB are supported on the RUCKUSFastIron devices.

- lldpConfiguration
- lldpPortConfigTable
- lldpConfigManAddrTable
- lldpstatistics
- lldpStatsTxPortTable
- lldpStatsRxPortTable

- lldpLocalSystemData
- lldpLocPortTable
- lldpLocManAddrTable
- lldpRemTable
- lldpRemManAddrTable
- lldpRemUnknownTLVTable
- lldpRemOrgDefInfoTable

lldpConfiguration

Object	Object identifier	Supported?
lldpConfiguration	1.0.8802.1.1.2.1.1	Yes
lldpMessageTxInterval Syntax: Integer 32	1.0.8802.1.1.2.1.1.1	Yes
lldpMessageTxHoldMultiplier Syntax: Integer 32	1.0.8802.1.1.2.1.1.2	Yes
lldpReinitDelay Syntax: Integer 32	1.0.8802.1.1.2.1.1.3	Yes
lldpTxDelay Syntax: Integer 32	1.0.8802.1.1.2.1.1.4	Yes
lldpNotificationInterval Syntax: Integer 32	1.0.8802.1.1.2.1.1.5	Yes

lldpPortConfigTable

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

Object	Object identifier	Supported?
lldpPortConfigEntry	1.0.8802.1.1.2.1.1.6.1	Yes
lldpPortConfigPortNum	1.0.8802.1.1.2.1.1.6.1.1	Yes
lldpPortConfigAdminStatus	1.0.8802.1.1.2.1.1.6.1.2	Yes
lldpPortConfigNotificationEnable	1.0.8802.1.1.2.1.1.6.1.3	Yes
lldpPortConfigTLVsTxEnable	1.0.8802.1.1.2.1.1.6.1.4	Yes

lldpConfigManAddrTable

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

Object	Object identifier	Supported?
lldpConfigManAddrEntry	1.0.8802.1.1.2.1.1.7.1	Yes
lldpConfigManAddrPortsTxEnable	1.0.8802.1.1.2.1.1.7.1.1	Yes

lldpstatistics

The following table lists the LLDP statistics group objects.

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

lldpStatsTxPortTable

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

Object	Object identifier	Supported?
lldpStatsTxPortEntry	1.0.8802.1.1.2.1.2.6.1	Yes
lldpStatsTxPortNum	1.0.8802.1.1.2.1.2.6.1.1	Yes
lldpStatsTxPortFramesTotal	1.0.8802.1.1.2.1.2.6.1.2	Yes

lldpStatsRxPortTable

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

Object	Object identifier	Supported?
lldpStatsRxPortEntry	1.0.8802.1.1.2.1.2.7.1	Yes
lldpStatsRxPortNum	1.0.8802.1.1.2.1.2.7.1.1	Yes
lldpStatsRxPortFramesDiscardedTotal	1.0.8802.1.1.2.1.2.7.1.2	Yes
lldpStatsRxPortFramesErrors	1.0.8802.1.1.2.1.2.7.1.3	Yes
lldpStatsRxPortFramesTotal	1.0.8802.1.1.2.1.2.7.1.4	Yes
lldpStatsRxPortTLVsDiscardedTotal	1.0.8802.1.1.2.1.2.7.1.5	Yes
lldpStatsRxPortTLVsUnrecognizedTotal	1.0.8802.1.1.2.1.2.7.1.6	Yes
lldpStatsRxPortAgeoutsTotal	1.0.8802.1.1.2.1.2.7.1.7	Yes

lldpLocalSystemData

The following table lists the LLDP local system data objects.

Object	Object identifier	Supported?
lldpLocChassisIdSubtype	1.0.8802.1.1.2.1.3.1	Yes
lldpLocChassisId	1.0.8802.1.1.2.1.3.2	Yes
lldpLocSysName	1.0.8802.1.1.2.1.3.3	Yes
lldpLocSysDesc	1.0.8802.1.1.2.1.3.4	Yes
lldpLocSysCapSupported	1.0.8802.1.1.2.1.3.5	Yes
lldpLocSysCapEnabled	1.0.8802.1.1.2.1.3.6	Yes

lldpLocPortTable

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

Object	Object identifier	Supported?
lldpLocPortEntry	1.0.8802.1.1.2.1.3.7.1	Yes
lldpLocPortNum	1.0.8802.1.1.2.1.3.7.1.1	Yes
lldpLocPortIdSubtype	1.0.8802.1.1.2.1.3.7.1.2	Yes
lldpLocPortId	1.0.8802.1.1.2.1.3.7.1.3	Yes
lldpLocPortDesc	1.0.8802.1.1.2.1.3.7.1.4	Yes

lldpLocManAddrTable

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

Object	Object identifier	Supported?
lldpLocManAddrEntry	1.0.8802.1.1.2.1.3.8.1	Yes
lldpLocManAddrSubtype	1.0.8802.1.1.2.1.3.8.1.1	Yes
lldpLocManAddr	1.0.8802.1.1.2.1.3.8.1.2	Yes
lldpLocManAddrLen	1.0.8802.1.1.2.1.3.8.1.3	Yes
lldpLocManAddrIfSubtype	1.0.8802.1.1.2.1.3.8.1.4	Yes
lldpLocManAddrIfId	1.0.8802.1.1.2.1.3.8.1.5	Yes
lldpLocManAddrOID	1.0.8802.1.1.2.1.3.8.1.6	Yes

lldpRemTable

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

Object	Object identifier	Supported?
lldpRemEntry	1.0.8802.1.1.2.1.4.1.1	Yes
lldpRemTimeMark	1.0.8802.1.1.2.1.4.1.1.1	Yes
lldpRemLocalPortNum	1.0.8802.1.1.2.1.4.1.1.2	Yes
lldpRemIndex	1.0.8802.1.1.2.1.4.1.1.3	Yes
lldpRemChassisIdSubtype	1.0.8802.1.1.2.1.4.1.1.4	Yes
lldpRemChassisId	1.0.8802.1.1.2.1.4.1.1.5	Yes
lldpRemPortIdSubtype	1.0.8802.1.1.2.1.4.1.1.6	Yes
lldpRemPortId	1.0.8802.1.1.2.1.4.1.1.7	Yes
lldpRemPortDesc	1.0.8802.1.1.2.1.4.1.1.8	Yes
lldpRemSysName	1.0.8802.1.1.2.1.4.1.1.9	Yes
lldpRemSysDesc	1.0.8802.1.1.2.1.4.1.1.10	Yes
lldpRemSysCapSupported	1.0.8802.1.1.2.1.4.1.1.11	Yes
lldpRemSysCapEnabled	1.0.8802.1.1.2.1.4.1.1.12	Yes

lldpRemManAddrTable

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

Object	Object identifier	Supported?
lldpRemManAddrEntry	1.0.8802.1.1.2.1.4.2.1	Yes
lldpRemManAddrSubtype	1.0.8802.1.1.2.1.4.2.1.1	Yes
lldpRemManAddr	1.0.8802.1.1.2.1.4.2.1.2	Yes
lldpRemManAddrIfSubtype	1.0.8802.1.1.2.1.4.2.1.3	Yes
lldpRemManAddrIfId	1.0.8802.1.1.2.1.4.2.1.4	Yes
lldpRemManAddrOID	1.0.8802.1.1.2.1.4.2.1.5	Yes

lldpRemUnknownTLVTable

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

Object	Object identifier	Supported?
lldpRemUnknownTLVEntry	1.0.8802.1.1.2.1.4.3.1	Yes
lldpRemUnknownTLVType	1.0.8802.1.1.2.1.4.3.1.1	Yes
lldpRemUnknownTLVInfo	1.0.8802.1.1.2.1.4.3.1.2	Yes

lldpRemOrgDefInfoTable

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

Object	Object identifier	Supported?
lldpRemOrgDefInfoEntry	1.0.8802.1.1.2.1.4.4.1	Yes
lldpRemOrgDefInfoOUI	1.0.8802.1.1.2.1.4.4.1.1	Yes
lldpRemOrgDefInfoSubtype	1.0.8802.1.1.2.1.4.4.1.2	Yes
lldpRemOrgDefInfoIndex	1.0.8802.1.1.2.1.4.4.1.3	Yes
lldpRemOrgDefInfo	1.0.8802.1.1.2.1.4.4.1.4	Yes

LLDP-EXT-DOT1-MIB

The following tables in the LLDP-EXT-DOT1-MIB are supported on the RUCKUS FastIron devices.

- lldpXdot1ConfigPortVlanTable
- lldpXdot1ConfigVlanNameTable
- lldpXdot1ConfigProtoVlanTable
- lldpXdot1ConfigProtocolTable
- lldpXdot1LocTable
- lldpXdot1LocProtoVlanTable
- lldpXdot1LocVlanNameTable

- lldpXdot1LocProtocolTable
- lldpXdot1RemTable
- lldpXdot1RemProtoVlanTable
- lldpXdot1RemVlanNameTable
- lldpXdot1RemProtocolTable

lldpXdot1ConfigPortVlanTable

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

Object	Object identifier	Supported?
ldpXdot1ConfigPortVlanEntry	1.0.8802.1.1.2.1.5.32962.1.1.1.1	Yes
lldpXdot1ConfigPortVlanTxEnable	1.0.8802.1.1.2.1.5.32962.1.1.1.1.1	Yes

lldpXdot1ConfigVlanNameTable

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

Object	Object identifier	Supported?
lldpXdot1ConfigVlanNameEntry	1.0.8802.1.1.2.1.5.32962.1.1.2.1	Yes
lldpXdot1ConfigVlanNameTxEnable	1.0.8802.1.1.2.1.5.32962.1.1.2.1.1	Yes

lldpXdot1ConfigProtoVlanTable

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

Object	Object identifier	Supported?
lldpXdot1ConfigProtoVlanEntry	1.0.8802.1.1.2.1.5.32962.1.1.3.1	Yes
lldpXdot1ConfigProtoVlanTxEnable	1.0.8802.1.1.2.1.5.32962.1.1.3.1.1	No

lldpXdot1ConfigProtocolTable

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

Object	Object identifier	Supported?
lldpXdot1ConfigProtocolEntry	1.0.8802.1.1.2.1.5.32962.1.1.4.1	Yes
lldpXdot1ConfigProtocolTxEnable	1.0.8802.1.1.2.1.5.32962.1.1.4.1.1	No

lldpXdot1LocTable

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

Object	Object identifier	Supported?
lldpXdot1LocEntry	1.0.8802.1.1.2.1.5.32962.1.2.1.1	Yes
lldpXdot1LocPortVlanId	1.0.8802.1.1.2.1.5.32962.1.2.1.1.1	Yes

lldpXdot1LocProtoVlanTable

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

Object	Object identifier	Supported?
lldpXdot1LocProtoVlanEntry	1.0.8802.1.1.2.1.5.32962.1.2.2.1	
lldpXdot1LocProtoVlanId	1.0.8802.1.1.2.1.5.32962.1.2.2.1.1	No
lldpXdot1LocProtoVlanSupported	1.0.8802.1.1.2.1.5.32962.1.2.2.1.2	No
lldpXdot1LocProtoVlanEnabled	1.0.8802.1.1.2.1.5.32962.1.2.2.1.3	No

lldpXdot1LocVlanNameTable

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

Object	Object identifier	Supported?
lldpXdot1LocVlanNameEntry	1.0.8802.1.1.2.1.5.32962.1.2.3.1	Yes
lldpXdot1LocVlanId	1.0.8802.1.1.2.1.5.32962.1.2.3.1.1	Yes
lldpXdot1LocVlanName	1.0.8802.1.1.2.1.5.32962.1.2.3.1.2	Yes

lldpXdot1LocProtocolTable

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

Object	Object identifier	Supported?
lldpXdot1LocProtocolEntry	1.0.8802.1.1.2.1.5.32962.1.2.4.1	
lldpXdot1LocProtocolIndex	1.0.8802.1.1.2.1.5.32962.1.2.4.1.1	No
lldpXdot1LocProtocolId	1.0.8802.1.1.2.1.5.32962.1.2.4.1.2	No

lldpXdot1RemTable

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

Object	Object identifier	Supported?
lldpXdot1RemEntry	1.0.8802.1.1.2.1.5.32962.1.3.1.1	Yes
lldpXdot1RemPortVlanId	1.0.8802.1.1.2.1.5.32962.1.3.1.1.1	Yes

lldpXdot1RemProtoVlanTable

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

Object	Object identifier	Supported?
lldpXdot1RemProtoVlanEntry	1.0.8802.1.1.2.1.5.32962.1.3.2.1	Yes
lldpXdot1RemProtoVlanId	1.0.8802.1.1.2.1.5.32962.1.3.2.1.1	Yes
lldpXdot1RemProtoVlanSupported	1.0.8802.1.1.2.1.5.32962.1.3.2.1.2	Yes
lldpXdot1RemProtoVlanEnabled	1.0.8802.1.1.2.1.5.32962.1.3.2.1.3	Yes

lldpXdot1RemVlanNameTable

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

Object	Object identifier	Supported?
lldpXdot1RemVlanNameEntry	1.0.8802.1.1.2.1.5.32962.1.3.3.1	Yes
lldpXdot1RemVlanId	1.0.8802.1.1.2.1.5.32962.1.3.3.1.1	Yes
lldpXdot1RemVlanName	1.0.8802.1.1.2.1.5.32962.1.3.3.1.2	Yes

lldpXdot1RemProtocolTable

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

Object	Object identifier	Supported?
lldpXdot1RemProtocolEntry	1.0.8802.1.1.2.1.5.32962.1.3.4.1	Yes
lldpXdot1RemProtocolIndex	1.0.8802.1.1.2.1.5.32962.1.3.4.1.1	Yes
lldpXdot1RemProtocolId	1.0.8802.1.1.2.1.5.32962.1.3.4.1.2	Yes

LLDP-EXT-DOT3-MIB

The following tables in the LLDP-EXT-DOT3-MIB are supported on the RUCKUS FastIron devices.

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

lldpXdot3PortConfigTable

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

Object	Object identifier	Supported?
lldpXdot3PortConfigEntry	1.0.8802.1.1.2.1.5.4623.1.1.1.1	Yes
lldpXdot3PortConfigTLVsTxEnable	1.0.8802.1.1.2.1.5.4623.1.1.1.1.1	Yes

lldpXdot3LocPortTable

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

Object	Object identifier	Supported?
lldpXdot3LocPortEntry	1.0.8802.1.1.2.1.5.4623.1.2.1.1	Yes
lldpXdot3LocPortAutoNegSupported	1.0.8802.1.1.2.1.5.4623.1.2.1.1.1	Yes
lldpXdot3LocPortAutoNegEnabled	1.0.8802.1.1.2.1.5.4623.1.2.1.1.2	Yes
lldpXdot3LocPortAutoNegAdvertisedCap	1.0.8802.1.1.2.1.5.4623.1.2.1.1.3	Yes
lldpXdot3LocPortOperMauType	1.0.8802.1.1.2.1.5.4623.1.2.1.1.4	Yes

lldpXdot3LocPowerTable

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

Object	Object identifier	Supported?
lldpXdot3LocPowerEntry	1.0.8802.1.1.2.1.5.4623.1.2.2.1	Yes
lldpXdot3LocPowerPortClass	1.0.8802.1.1.2.1.5.4623.1.2.2.1.1	Yes
lldpXdot3LocPowerMDISupported	1.0.8802.1.1.2.1.5.4623.1.2.2.1.2	Yes
lldpXdot3LocPowerMDIEnabled	1.0.8802.1.1.2.1.5.4623.1.2.2.1.3	Yes
lldpXdot3LocPowerPairControlable	1.0.8802.1.1.2.1.5.4623.1.2.2.1.4	Yes
lldpXdot3LocPowerPairs	1.0.8802.1.1.2.1.5.4623.1.2.2.1.5	Yes
lldpXdot3LocPowerClass	1.0.8802.1.1.2.1.5.4623.1.2.2.1.6	Yes

lldpXdot3LocLinkAggTable

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

Object	Object identifier	Supported?
lldpXdot3LocLinkAggEntry	1.0.8802.1.1.2.1.5.4623.1.2.3.1	Yes
lldpXdot3LocLinkAggStatus	1.0.8802.1.1.2.1.5.4623.1.2.3.1.1	Yes
lldpXdot3LocLinkAggPortId	1.0.8802.1.1.2.1.5.4623.1.2.3.1.2	Yes

lldpXdot3LocMaxFrameSizeTable

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

Object	Object identifier	Supported?
lldpXdot3LocMaxFrameSizeEntry	1.0.8802.1.1.2.1.5.4623.1.2.4.1	Yes
lldpXdot3LocMaxFrameSize	1.0.8802.1.1.2.1.5.4623.1.2.4.1.1	Yes

lldpXdot3RemPortTable

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

Object	Object identifier	Supported?
lldpXdot3RemPortEntry	1.0.8802.1.1.2.1.5.4623.1.3.1.1	Yes
lldpXdot3RemPortAutoNegSupported	1.0.8802.1.1.2.1.5.4623.1.3.1.1.1	Yes
lldpXdot3RemPortAutoNegEnabled	1.0.8802.1.1.2.1.5.4623.1.3.1.1.2	Yes
lldpXdot3RemPortAutoNegAdvertisedCap	1.0.8802.1.1.2.1.5.4623.1.3.1.1.3	Yes
lldpXdot3RemPortOperMauType	1.0.8802.1.1.2.1.5.4623.1.3.1.1.4	Yes

lldpXdot3RemPowerTable

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

Object	Object identifier	Supported?
lldpXdot3RemPowerEntry	1.0.8802.1.1.2.1.5.4623.1.3.2.1	Yes
lldpXdot3RemPowerPortClass	1.0.8802.1.1.2.1.5.4623.1.3.2.1.1	Yes
lldpXdot3RemPowerMDISupported	1.0.8802.1.1.2.1.5.4623.1.3.2.1.2	Yes
lldpXdot3RemPowerMDIEnabled	1.0.8802.1.1.2.1.5.4623.1.3.2.1.3	Yes
lldpXdot3RemPowerPairControlable	1.0.8802.1.1.2.1.5.4623.1.3.2.1.4	Yes
lldpXdot3RemPowerPairs	1.0.8802.1.1.2.1.5.4623.1.3.2.1.5	Yes
lldpXdot3RemPowerClass	1.0.8802.1.1.2.1.5.4623.1.3.2.1.6	Yes

lldpXdot3RemLinkAggTable

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

Object	Object identifier	Supported?
lldpXdot3RemLinkAggEntry	1.0.8802.1.1.2.1.5.4623.1.3.3.1	Yes
lldpXdot3RemLinkAggStatus	1.0.8802.1.1.2.1.5.4623.1.3.3.1.1	Yes
lldpXdot3RemLinkAggPortId	1.0.8802.1.1.2.1.5.4623.1.3.3.1.2	Yes

lldpXdot3RemMaxFrameSizeTable

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

Object	Object identifier	Supported?
lldpXdot3RemMaxFrameSizeEntry	1.0.8802.1.1.2.1.5.4623.1.3.4.1	Yes
lldpXdot3RemMaxFrameSize	1.0.8802.1.1.2.1.5.4623.1.3.4.1.1	Yes

lldpXMedMIB

Object	Object identifier
lldpXMedObjects	1.0.8802.1.1.2.1.5.4795.1
lldpXMedConfig	1.0.8802.1.1.2.1.5.4795.1.1
lldpXMedPortConfigTable	1.0.8802.1.1.2.1.5.4795.1.1.2
lldpXMedLocalData	1.0.8802.1.1.2.1.5.4795.1.2

Object	Object identifier
lldpXMedLocMediaPolicyTable	1.0.8802.1.1.2.1.5.4795.1.2.1
lldpXMedLocLocationTable	1.0.8802.1.1.2.1.5.4795.1.2.9
lldpXMedLocXPoEPSEPortTable	1.0.8802.1.1.2.1.5.4795.1.2.11
lldpXMedRemoteData	1.0.8802.1.1.2.1.5.4795.1.3
lldpXMedRemCapabilitiesTable	1.0.8802.1.1.2.1.5.4795.1.3.1
lldpXMedRemMediaPolicyTable	1.0.8802.1.1.2.1.5.4795.1.3.2
lldpXMedRemInventoryTable	1.0.8802.1.1.2.1.5.4795.1.3.3
lldpXMedRemLocationTable	1.0.8802.1.1.2.1.5.4795.1.3.4
lldpXMedRemXPoETable	1.0.8802.1.1.2.1.5.4795.1.3.5
lldpXMedRemXPoEPSETable	1.0.8802.1.1.2.1.5.4795.1.3.6
lldpXMedRemXPoEPDTable	1.0.8802.1.1.2.1.5.4795.1.3.7

RFC 4560 - Ping MIB

Ping MIB module defines the configuration objects and enable determination of round-trip time and other values for a ping test performed with a target host.

The following are the PING MIB SNMP objects supported:

- pingMaxConcurrentRequests
- pingCtlTable
- pingResultsTable
- pingProbeHistoryTable

Ping Table Global Objects MIB

MIB objects

Objects and OID	Access	Description
pingMaxConcurrentRequests Syntax: Unsigned32	Read-write	This represents the value of maximum number of concurrent active ping requests with in an agent implementation. The maximum of concurrent active ping requests is 10. This object is supported only with router image. Also, note that it supported only in the default VRF. **NOTE** Only Read operation is supported.

History

Release version	History
08.0.80a	This MIB was introduced.

Ping Control Table MIB

MIB objects

Objects and OID	Access	Description
pingCtlOwnerIndex Syntax: SnmpAdminString	None	This first index for the entry in pingCtlTable. The value is textually mapped to a securityName or groupName defined in VACM. **NOTE** The value is not validated against the SNMPv3 users configured in the device. It will be used for index purpose only.
pingCtlTestName Syntax: SnmpAdminString	None	The name of the ping test. This is locally unique, within the scope of a pingCtlOwnerIndex.
pingCtlTargetAddressType Syntax: InetAddressType	Read-create	Specifies the type of host address to be used at a remote host for performing a ping operation. The following values are supported. • ipv4(1) • ipv6(2) **NOTE** The default value is ipv4(1).
pingCtlTargetAddress Syntax: InetAddressType	Read-create	Specifies the host address to be used at a remote host for performing a ping operation. The host address type is determined by the value of the corresponding pingCtlTargetAddressType.
pingCtlDataSize Syntax: Unsigned32 (0..65507)	Read-create	Specifies the size of the data portion to be transmitted in a ping operation, in octets. The maximum allowed size depends on the size allowed for ICMP type ping. **NOTE** The maximum of packet size is 64 bytes.
pingCtlTimeOut Syntax: Unsigned32 (seconds)	Read-create	Specifies the time-out value, in seconds, for a remote ping operation. **NOTE** Default value is 3 seconds.
pingCtlProbeCount Syntax: Unsigned32 (1..15)	Read-create	Specifies the number of times to perform a ping operation at a remote host as part of a single ping test. **NOTE** Default value is 1.
pingCtlAdminStatus Syntax: Integer	Read-create	Reflects the desired state that a pingCtlEntry should be in. enabled(1) - Attempt to activate the test as defined by this pingCtlEntry. disabled(2) - Deactivate the test as defined by this pingCtlEntry. **NOTE** The default value is disabled(2).

Objects and OID	Access	Description
pingCtlFrequency Syntax: Unsigned32 (seconds)	Read-create	The number of seconds to wait before repeating a ping test. After a single test is completed the number of seconds as defined by the value of pingCtlFrequency MUST elapse before the next ping test is started. A value of 0 for this object implies that the test as defined by the corresponding entry will not be repeated. **NOTE** Only **Read-only** access supported for this object. The object always returns value of 0. (ping test will never be repeated automatically). **NOTE** The default value is 0.
pingCtlMaxRows Syntax: Unsigned32 (Rows)	Read-create	The maximum number of corresponding entries allowed in the pingProbeHistoryTable.An implementation of this MIB will remove the oldest corresponding entry in the pingProbeHistoryTable to allow the addition of an new entry once the number of corresponding rows in the pingProbeHistoryTable reaches this value. Old entries are not removed when a new test is started. Entries are added to the pingProbeHistoryTable until pingCtlMaxRows is reached before entries begin to be removed. A value of 0 for this object disables creation of pingProbeHistoryTable entries. **NOTE** Only **Read-only** access supported for this object. This will be read-only object with fixed value of 50.
pingCtlStorageType Syntax: StorageType	Read-create	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. **NOTE** Only **Read-only** access supported for this object. The object always returns value of volatile(2) (is lost upon reboot).

pingCtlTrapGeneration
Syntax:
{
probeFailure(0),
testFailure(1),
testCompletion(2)
}
	Read-create	This object determines when and whether to generate a notification for this entry.

pingCtlTrapProbeFailureFilter Syntax: Unsigned32 (0..15)	Read-create	The value of this object is used to determine when to generate a pingProbeFailed NOTIFICATION. pingProbeFailed NOTIFICATION is generated only when BIT probeFailure(0) of the object pingCtlTrapGeneration is set to 1 and the number of consecutive ping tests equal to the value of pingCtlTrapProbeFailureFilter fail.
pingCtlTrapTestFailureFilter Syntax: Unsigned32 (0..15)	Read-create	The value of this object is used to determine when to generate a pingTestFailed NOTIFICATION. pingTestFailed NOTIFICATION is generated only when BIT testFailure(1) of the object pingCtlTrapGeneration is set to 1 and the number of consecutive ping tests equal to the value of pingCtlTrapProbeFailureFilter fail.

Objects and OID	Access	Description
pingCtlType Syntax: OBJECT IDENTIFIER	Read-create	Used either to report or to select the implementation method to be used for calculating a ping response time. The value of this object be selected from pingImplementationTypeDomains. **NOTE** Only**read-only** operation is supported with constant value pingIcmpEcho.
pingCtlDescr Syntax: SnmpAdminString	Read-create	To provide a descriptive name of the remote ping test. **NOTE** Maximum length supported is 255 characters.
pingCtlSourceAddressType Syntax: InetAddressType	Read-create	Specifies the type of the source address, pingCtlSourceAddress, to be used at a remote host when a ping operation is performed. **NOTE** Only ipv4 and ipv6 are supported.
pingCtlSourceAddress Syntax: InetAddress	Read-create	The specified IP address will be used as the source address in outgoing probe packets. If the IP address is not one of this machine's interface addresses, an error is returned and nothing is sent. **NOTE** Host name is not supported. Specify ipv4 or ipv6 address.
pingCtlRowStatus Syntax: RowStatus (RFC 2579)	Read-create	Allows entries to be created and deleted in the pingCtlTable. Deletion of an entry in this table results in the deletion of all corresponding (same pingCtlOwnerIndex and pingCtlTestName index values) pingResultsTable and pingProbeHistoryTable entries. A value must be specified for pingCtlTargetAddress prior to acceptance of a transition to active(1) state. Activation of a remote ping operation is controlled via pingCtlAdminStatus, not by changing this object's value to active(1). Transitions in and out of active(1) state are not allowed (except destroy(6)) while an entry's pingResultsOperStatus is active(1).

History

Release version	History
08.0.80a	This MIB was introduced.

Ping Results Table

MIB objects

Objects and OID	Access	Description
pingCtlOwnerIndex Syntax: SnmpAdminString	None	This first index for the entry in picCtlTable. The value is textually mapped to a securityName or groupName defined in VACM. The value is not validated against the SNMPv3 users configured in the device. It will be used for index purpose only.
pingCtlTestName Syntax: SnmpAdminString	None	The name of the ping test. This is locally unique, within the scope of a pingCtlOwnerIndex.
pingResultsOperStatus Syntax: Integer	None	Reflects the operational state of a pingCtlEntry. • enabled(1) - Test is active. • disabled(2) - Test has stopped. • completed(3) - Test is completed **NOTE** If the ping test has not started, the return value is 0.
pingResultsIpTargetAddressType Syntax: InetAddressType	Read-only	Indicates the type of address stored in the corresponding pingResultsIpTargetAddress object. **NOTE** Return value is always unknown(0).
pingResultsIpTargetAddress Syntax: InetAddress	Read-only	Reports the IP address associated with a pingCtlTargetAddress value. **NOTE** Return value is always Null.
pingResultsMinRtt Syntax: Unassigned32 (milliseconds)	Read-only	The minimum ping round-trip-time (RTT) received. A value of 0 when no RTT has been received.
pingResultsMaxRtt Syntax: Unassigned32 (milliseconds)	Read-only	The maximum ping round-trip-time (RTT) received. A value of 0 when no RTT has been received.
pingResultsAverageRtt Syntax: Unassigned32 (milliseconds)	Read-only	The current average ping round-trip-time (RTT).
pingResultsProbeResponses Syntax: Gauge32 (Responses)	Read-only	Number of responses received for the corresponding pingCtlEntry and pingResultsEntry. The value of this will be 0 when no probe response have been received
pingResultsSentProbes Syntax: Gauge32 (Probes)	Read-only	Reflects the number of probes sent for the corresponding pingCtlEntry and pingResultsEntry.
pingResultsRttSumOfSquares Syntax: Unassigned32 (milliseconds)	Read-only	The sum of the squares for all ping responses received. The value of this will be 0 when no ping response received.
pingResultsLastGoodProbe Syntax: DateAndTime	Read-only	Date and time when the last response was received for a probe.

History

Release version	History
08.0.80a	This MIB was introduced.

Ping probe history table

MIB objects

Objects and OID	Access	Description
pingCtlOwnerIndex Syntax: SnmpAdminString	None	This first index for the entry in picCtlTable. The value is textually mapped to a securityName or groupName defined in VACM. The value is not validated against the SNMPv3 users configured in the device. It will be used for index purpose only.
pingCtlTestName Syntax: SnmpAdminString	None	The name of the ping test. This is locally unique, within the scope of a pingCtlOwnerIndex.
pingProbeHistoryIndex Syntax: Unsigned32 (1..'ffffffff'h)	None	The value of index for the entries in the probe history table. The entry in the table is created when the result of the probe is determined. The pingProbeHistoryIndex value starts with number 1.
pingProbeHistoryResponse Syntax: Unsigned32	Read-only	Time measured in milliseconds from when a probe was sent to when its response was received or when it timed out. The value of this object is reported as 0 when it is not possible to transmit a probe.
pingProbeHistoryStatus Syntax: OperationResponseStatus	Read-only	Reflects a result of the particular probe.
pingProbeHistoryLastRC Syntax: Integer32	Read-only	The reply code received. The return value is always 0 (ICMP).
pingProbeHistoryTime Syntax: DateAndTime	Read-only	Reflects the timestamp for when this probe result was determined.

History

Release version	History
08.0.80a	This MIB was introduced.

RFC 4560 - Traceroute MIB

Traceroute MIB module defines the configuration objects and enable determination of round-trip time and other values for a traceroute test performed with a target host.

The following are the TRACEROUTE MIB SNMP objects supported:

- traceRouteMaxConcurrentRequests
- traceRouteCtlTable
- traceRouteResultsTable
- traceRouteProbeHistoryTable
- traceRouteHopsTable

TraceRoute Table Global Objects MIB

MIB objects

Objects and OID	Access	Description
traceRouteMaxConcurrentRequests Syntax: Unsigned32	Read-write	This represents the value of maximum number of concurrent active traceroute requests that are allowed within an agent implementation. The maximum number of concurrent active traceroute requests is 10. **NOTE** Only Read operation is supported with fixed value of 10.

History

Release version	History
08.0.80a	This MIB was introduced.

Traceroute Control Table Objects MIB

MIB objects

Objects and OID	Access	Description
traceRouteCtlOwnerIndex Syntax: SnmpAdminString (SIZE(0..32))	None	This first index for the entry in traceRouteCtlTable. The value is textually mapped to a securityName or groupName defined in VACM.
traceRouteCtlTestName Syntax: SnmpAdminString (SIZE(0..32))	None	The name of the traceroute test. This is locally unique, within the scope of a traceRouteCtlOwnerIndex.
traceRouteCtlTargetAddressType Syntax: InetAddressType	Read-create	Specifies the type of host address to be used on the traceroute request at the remote host. The following values are supported. • ipv4(1) • ipv6(2)
traceRouteCtlTargetAddress Syntax: InetAddress	Read-create	Specifies the host address used on the traceroute request at the remote host. A value for this object must be set prior to transitioning its corresponding traceRouteCtlEntry to active(1) via traceRouteCtlRowStatus. The default value is 00 00 00 00.
traceRouteCtlTimeOut Syntax: Unsigned32 (0..60)	Read-create	Specifies the time-out value, in seconds,for a traceroute request. **NOTE** Default Value 3 Seconds.
traceRouteCtlMaxTtl Syntax: Unsigned32 (1..255)	Read-create	Specifies the maximum time-to-live value. **NOTE** Default value is 30.
traceRouteCtlSourceAddressType Syntax: InetAddressType	Read-create	Specifies the type of the source address, traceRouteCtlSourceAddress. Default value is unknown. **NOTE** IPv4 and IPv6 are supported.
traceRouteCtlSourceAddress Syntax: InetAddress	Read-create	Use the specified IP address (which must be given as an IP number, not as a hostname) as the source address in the outgoing probe packets. On hosts with more than one IP address, this option is used to select the address to be used. If the IP address is not one of the interface addresses of the machine, an error is returned, and nothing is sent. A zero-length octet string value for this object disables source address specification. **NOTE** Host name is not supported. Specify IPv4 or IPv6 address.
traceRouteCtlInitialTtl Syntax: Unsigned32 (1..255)	Read-create	The value of this object specifies the initial TTL value to use. This enables bypassing the initial (often well known) portion of a path. Default value is 1.
traceRouteCtlStorageType Syntax: StorageType	Read-create	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. **NOTE** Only **Read-only** access supported for this object. The object always returns value of volatile(2) (is lost upon reboot).

Objects and OID	Access	Description
traceRouteCtlAdminStatus Syntax: INTEGER	Read-create	This object defines the state of traceRouteCtlEntry. enabled(1) - operation should be started. disabled(2) - operation should be stopped 'Disabled' is the default value.
traceRouteCtlDescr Syntax: SnmpAdminString	Read-create	Descriptive name of the remote traceroute test. Maximum 255 characters.
traceRouteCtlMaxRows Syntax: Unsigned32	Read-create	The maximum number of corresponding entries allowed in the traceRouteProbeHistoryTable. A value of 0 for this object disables creation of traceRouteProbeHistoryTable entries. The default value is 50. **NOTE** Only **Read-only** access supported for this object.

traceRouteCtlTrapGeneration
 	
Syntax: BITS {
 	
pathChange(0),
 	
testFailure(1),
 	
testCompletion(2)
 	
}
	Read-create	The value of this object determines when and whether to generate a notification for this entry:
		
		pathChange(0) - Generate a traceRoutePathChange notification when the current path varies from a previously determined path.
		
		testFailure(1) - Generate a traceRouteTestFailed notification when the full path to a target can't be determined.
		
		testCompletion(2) - Generate a traceRouteTestCompleted notification when the path to a target has been determined.

traceRouteCtlCreateHopsEntries Syntax: TruthValue	Read-create	The current path for a traceroute test is kept in the traceRouteHopsTable on a per-hop basis when the value of this object is true(1). **NOTE** Only Read-only access supported for this object.
traceRouteCtlType Syntax: OBJECT IDENTIFIER	Read-create	The value of this object is used either to report or to select the implementation method to be used for performing a traceroute operation. The value of this object may be selected from traceRouteImplementationTypeDomains. **NOTE** Only Read-only access supported for this object.
traceRouteCtlRowStatus Syntax: RowStatus	Read-create	This object allows entries to be created and deleted in the traceRouteCtlTable. Deletion of an entry in this table results in a deletion of all corresponding (same traceRouteCtlOwnerIndex and traceRouteCtlTestName index values) traceRouteResultsTable, traceRouteProbeHistoryTable, and traceRouteHopsTable entries.

History

Release version	History
08.0.80a	This MIB was introduced.

Traceroute Result Table Objects MIB

MIB objects

Objects and OID	Access	Description
traceRouteCtlOwnerIndex Syntax: SnmpAdminString (SIZE(0..32))	None	This first index for the entry in traceRouteCtlTable. The value is textually mapped to a securityName or groupName defined in VACM.
traceRouteCtlTestName Syntax: SnmpAdminString (SIZE(0..32))	None	The name of the traceroute test. This is locally unique, within the scope of a traceRouteCtlOwnerIndex.
traceRouteResultsOperStatus Syntax: Integer	Read-only	Reflects the operational state of a traceRouteCtlEntry: • enabled(1) - Test is active. • disabled(2) - Test has stopped. • completed(3) - Test is completed **NOTE** If the traceroute test has not started, the return value is 0.
traceRouteResultsCurHopCount Syntax: Gauge32	Read-only	The current TTL value (from 1 to 255) for a remote traceroute operation. Maximum TTL value is determined by traceRouteCtlMaxTtl.
traceRouteResultsCurProbeCount Syntax: Gauge32	Read-only	The current probe count (1..10) for a remote traceroute operation.
traceRouteResultsIpTgtAddrType Syntax: InetAddressType	Read-only	Indicates the type of address stored in the corresponding traceRouteResultsIpTgtAddr object. **NOTE** Return value is always unknown(0).
traceRouteResultsIpTgtAddr Syntax: InetAddress	Read-only	Reports the IP address associatedwith a traceRouteCtlTargetAddress value when the destination address is specified as a DNS name. The value of this object will be a zero-length octet string when a DNS name is not specified or when a specified DNS name fails to resolve. **NOTE** Return value is always Null.
traceRouteResultsTestAttempts Syntax: Gauge32	Read-only	The current number of attempts to determine a path to a target. The value of this object must be started at 0.
traceRouteResultsTestSuccesses Syntax: Gauge32	Read-only	The current number of attempts to determine a path to a target that have succeeded. The value of this object must be reported as 0 when no attempts have succeeded.
traceRouteResultsLastGoodPath Syntax: DateAndTime	Read-only	The date and time when the last complete path was determined. A path is complete if responses were received or timeout occurred for each hop on the path.

History

Release version	History
08.0.80a	This MIB was introduced.

Traceroute Probe History Table Objects MIB

MIB objects

Objects and OID	Access	Description
traceRouteCtlOwnerIndex Syntax: SnmpAdminString (SIZE(0..32))	None	This first index for the entry in traceRouteCtlTable. The value is textually mapped to a securityName or groupName defined in VACM. The value is not validated against the SNMPv3 users configured in the device. It will be used for index purpose only.
traceRouteCtlTestName Syntax: SnmpAdminString (SIZE(0..32))	None	The name of the traceroute test. This is locally unique, within the scope of a traceRouteCtlOwnerIndex.
traceRouteProbeHistoryIndex Syntax: Unsigned32 (1..'ffffffff'h)	None	The entry in the table is created when the result of the traceroute probe is determined. The initial 2 instance identifier index values identify the traceRouteCtlEntry that a probe result (traceRouteProbeHistoryEntry) belongs to. An entry is removed from this table when its corresponding traceRouteCtlEntry is deleted.
traceRouteProbeHistoryHopIndex Syntax: Unsigned32 (1..255)	None	Indicates which hop in a traceroute path the probe's results are for. The value of this object is initially determined by the value of traceRouteCtlInitialTtl.
traceRouteProbeHistoryProbeIndex Syntax: traceRouteProbeHistoryProbeIndex	None	Indicates the index of a probe for a particular hop in a traceroute path. The number of probes per hop is determined by the value of the corresponding traceRouteCtlProbesPerHop object.
traceRouteProbeHistoryHAddrType Syntax: InetAddressType	Read-only	Indicates the type of address stored in the corresponding traceRouteProbeHistoryHAddr object.
traceRouteProbeHistoryHAddr Syntax: InetAddress	Read-only	The address of a hop in a traceroute path. This object is not allowed to be a DNS name.
traceRouteProbeHistoryResponse Syntax: Unsigned32	Read-only	The amount of time measured in milliseconds from when a probe was sent to when its response was received or when it timed out.
traceRouteProbeHistoryStatus Syntax: OperationResponseStatus	Read-only	The result of a traceroute operation made by a remote host for a particular probe.
traceRouteProbeHistoryLastRC Syntax: Integer32	Read-only	The last code received.
traceRouteProbeHistoryTime Syntax: DateAndTime	Read-only	Timestamp for when this probe's results were determined.

History

Release version	History
08.0.80a	This MIB was introduced.

Traceroute Hops Table Objects MIB

MIB objects

Objects and OID	Access	Description
traceRouteCtlOwnerIndex Syntax: SnmpAdminString (SIZE(0..32))	None	This first index for the entry in traceRouteCtlTable. The value is textually mapped to a securityName or groupName defined in VACM. The value is not validated against the SNMPv3 users configured in the device. It will be used for index purpose only.
traceRouteCtlTestName Syntax: SnmpAdminString (SIZE(0..32))	None	The name of the traceroute test. This is locally unique, within the scope of a traceRouteCtlOwnerIndex.
traceRouteHopsHopIndex Syntax: Unsigned32 (1..'ffffffff'h)	None	Specifies the hop index for a traceroute hop. Values for this object with respect to the same traceRouteCtlOwnerIndex and traceRouteCtlTestName must start at 1 and be given increasing values for subsequent hops. The value of traceRouteHopsHopIndex is not necessarily the number of the hop on the traced path. All hops (traceRouteHopsTable entries) in a traceroute path MUST be updated at the same time when a traceroute operation is completed.
traceRouteHopsIpTgtAddressType Syntax: InetAddressType	Read-only	Indicates the type of address stored in the corresponding traceRouteHopsIpTgtAddress object.
traceRouteHopsIpTgtAddress Syntax: InetAddress	Read-only	IP address associated with the hop. A value for this object should be reported as a numeric IP address, not as a DNS name.
traceRouteHopsMinRtt Syntax: Unsigned32	Read-only	The minimum traceroute round-trip-time (RTT) received for this hop. A value of 0 for this object implies that no RTT has been received.
traceRouteHopsMaxRtt Syntax: Unsigned32	Read-only	The maximum traceroute round-trip-time (RTT) received for this hop. A value of 0 for this object implies that no RTT has been received.
traceRouteHopsAverageRtt Syntax: Unsigned32	Read-only	The current average traceroute round-trip-time (RTT) for this hop.
traceRouteHopsRttSumOfSquares Syntax: Unsigned32	Read-only	This object contains the sum of the squares of all round-trip-times received for this hop. Its purpose is to enable standard deviation calculation.
traceRouteHopsSentProbes Syntax: Unsigned32	Read-only	The value of this object reflects the number of probes sent for this hop during this traceroute test. The value of this object starts at 0.
traceRouteHopsProbeResponses Syntax: Unsigned32	Read-only	Number of responses received for this hop during this traceroute test. This value of this object starts at 0.
traceRouteHopsLastGoodProbe Syntax: Unsigned32	DateAndTime	Date and time at which the last response was received for a probe for this hop during this traceroute test.

History

Release version	History
08.0.80a	This MIB was introduced.

Standard MIBs

Object	Object identifier
SNMP	
snmp	1.3.6.1.2.1.11
snmpEngine	1.3.6.1.6.3.10.2.1
usmStats	1.3.6.1.6.3.15.1.1
usmUser	1.3.6.1.6.3.15.1.2
vacmSecurityToGroupTable	1.3.6.1.6.3.16.1.2
vacmAccessTable	1.3.6.1.6.3.16.1.4
vacmMIBViews	1.3.6.1.6.3.16.1.5
RIP	
rip2	1.3.6.1.2.1.23
rip2Globals	1.3.6.1.2.1.23.1
rip2IfStatTable	1.3.6.1.2.1.23.2
rip2IfConfTable	1.3.6.1.2.1.23.3
IPv6 MIB	
ipv6MIB	1.3.6.1.2.1.55
ipv6MIBObjects	1.3.6.1.2.1.55.1
ipv6IfTable	1.3.6.1.2.1.55.1.5
ipv6IfStatsTable	1.3.6.1.2.1.55.1.6
ipv6AddrPrefixTable	1.3.6.1.2.1.55.1.7
ipv6AddrTable	1.3.6.1.2.1.55.1.8
ipv6NetToMediaTable	1.3.6.1.2.1.55.1.12
ipv6IcmpMIB	1.3.6.1.2.1.56
ipv6IcmpMIBObjects	1.3.6.1.2.1.56.1
ipv6IfIcmpTable	1.3.6.1.2.1.56.1.1
diffServMIB	
diffServMib	1.3.6.1.2.1.97
diffServMultiFieldClfrTable	1.3.6.1.2.1.97.1.2.6
spdMIB	
spdMIB	1.3.6.1.2.1.153
spdLocalConfigObjects	1.3.6.1.2.1.153.1.1
spdEndpointToGroupTable	1.3.6.1.2.1.153.1.2
spdGroupContentsTable	1.3.6.1.2.1.153.1.3
spdRuleDefinitionTable	1.3.6.1.2.1.153.1.4
spdStaticFilters	1.3.6.1.2.1.153.1.7
spdStaticActions	1.3.6.1.2.1.153.1.13
sflow	
sFlowAgent	1.3.6.1.4.1.4300.1.1
sFlowTable	1.3.6.1.4.1.4300.1.1.4

Registration MIB Definition

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

Object name and identifier	Description
snFastIronStackFamily 1.3.6.1.4.1.1991.1.3.48	RUCKUS Stack family
snFastIronStackICX7750 brcdIp.1.3.48.7	RUCKUS ICX 7750 Stack
snFastIronStackICX7750Switch brcdIp.1.3.48.7.1	RUCKUS ICX 7750 Stack Switch
snFastIronStackICX7750BaseL3Router brcdIp.1.3.48.7.2	RUCKUS ICX 7750 Stack Base Layer 3 Router
snFastIronStackICX7750Router brcdIp.1.3.48.7.3	RUCKUS ICX 7750 Stack Router
snFastIronStackICX7450Switch brcdIp.1.3.48.8.1	RUCKUS ICX 7450 Stack Switch
snFastIronStackICX7450BaseL3Router brcdIp.1.3.48.8.2	RUCKUS ICX 7450 Stack Base Layer 3 Router
snFastIronStackICX7450Router brcdIp.1.3.48.8.3	RUCKUS ICX 7450 Stack Router
snFastIronStackICX7250 brcdIp.1.3.48.9	RUCKUS ICX 7250 Stack
snFastIronStackICX7250Switch brcdIp.1.3.48.9.1	RUCKUS ICX 7250 Stack Switch
snFastIronStackICX7250BaseL3Router brcdIp.1.3.48.9.2	RUCKUS ICX 7250 Stack Base Layer 3 Router
snFastIronStackICX7250Router brcdIp.1.3.48.9.3	RUCKUS ICX 7250 Stack Router
snFastIronStackICX7150 brcdIp.1.3.48.10	RUCKUS ICX 7150 Stack
snFastIronStackICX7150Switch brcdIp.1.3.48.10.1	RUCKUS ICX 7150 Stack Switch
snFastIronStackICX7150Router brcdIp.1.3.48.10.2	RUCKUS ICX 7150 Stack Router
snFastIronStackICX7650 brcdIp.1.3.48.11	RUCKUS ICX 7650 Stack
snFastIronStackICX7650Switch brcdIp.1.3.48.11.1	RUCKUS ICX 7650 Stack Switch
snFastIronStackICX7650Router brcdIp.1.3.48.11.2	RUCKUS ICX 7650 Stack Router
snFastIronStackICX7850 brcdIp.1.3.48.12	RUCKUS ICX 7850 Stack
snFastIronStackICX7850Switch brcdIp.1.3.48.12.1	RUCKUS ICX 7850 Stack Switch
snFastIronStackICX7850Router brcdIp.1.3.48.12.2	RUCKUS ICX 7850 Stack Router

Object name and identifier	Description
snFastIronSPXFamily brcdIp.1.3.63	RUCKUS ICX 7750/7450 Family
snFastIronSPX brcdIp.1.3.63.1	FastIron SPX
snFastIronSPXSwitch brcdIp.1.3.63.1.1	FastIron SPX Switch
snFastIronSPXRouter brcdIp.1.3.63.1.2	FastIron SPX Router
snICX7250Family brcdIp.1.3.62	RUCKUS ICX 7250 Series Family
snICX725024Family brcdIp.1.3.62.1	RUCKUS ICX 7250 24-port Family
snICX725024BaseFamily brcdIp.1.3.62.1.1	RUCKUS ICX 7250 24-port Base Family
snICX725024 brcdIp.1.3.62.1.1.1	RUCKUS ICX 7250 24-port 1G
snICX725024Switch brcdIp.1.3.62.1.1.1.1	RUCKUS ICX 7250 24-port Switch
snICX725024BaseL3Router brcdIp.1.3.62.1.1.1.2	RUCKUS ICX 7250 24-port Base Layer 3 Router
snICX725024Router brcdIp.1.3.62.1.1.1.3	RUCKUS ICX 7250 24-port Router
snICX725024HPOEFamily brcdIp.1.3.62.1.2	RUCKUS ICX 7250 24-port HPOE Family
snICX725024HPOE brcdIp.1.3.62.1.2.1	RUCKUS ICX 7250 24-port HPOE+1G
snICX725024HPOESwitch brcdIp.1.3.62.1.2.1.1	RUCKUS ICX 7250 24-port HPOE Switch
snICX725024HPOEBaseL3Router brcdIp.1.3.62.1.2.1.2	RUCKUS ICX 7250 24-port HPOE Base Layer 3 Router
snICX725024HPOERouter brcdIp.1.3.62.1.2.1.3	RUCKUS ICX 7250 24-port HPOE Base Router
snICX725024GFamily brcdIp.1.3.62.1.3	RUCKUS ICX 7250 24-port 1G Family
snICX725024G brcdIp.1.3.62.1.3.1	RUCKUS ICX 7250 24-port 1G
snICX725024GSwitch brcdIp.1.3.62.1.3.1.1	RUCKUS ICX 7250 24-port 1G Switch
snICX725024GBaseL3Router brcdIp.1.3.62.1.3.1.2	RUCKUS ICX 7250 24-port 1G Base Layer 3 Router
snICX725024GRouter brcdIp.1.3.62.1.3.1.3	RUCKUS ICX 7250 24-port 1G Router
snICX725048Family brcdIp.1.3.62.2	RUCKUS ICX 7250 48-port Family
snICX725048BaseFamily brcdIp.1.3.62.2.1	RUCKUS ICX 7250 48-port Base Family
snICX725048 brcdIp.1.3.62.2.1.1	RUCKUS ICX 7250 48-port 1G
snICX725048Switch brcdIp.1.3.62.2.1.1.1	RUCKUS ICX 7250 48-port Switch

Object name and identifier	Description
snICX725048BaseL3Router brcdIp.1.3.62.2.1.1.2	RUCKUS ICX 7250 48-port Base Layer 3 Router
snICX725048Router brcdIp.1.3.62.2.1.1.3	RUCKUS ICX 7250 48-port Router
snICX725048HPOEBaseFamily brcdIp.1.3.62.2.2	RUCKUS ICX 7250 48-port HPOE Base Family
snICX725048HPOE brcdIp.1.3.62.2.2.1	RUCKUS ICX 7250 48-HPOE 48-port POE+ 1G
snICX725048HPOESwitch brcdIp.1.3.62.2.2.1.1	RUCKUS ICX 7250 48-HPOE 48-port Switch
snICX725048HPOEBaseL3Router brcdIp.1.3.62.2.2.1.2	RUCKUS ICX 7250 48-HPOE 48-port Base Layer 3 Router
snICX725048HPOERouter brcdIp.1.3.62.2.2.1.3	RUCKUS ICX 7250 48-HPOE 48-port Router
snICX7750Family brcdIp.1.3.60	RUCKUS ICX 7750 Series Family
snICX775048CFamily brcdIp.1.3.60.1	RUCKUS ICX 7750 48C (48-port) Family
snICX775048CBaseFamily brcdIp.1.3.60.1.1	RUCKUS ICX 7750 48C (48-port) Base Family
snICX775048C brcdIp.1.3.60.1.1.1	RUCKUS ICX 7750 48C (48-port) (FE/GE/10GE RJ-45 w/12x40G)
snICX775048CSwitch brcdIp.1.3.60.1.1.1.1	RUCKUS ICX 7750 48C (48-port) Switch
snICX775048CBaseL3Router brcdIp.1.3.60.1.1.1.2	RUCKUS ICX 7750 48C (48-port) Base Layer 3 Router
snICX775048CRouter brcdIp.1.3.60.1.1.1.3	RUCKUS ICX 7750 48C (48-port) Router
snICX775048FFamily brcdIp.1.3.60.2	RUCKUS ICX 7750 48F (48-port) Family
snICX775048FBaseFamily brcdIp.1.3.60.2.1	RUCKUS ICX 7750 48F (48-port) Base Family
snICX775048F brcdIp.1.3.60.2.1.1	RUCKUS ICX 7750 (GE/10GE SFP+ w/12x40G)
snICX775048FSwitch brcdIp.1.3.60.2.1.1.1	RUCKUS ICX 7750 48F (48-port) Switch
snICX775048FBaseL3Router brcdIp.1.3.60.2.1.1.2	RUCKUS ICX 7750 48F (48-port) Base Layer 3 Router
snICX775048FRouter brcdIp.1.3.60.2.1.1.3	RUCKUS ICX 7750 48F (48-port) Router
snICX775026QFamily brcdIp.1.3.60.3	RUCKUS ICX 7750 26Q (26-port) Family
snICX775026QBaseFamily brcdIp.1.3.60.3.1	RUCKUS ICX 7750 26Q (26-port) Base Family
snICX775026Q brcdIp.1.3.60.3.1.1	RUCKUS ICX 7750 26Q (26-port) (40G QSFP w/ 6x40G)
snICX775026QSwitch brcdIp.1.3.60.3.1.1.1	RUCKUS ICX 7750 26Q (26-port) Switch
snICX775026QBaseL3Router brcdIp.1.3.60.3.1.1.2	RUCKUS ICX 7750 26Q (26-port) Base Layer 3 Router

Object name and identifier	Description
snICX775026QRouter brcdIp.1.3.60.3.1.1.3	RUCKUS ICX 7750 26Q (26-port) Router
snICX7650Family brcdIp.1.3.65	RUCKUS ICX 7650 Series Family
snICX765048Family brcdIp.1.3.65.1	RUCKUS ICX 7650 48 (48-port) Family
snICX765048POEBaseFamily brcdIp.1.3.65.1.1	RUCKUS ICX 7650 48 (48-port) POE Base Family
snICX765048P brcdIp.1.3.65.1.1.1	RUCKUS ICX 7650 48 (48-port) POE+ 1G
snICX765048POESwitch brcdIp.1.3.65.1.1.1.1	RUCKUS ICX 7650 48 (48-port) POE Switch
snICX765048POERouter brcdIp.1.3.65.1.1.1.2	RUCKUS ICX 7650 48 (48-port) POE Router
snICX765048FBaseFamily brcdIp.1.3.65.1.2	RUCKUS ICX 7650 48F (48-port) Base Family
snICX765048F brcdIp.1.3.65.1.2.1	RUCKUS ICX 7650 48F (48-port) 1G/10G
snICX765048FSwitch brcdIp.1.3.65.1.2.1.1	RUCKUS ICX 7650 48F (48-port) Switch
snICX765048FRouter brcdIp.1.3.65.1.2.1.2	RUCKUS ICX 7650 48F (48-port) Router
snICX765048ZPBaseFamily brcdIp.1.3.65.1.2.1.3	RUCKUS ICX 7650 48ZP (48-port) Base Family
snICX765048ZP brcdIp.1.3.65.1.2.1.3.1	RUCKUS ICX 7650 48ZP (48-port) 1G/2.5G/5G/10G
snICX765048ZPSwitch brcdIp.1.3.65.1.2.1.3.1.1	RUCKUS ICX 7650 48ZP (48-port) Switch
snICX765048ZPRouter brcdIp.1.3.65.1.2.1.3.1.2	RUCKUS ICX 7650 48ZP (48-port) Router
snICX7450Family brcdIp.1.3.61	RUCKUS ICX 7450 Series Family
snICX745024Family brcdIp.1.3.61.1	RUCKUS ICX 7450 24 (24-port) Family
snICX745024BaseFamily brcdIp.1.3.61.1.1	RUCKUS ICX 7450 24 (24-port) Base Family
snICX745024 brcdIp.1.3.61.1.1.1	RUCKUS ICX 7450 24 (24-port) 1G
snICX745024Switch brcdIp.1.3.61.1.1.1.1	RUCKUS ICX 7450 24 (24-port) Switch
snICX745024BaseL3Router brcdIp.1.3.61.1.1.1.2	RUCKUS ICX 7450 24 (24-port) Base Layer 3 Switch
snICX745024Router brcdIp.1.3.61.1.1.1.3	RUCKUS ICX 7450 24 (24-port) Router
snICX745024HPOEFamily brcdIp.1.3.61.1.2	RUCKUS ICX 7450 24 (24-port) HPOE Family
snICX745024HPOE brcdIp.1.3.61.1.2.1	RUCKUS ICX 7450 24 (24-port) HPOE
snICX745024HPOESwitch brcdIp.1.3.61.1.2.1.1	RUCKUS ICX 7450 24 (24-port) HPOE Switch

Object name and identifier	Description
snICX745024HPOEBaseL3Router brcdIp.1.3.61.1.2.1.2	RUCKUS ICX 7450 24 (24-port) HPOE Base Layer 3 Router
snICX745024HPOERouter brcdIp.1.3.61.1.2.1.3	RUCKUS ICX 7450 24 (24-port) HPOE Router
snICX745032ZPFamily brcdIp.1.3.61.3	RUCKUS ICX 7450 32ZP Family
snICX745032ZPBaseFamily brcdIp.1.3.61.3.1	RUCKUS ICX 7450 32ZP Base Family
snICX745032ZP brcdIp.1.3.61.3.1.1	RUCKUS ICX 7450 32ZP 24-port 1G/8-port 2.5G
snICX745032ZPSwitch brcdIp.1.3.61.3.1.1.1	RUCKUS ICX 7450 32ZP 24-port 1G/8-port 2.5G Switch
snICX745032ZPBaseL3Router brcdIp.1.3.61.3.1.1.2	RUCKUS ICX 7450 32ZP 24-port 1G/8-port 2.5G Base Layer 3 router
snICX745032ZPRouter brcdIp.1.3.61.3.1.1.3	RUCKUS ICX 7450 32ZP 24-port 1G/8-port 2.5G Router
snICX745048Family brcdIp.1.3.61.2	RUCKUS ICX 7450 48 (48-port) Family
snICX745048BaseFamily brcdIp.1.3.61.2.1	RUCKUS ICX 7450 48 (48-port) Base Family
snICX745048 brcdIp.1.3.61.2.1.1	RUCKUS ICX 7450 48 (48-port)
snICX745048Switch brcdIp.1.3.61.2.1.1.1	RUCKUS ICX 7450 48 (48-port) Switch
snICX745048BaseL3Router brcdIp.1.3.61.2.1.1.2	RUCKUS ICX 7450 48 (48-port) Base Layer 3 Router
snICX745048Router brcdIp.1.3.61.2.1.1.3	RUCKUS ICX 7450 48 (48-port) Router
snICX745048HPOEBaseFamily brcdIp.1.3.61.2.2	RUCKUS ICX 7450 48 (48-port) HPOE Base Family
snICX745048HPOE brcdIp.1.3.61.2.2.1	RUCKUS ICX 7450 48 (48-port) HPOE
snICX745048HPOESwitch brcdIp.1.3.61.2.2.1.1	RUCKUS ICX 7450 48 (48-port) HPOE Switch
snICX745048HPOEBaseL3Router brcdIp.1.3.61.2.21.2	RUCKUS ICX 7450 48 (48-port) HPOE Base Layer 3 Router
snICX745048HPOERouter brcdIp.1.3.61.2.2.1.3	RUCKUS ICX 7450 48 (48-port) HPOE Router
snICX745048FBaseFamily brcdIp.1.3.61.2.3	RUCKUS ICX 7450 48F (48-port) Base Family
snICX745048F brcdIp.1.3.61.2.3.1	RUCKUS ICX 7450 48F (48-port)
snICX745048FSwitch brcdIp.1.3.61.2.3.1.1	RUCKUS ICX 7450 48F (48-port) Switch
snICX745048FBaseL3Router brcdIp.1.3.61.2.3.1.2	RUCKUS ICX 7450 48F (48-port) Base Layer 3 Router

Object name and identifier	Description
snICX745048FRouter brcdIp.1.3.61.2.3.1.3	RUCKUS ICX 7450 48F (48-port) Router
snICX7150Family brcdIp.1.3.64	RUCKUS ICX 7150 Series Family
snICX715024Family brcdIp.1.3.64.1	RUCKUS ICX 7150 24 (24-port) Family
snICX715024BaseFamily brcdIp.1.3.64.1.1	RUCKUS ICX 7150 24 (24-port) Base Family
snICX715024 brcdIp.1.3.64.1.1.1	RUCKUS ICX 7150 24 (24-port) 1G
snICX715024Switch brcdIp.1.3.64.1.1.1.1	RUCKUS ICX 7150 24 (24-port) Switch
snICX715024Router brcdIp.1.3.64.1.1.1.2	RUCKUS ICX 7150 24 (24-port) Router
snICX715024POEFamily brcdIp.1.3.64.1.2	RUCKUS ICX 7150 24 (24-port) POE Family
snICX715024POE brcdIp.1.3.64.1.2.1	RUCKUS ICX 7150-POE 24-port POE+1G
snICX715024POESwitch brcdIp.1.3.64.1.2.1.1	RUCKUS ICX 7150 24-POE (24-port) Switch
snICX715024POERouter brcdIp.1.3.64.1.2.1.2	RUCKUS ICX 7150 24-POE (24-port) Base Router
snICX715048Family brcdIp.1.3.64.2	RUCKUS ICX 7150 48 (48-port) Family
snICX715048BaseFamily brcdIp.1.3.64.2.1	RUCKUS ICX 7150 48 (48-port) Base Family
snICX715048 brcdIp.1.3.64.2.1.1	RUCKUS ICX 7150 48 (48-port) 1G
snICX715048Switch brcdIp.1.3.64.2.1.1.1	RUCKUS ICX 7150 48 (48-port) Switch
snICX715048Router brcdIp.1.3.64.2.1.1.2	RUCKUS ICX 7150 48 (48-port) Router
snICX715048POEFamily brcdIp.1.3.64.2.2	RUCKUS ICX 7150 48 (48-port) POE Family
snICX715048POE brcdIp.1.3.64.2.2.1	RUCKUS ICX 7150 48-POE (48-port) POE+ 1G
snICX715048POESwitch brcdIp.1.3.64.2.2.1.1	RUCKUS ICX 7150 48-POE (48-port) Switch
snICX715048POERouter brcdIp.1.3.64.2.2.1.2	RUCKUS ICX 7150 48-POE (48-port) Router
snICX715048POEFFamily brcdIp.1.3.64.2.3	RUCKUS ICX 7150 48-POEF (48-port) Family
snICX715048POEF brcdIp.1.3.64.2.3.1	RUCKUS ICX 7150 48-POEF (48-port) POEF+ 1G
snICX715048POEFSwitch brcdIp.1.3.64.2.3.1.1	RUCKUS ICX 7150 48-POEF (48-port) Switch
snICX715048POEFRouter brcdIp.1.3.64.2.3.1.2	RUCKUS ICX 7150 48-POEF (48-port) Router
snICX7150C12POEFamily brcdIp.1.3.64.3	RUCKUS ICX 7150 C12 (12-port) POE Family

Object name and identifier	Description
snICX7150C12POEBaseFamily brcdIp.1.3.64.3.1	RUCKUS ICX 7150 C12 (12-port) POE Base Family
snICX7150C12POE brcdIp.1.3.64.3.1.1	RUCKUS ICX 7150 C12 (12-port) POE+1G
snICX7150C12POESwitch brcdIp.1.3.64.3.1.1.1	RUCKUS ICX 7150 C12 (12-port) POE Switch
snICX7150C12POERouter brcdIp.1.3.64.3.1.1.2	RUCKUS ICX 7150 C12 (12-port) POE Router
snICX715048ZPFamily brcdIp.1.3.64.2.4	RUCKUS ICX 7150 48P POE 48-port Management Module
snICX715048ZP brcdIp.1.3.64.2.4.1	RUCKUS ICX 7150 48-ZP 32-port POEF+ 1G/16-port 2.5G
snICX715048ZPSwitch brcdIp.1.3.64.2.4.1.1	RUCKUS ICX 7150 48-ZP 32-port POEF+ 1G/16-port 2.5G Switch
snICX715048ZPRouter brcdIp.1.3.64.2.4.1.2	RUCKUS ICX 7150 48-ZP 32-port POEF+ 1G/16-port 2.5G Router
snICX7850Family 1.3.6.1.4.1.1991.1.3.66	RUCKUS ICX 7850 Series Family
snICX785048Family 1.3.6.1.4.1.1991.1.3.66.1	RUCKUS ICX 7850 48 (48-port) Family
snICX785048FBaseFamily 1.3.6.1.4.1.1991.1.3.66.1.1	RUCKUS ICX 7850 48F (48-port) Base Family
snICX785048F 1.3.6.1.4.1.1991.1.3.66.1.1.1	RUCKUS ICX 7850 48F (48-port) 1G/10G/25G
snICX785048FSwitch 1.3.6.1.4.1.1991.1.3.66.1.1.1.1	RUCKUS ICX 7850 48F (48-port) Switch
snICX785048FRouter 1.3.6.1.4.1.1991.1.3.66.1.1.1.2	RUCKUS ICX 7850 48F (48-port) Router
snICX785048FSBaseFamily 1.3.6.1.4.1.1991.1.3.66.1.2	RUCKUS ICX 7850 48FS (48-port) Base Family
snICX785048FS 1.3.6.1.4.1.1991.1.3.66.1.2.1	RUCKUS ICX 7850 48FS (48-port) 1G/10G
snICX785048FSSwitch 1.3.6.1.4.1.1991.1.3.66.1.2.1.1	RUCKUS ICX 7850 48FS (48-port) Switch
snICX785048FSRouter 1.3.6.1.4.1.1991.1.3.66.1.2.1.2	RUCKUS ICX 7850 48FS (48-port) Router
snICX785032QFamily 1.3.6.1.4.1.1991.1.3.66.2	RUCKUS ICX 7850 32Q (32-port) Family
snICX785032QBaseFamily 1.3.6.1.4.1.1991.1.3.66.2.1	RUCKUS ICX 7850 32Q (32-port) Base Family
snICX785032Q 1.3.6.1.4.1.1991.1.3.66.2.1.1	RUCKUS ICX 7850 32Q (32-port) 40G/100G
snICX785032QSwitch 1.3.6.1.4.1.1991.1.3.66.2.1.1.1	RUCKUS ICX 7850 32Q (32-port) Switch
snIXC785032QBaseL3Router 1.3.6.1.4.1.1991.1.3.66.2.1.1.2	RUCKUS ICX 7850 32Q (32-port) Base Layer 3 Router
snICX785032QRouter 1.3.6.1.4.1.1991.1.3.66.2.1.1.3	RUCKUS ICX 7850 32Q (32-port) Router

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General chassis information

The following objects apply to all devices.

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

Fan status

Name, OID, and syntax	Access	Description
snChasEnablePwrSupplyTrap brcdIp.1.1.1.1.12 Syntax: Integer	Read-write	Indicates if the SNMP agent process has been enabled to generate power supply failure traps: • disabled(0) • enabled(1) Default: enabled(1)

Name, OID, and syntax	Access	Description
snChasMainBrdId brcdIp.1.1.1.1.13 Syntax: Octet String	Read-only	Applies to all stackable products. It identifies the main board. This is an encoded octet string. Each octet provides the following information: **Octet 0** - Identifies the format of this octet string. **Octets 1 and 2:** **If Octet 0 has a value of 1, then:** **Octet 1** - Product type: • FIWG - 0x57 • FIBB - 0x42 • FIMLS - 0x4D • TI - 0x54 • TIRT - 0x52 **Octet 2** - Board type: • POWERPC - 1 • ALPHA - 2 The length of the octet string is 27. **If Octet 0 has a value of 2, then:** **Octet 1** - Product type: • BI_WG - 0x57 • BI_BB - 0x42 • NI_M4 - 0x4D • BI_SLB - 0x53 **Octet 2** - Module type:
		• MASTER_FIBER_8G - 0x0 • MASTER_FIBER_4G - 0x1 • MASTER_COPPER_16 - 0x2 • FI_MASTER_FIBER_2G - 0x4 • FI_MASTER_FIBER_4G - 0x5 • MASTER_COPPER_8G - 0x6 • FI_MASTER_FIBER_8G - 0x7 • MASTER_COPPER_12_2 - 0x9 • MASTER_FIBER_2G - 0x12 • MASTER_FIBER_0G - 0x14 • FI_MASTER_COPPER_8G - 0x1D • FI_MASTER_COPPER_4G - 0x1F • FI_MASTER_COPPER_2G - 0x20 • MASTER_COPPER_4G - 0x21 • MASTER_COPPER_2G - 0x22 • MASTER_M4_8G - 0x23 • MASTER_M4_4G - 0x24 • MASTER_M4_0G - 0x26 The length of the octet string is 28.

Name, OID, and syntax	Access	Description
		Octet 3 - Processor type (both format version 1 and 2): • PVR_M603 - 3 • PVR_M604 - 4 • PVR_M603E - 6 • PVR_M603EV - 7 • PVR_M604E - 9 **Octet 4 to Octet 5** - Processor speed in MHz (both format version 1 and 2) **Octet 6** - MAC type: • MAC_NONE - 0 • MAC_SEEQ_10_100 - 1 • MAC_DEC_10_100 - 2 • PHY_ICS - 3 • MAC_XI0GMAC_1000 - 4 • MAC_SEEQ_1000 - 5 • MAC_GMAC_1000 - 6 • MAC_VLSI_1000 - 7 **Octet 7** - PHY type (both format version 1 and 2): • PHY_NONE - 0 • PHY_QSI - 1 • PHY_BROADCOM - 2 • PHY_ICS - 3 • PHY_NATIONAL - 4 • PHY_LEVEL1 - 6 • PHY_LEVEL16 - 7 • PHY_LEVEL24 - 8

Name, OID, and syntax	Access	Description
		Octet 8 - Port type: • COPPER - 0 • FIBER - 1 **Octet 9** - Fiber port type (both format version 1 and 2): • NONFIBER - 0 • SX_FIBER - 1 • LX_FIBER - 2 • LHX_FIBER - 3 • LX_SX_FIBER - 4 • LHB_FIBER - 5 **Octet 10 to Octet 13** - DRAM size in KBytes (both format version 1 and 2) **Octet 14 to Octet 17** - Boot flash size in KBytes (both format version 1 and 2) **Octet 18 to Octet 21** - Code flash size in KBytes (both format version 1 and 2) **Octet 22 to Octet 27** - Serial number (both format version 1 and 2) **Octet 28** - Chassis backplane type (format version 1 only): This octet applies only if Octet 0 is equal to 1. • chassis4000 - 0x00 • chassis8000 - 0x04 • chassis15000 - 0x05 • Turbo8 - 0x07 (stack2) • FastIron2 - 0x06 (stack1)
snChasEnableFanTrap brcdIp.1.1.1.1.16 Syntax: Integer	Read-write	For chassis devices only. Indicates if the SNMP agent process has been enabled to generate fan failure traps: • disabled(0) • enabled(1) Default: enabled(1)
snChasIdNumber brcdIp.1.1.1.1.17 Syntax: DisplayString	Read-only	Shows the chassis identity number. This is used by inventory control. This is not the number on the label of the device. By default, this object displays a null string. This object can have up to 64 characters.
snChasActualTemperature brcdIp.1.1.1.1.18 Syntax: Integer	Read-only	Temperature of the chassis. Each unit is 0.5 degrees Celcius.Only management module built with temperature sensor hardwareis applicable. For those non-applicable management module, itreturns no-such-name.
snChasWarningTemperature brcdIp.1.1.1.1.19 Syntax: Integer	Read-write	Actual temperature higher than this threshold value will trigger the switch to send a temperature warning trap. Each unit is 0.5 degrees Celcius. Only management module built with temperature sensor hardware is applicable. For those non-applicable management module, it returns no-such-name.
snChasShutdownTemperature brcdIp.1.1.1.1.20 Syntax: Integer	Read-write	Actual temperature higher than this threshold value will shutdown a partial of the switch hardware to cool down the system. Each unit is 0.5 degrees Celcius. Only management module built with temperature sensor hardware is applicable. For those non-applicable management module, it returns no-such-name.

Name, OID, and syntax	Access	Description
snChasEnableTempWarnTrap brcdIp.1.1.1.1.21 Syntax: Integer	Read-write	Indicates if the SNMP agent process has been enabled to generate temperature warning traps: • disabled(0) • enabled(1) Default: enabled(1)

Flash card

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

Name, OID, and syntax	Access	Description
snChasNumSlots brcdIp.1.1.1.1.24 Syntax: Integer32	Read-only	Shows the number of slots in the chassis.
snChasArchitectureType brcdIp.1.1.1.1.25 Syntax: Integer	Read-only	Shows the architecture type: • stackable(1) - old stackable • bigIron(2) • terathon(3) • fifthGen(4)
snChasProductType brcdIp.1.1.1.1.26 Syntax: Integer	Read-only	Shows the product type. The following shows the meaning of each bit: • invalid(0) • BigIron MG8(1) • BigIron RX 800(4) • BigIron RX 400(6) • BigIron RX 200(8) • BigIron RX-32(15)
snChasGlobalIgnoreShutdownTemperature brcdIp.1.1.1.1.30 Syntax: Integer **NOTE** This object is supported only on the RUCKUS ICX 7750 and ICX 7450 devices.	Read-write	Enables or disables the temperature threshold shutdown (Battleshort mode) at global level. Able to fetch the temperature threshold shutdown (Battleshort mode) status enabled (1) or disabled (0) at global level. **NOTE** The device allow either to enable global battle short mode or unit specific battle short mode at a time not for both configuration. The valid values are: • enable(1) • disable(0) The default value is disable(0). SNMP WALK and SNMP GET operations of the OID gives the default value as zero for the unsupported platforms.

Power supply table

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

Name, OID, and syntax	Access	Description
snChasPwrSupplyTable brcdIp.1.1.1.2.1	None	A table containing power supply information. Only installed power supplies appear in the table.
snChasPwrSupplyIndex brcdIp.1.1.1.2.1.1.1 Syntax: Integer32	Read-only	The index to the power supply table.
snChasPwrSupplyDescription brcdIp.1.1.1.2.1.1.2 Syntax: DisplayString	Read-only	The power supply description. For example, you may see the description, “right side power supply”. This object can have up to 128 characters.
snChasPwrSupplyOperStatus brcdIp.1.1.1.2.1.1.3 Syntax: Integer	Read-only	The status of the power supply: • other(1) - Status is neither normal(2) or failure(3). This value is not used for stackables including FastIron 4802. • normal(2) • failure(3)

Stacking power supply table

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

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

Fan table

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

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

Stacking fan table

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

Name, OID, and syntax	Access	Description
snChasFan2Table brcdIp.1.1.1.3.2	None	A table of fan information for each unit. Only an installed fan is displayed in a table row.
snChasFan2Unit brcdIp.1.1.1.3.2.1.1 Syntax: Integer	Read-only	The unit to the fan table.
snChasFan2Index brcdIp.1.1.1.3.2.1.2 Syntax: Integer	Read-only	The index to the fan table.
snChasFan2Description brcdIp.1.1.1.3.2.1.3 Syntax: DisplayString	Read-only	The fan description string. This description can have up to 128 characters.
snChasFan2OperStatus brcdIp.1.1.1.3.2.1.4 Syntax: Integer	Read-only	The fan operation status: • other(1) • normal(2) • failure(3)

Stacking chassis unit information

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

Name, OID, and syntax	Access	Description
snChasUnitTable brcdIp.1.1.1.4.1	None	A table of information for each unit in a stack. Only an active unit is displayed in a table row.
snChasUnitIndex brcdIp.1.1.1.4.1.1.1 Syntax: Integer32	Read-only	The index to the table.

Name, OID, and syntax	Access	Description
snChasUnitSerNum brcdIp.1.1.1.4.1.1.2 Syntax: DisplayString	Read-only	The serial number of the unit. If the serial number is unknown or unavailable, then the value should be a zero length string. There can be up to 128 characters for the serial number.
snChasUnitNumSlots brcdIp.1.1.1.4.1.1.3 Syntax: Integer32	Read-only	Number of slots of the chassis for each unit.
snChasUnitActualTemperature brcdIp.1.1.1.4.1.1.4 Syntax: Integer	Read-only	Temperature of the chassis. Each unit is 0.5° Celsius. This object applies only to management modules with temperature sensors in hardware. For management modules without temperature sensors, it returns “no-such-name”. Values are from -110 through 250° Celsius.
snChasUnitWarningTemperature brcdIp.1.1.1.4.1.1.5 Syntax: Integer	Read-write	Actual temperature higher than the threshold value triggers the switch to send a temperature warning trap. Each unit is 0.5° Celsius. This object applies only to management modules with temperature sensors in hardware. For management modules without temperature sensors, it returns “no-such-name”. Values are from 0 through 250° Celsius.
snChasUnitShutdownTemperature brcdIp.1.1.1.4.1.1.6 Syntax: Integer	Read-only	Actual temperature higher than the threshold value will shut down a portion of the switch hardware to cool down the system. Each unit is 0.5° Celsius. This object applies only to management modules with temperature sensors in hardware. For management modules without temperature sensors, it returns “no-such-name”. Values are from 0 through 250° Celsius.
snChasUnitIgnoreShutdownTemperature brcdIp.1.1.1.4.1.1.8 Syntax: Integer **NOTE** This object is supported only on the RUCKUS ICX 7750 and ICX 7450 devices.	Read-write	Enables or disables the temperature threshold shutdown (Battleshort mode) on the unit specific. Fetches the temperature threshold shutdown (Battleshort mode) status enabled (1) or disabled (0) on the unit specific. **NOTE** The device allow either to enable global battle short mode or unit specific battle short mode at a time not for both configuration. The default value is disabled(0). SNMP WALK and SNMP GET operations of the OID gives the default value as zero for the unsupported platforms.

Agent Groups

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Agent global group

The following objects allow you to reload the agent.

Name, OID, and syntax	Access	Description
snAgReload brcdIp.1.1.2.1.1 Syntax: Integer	Read-write	Reboots the agent. The following values can only be read: • other(1) - Agent is in unknown or other state. • running(2) - Agent is running. • busy(4) - Reload is not allowed at this time as flash is busy. The following value can be written: • reset(3) - Do a hard reset. **NOTE** The agent returns a response before the action occurs. This object requires a password to be set for the snAgGblPassword object. User can disable the password using **no snmp-server pw-check** command.

Name, OID, and syntax	Access	Description
snAgEraseNVRAM brcdIp.1.1.2.1.2 Syntax: Integer	Read-write	Erases the NVRAM of the agent. This object can have one of the following values: • normal(1) - NVRAM is not being erased. • error(2) - Either the erase operation failed or the flash memory is bad. • erasing(4) - NVRAM is being erased. If the process starts, you cannot set this object to erase(3) until the process is finished and the value of this object is either normal(1) or error(2). • busy(5) - Operation is not allowed at this time as flash is busy. The following value can be written: • erase(3) - Erase operation. The agent returns a response even before the erase operation is complete. The read values will be erased until the erase operation is finished. New erase requests will be rejected until an error(2) or normal(1) value is obtained.
snAgWriteNVRAM brcdIp.1.1.2.1.3 Syntax: Integer	Read-write	Saves all configuration information to NVRAM of the agent. The following values can only be read: • normal(1) • error(2) - Operation failed or the flash is bad. • writing(4) - Agent is writing to NVRAM flash. • busy(5) - Operation is not allowed at this time as flash is busy. The following value can be written: • write(3) - Write operation. The agent returns a response even before the write operation is complete. The read values will be written until the write operation is finished. New write requests will be rejected until an error(2) or normal(1) value is obtained. This object requires a password to be set for the snAgGblPassword object.

Image and configuration file download and upload

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

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

- If the SNMP password check is enabled on the device, the object must be sent with the following information in the same PDU as the TFTP objects:
  - If AAA is used for SNMP authentication and the authentication method is enable or line, then the value of snAgGlbPassword must be in cleartext format.
  - If AAA is used for SNMP authentication and the authentication method is local, RADIUS, Telnet, TACACS, or TACACS+, then the value of snAgGlbPassword must be in the *user password* format. The space between *user* and *password* is the delimiter.
  - If AAA is not used for authentication, then the value of snAgGlbPassword for the enable password must be in cleartext format.

- Make sure that the user has administrative access (privilege=0) on the device; otherwise, the user will not be able to upload files to the TFTP server.

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

Name, OID, and syntax	Access	Description
snAgImgFname brcdIp.1.1.2.1.6 Syntax: DisplayString	Read-write	Shows the name of the image file, including path, that is currently associated with the system. When the object is not used, the value is blank. It can have up to 32 characters.

Agent Groups
Image and configuration file download and upload

Name, OID, and syntax	Access	Description
snAgImgLoad brcdIp.1.1.2.1.7 Syntax: Integer	Read-write	Downloads or uploads a new software image to the agent. Use one of the following values in an SNMP set: • uploadMPPrimary(19) - Uploads the primary image from the management processor flash memory to the TFTP server. • downloadMPPrimary(20) - Downloads the primary image from the TFTP server to management processor flash memory. • uploadMPSecondary(21) - Uploads the secondary image from the management processor flash memory to the TFTP server. • downloadMPSecondary(22) - Downloads the secondary image from the TFTP server to management processor flash memory. • downloadSPPrimary(24) - Downloads the primary image from the TFTP server to secondary processor flash memory. • downloadSPSecondary(25) - Downloads the secondary image from the TFTP server to secondary processor flash memory. • uploadMPBootROM(26) - Uploads the Boot from the management processor flash memory to the TFTP server. • downloadMPBootROM(27) - Downloads the Boot from flash image from the TFTP server to management processor flash memory. • uploadMPBootTFTP(28) - Uploads the Boot from TFTP image from management processor flash memory to the TFTP server. • downloadMPBootTFTP(29) - Downloads the Boot from TFTP image from the TFTP server to management processor flash memory. • uploadMPMonitor(30) - Uploads the Monitor image from management processor flash memory to the TFTP server. • downloadMPMonitor(31) - Downloads the Monitor image from the TFTP server to management processor flash memory. • downloadSPBootROM(32) - Download the Boot image from the TFTP server to secondary processor flash memory . • downloadSPMonitor(33) - Download the monitor image from TFTP server to SP flash.

Name, OID, and syntax	Access	Description
		The following messages may be displayed: • normal(1) • flashPrepareReadFailure(2) • flashReadError(3) • flashPrepareWriteFailure(4) • flashWriteError(5) • tftpTimeoutError(6) • tftpOutOfBufferSpace(7) • tftpBusy(8) • tftpRemoteOtherErrors(9) • tftpRemoteNoFile(10) • tftpRemoteBadAccess(11) • tftpRemoteDiskFull(12) • tftpRemoteBadOperation(13) • tftpRemoteBadId(14) • tftpRemoteFileExists(15) • tftpRemoteNoUser(16) • operationError(17) • loading(18) - The operation is in process. • uploadMPPrimary(19) • downloadMPPrimary(20) • uploadMPSecondary(21) • downloadMPSecondary(22) • tftpWrongFileType(23) • downloadSPPrimary(24) • downloadSPSecondary(25) • uploadMPBootROM(26) • downloadMPBootROM(27) • uploadMPBootTFTP(28) • downloadMPBootTFTP(29) • uploadMPMonitor(30) • downloadMPMonitor(31) • downloadSPBootROM(32) • downloadSPMonitor(33) This object requires a password to be set for the snAgGblPassword object.
snAgCfgFname brcdIp.1.1.2.1.8 Syntax: DisplayString	Read-write	Shows the name of the configuration file, including its path, currently associated with the system. If there are multiple configuration files, the names are separated by semicolons (;). This object can have up to 32 characters.

Agent Groups
Image and configuration file download and upload

Name, OID, and syntax	Access	Description
snAgCfgLoad brcdIp.1.1.2.1.9 Syntax: Integer	Read-write	Downloads or uploads a configuration file to the agent. Use one of the following values for an SNMP set: • uploadFromFlashToServer(20) - Uploads the configuration file from the flash to the TFTP server. • downloadToFlashFromServer(21) - Downloads the configuration file from the TFTP server to flash. • uploadFromDramToServer(22) - Uploads the configuration file from the DRAM to the TFTP server. • downloadToDramFromServer(23) - Downloads the configuration file from the TFTP server to DRAM. • uploadFromFlashToNMS(24) - Uploads the configuration file from flash to the network management system. • downloadToFlashFromNMS(25) - Downloads the configuration file from the network management system to flash. • uploadFromDramToNMS(26) - Uploads the configuration file from DRAM to the network management system. • downloadToDramFromNMS(27) - Downloads the configuration file from the network management system to DRAM. The following values may be read: • normal(1) • flashPrepareReadFailure(2) • flashReadError(3) • flashPrepareWriteFailure(4) • flashWriteError(5) • tftpTimeoutError(6) • tftpOutOfBufferSpace(7) • tftpBusy(8) • tftpRemoteOtherErrors(9) • tftpRemoteNoFile(10) • tftpRemoteBadAccess(11) • tftpRemoteDiskFull(12) • tftpRemoteBadOperation(13) • tftpRemoteBadId(14) • tftpRemoteFileExists(15) • tftpRemoteNoUser(16) • operationError(17) • loading(18) • tftpWrongFileType(29) • operationDoneWithNMS(28) • tftpWrongFileType(29) • downloadToDramFromServerOverwrite(30)

Name, OID, and syntax	Access	Description
		The objects Image and configuration file download and upload and "snAgTftpServerIp" are required to allow the download or upload process to occur.No write requests is allowed while a download or upload process is in progress. The snAgCfgEosTable objects must be sent along in one PDU for network management systems to recognize values from (24) to (27).A separate write memory using the CLI or an SNMP "set snAgWriteNVRAM" is required to save the configuration to NVRAM.This object requires a password to be set for the snAgGblPassword object. **NOTE** The snAgTftpServerIp object is deprecated by the snAgTftpServerAddrType object and the snAgTftpServerAddr object supports both IPv4 and IPv6.
snAgTftpServerAddrType brcdIp.1.1.2.1.65 Syntax: IpAddress	Read-write	Shows the TFTP server IP address type. The supported address types are ipv4(1) and ipv6(2). The default address type is ipv4(1).
snAgTftpServerAddr brcdIp.1.1.2.1.66 Syntax: DisplayString	Read-write	Shows the TFTP server IP address.
snAgGblPasswordCheckMode brcdIp.1.1.2.1.68 Syntax: EnabledStatus	Read-only	When enabled all image- or file-related MIB object SET request PDUs must include the password using the snAgGblPassword object. • enabled(1) - The password checking for SNMP SET request is enabled. The default value is enabled(1). • disabled(2) - The password checking for SNMP SET request is disabled.
snAgGblEnableTelnetAuthentication 1.3.6.1.4.1.1991.1.1.2.1.69 Syntax: INTEGER	Read-write	Enables or disables telnet authentication in the device. • disabled (0) • enabled (1) Default is disabled.

Default gateway IP address

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

Name, OID, and syntax	Access	Description
snAgDefGwayIp brcdIp.1.1.2.1.10 Syntax: Integer	Read-write	Shows the IP address of the default gateway router.

Configuration notes

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

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

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

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

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

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

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

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

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

The snAgGblPassword object must be set for the following objects:

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

Usage notes on CPU utilization and system CPU utility table

There are three groups of CPU utilization MIB objects.

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

MIB object	OID
snAgGblCpuUtilData	brcdIp.1.1.2.1.35

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

Group B consists of the following objects.

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

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

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

Group C consists of the snAgentCpu table. Refer to the System CPU utilization table on page 128 for more information.

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

Image version

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

Name, OID, and syntax	Access	Description
snAgImgVer brcdIp.1.1.2.1.11 Syntax: DisplayString	Read-only	Shows the version of the running software. The software image file name is displayed in the following format. `major.minor.maintenance[letters]` It can have up to 32 characters.
snAgFlashImgVer brcdIp.1.1.2.1.12 Syntax: DisplayString	Read-only	Shows the version of the software image that has been saved in the local storage, such as the flash memory. The software image file name is displayed in the following format: `major.minor.maintenance[letters]` It can have up to 32 characters. If this file is unknown or not available, then this object displays a null string.
snAgGblIfIpAddr brcdIp.1.1.2.1.13 Syntax: Integer	Read-write	Shows the IP address of the interface.
snAgGblIfIpMask brcdIp.1.1.2.1.14 Syntax: Integer	Read-write	Shows the IP address mask of the interface.

Name, OID, and syntax	Access	Description
snAgGblPassword brcdIp.1.1.2.1.15 Syntax: DisplayString	Read-write	Shows the system security access password, which is used only for an SNMP-Set. An SNMP-Get will return a zero string. If the **password-change any** command (the default) is configured on the device, then this object must be part of the SNMP Set operation on some critical SNMP objects. The value of this object depends on the authentication method for SNMP operation: • If there is no AAA authentication configuration for SNMP, then this object will have the enable super-user password. • If AAA authentication for SNMP is configured and has the leading method as “enable” or “line”, this object will have the corresponding “enable” or “line” password. • If the switch has AAA authentication for SNMP operation, and the method specified is one of local, TACACS+, or RADIUS, this object will have the *username password* format with one space character between *username* and *password* . The maximum size allows concatenation of 48 octets of username and 48 octets of password, with one blank character Refer to Configuration notes on page 98 for more details. Valid values: Up to 48 octets
snAgGblDataRetrieveMode brcdIp.1.1.2.1.19 Syntax: Integer	Read-write	Retrieves the VLAN Table and Port-STP Table data as indicated by the selected mode. The mode can be one of the following: • nextbootCfg(0) - Retrieves the next boot configuration data. • operationalData(1) - Retrieves the current running data. Default: nextbootCfg(0)

Name, OID, and syntax	Access	Description
snAgSystemLog brcdIp.1.1.2.1.20 Syntax: Octet String	Read-write	Indicates whether any network management system has login privileges. The agent allows only one network management system to be logged in. The value of this object consists of an Octet String. The following four bytes contain a secret code. The value of the first byte can be one of the following: • login(1) - Login for a network management system. • heartbeat(2) - A value for the login NMS periodically to check in; otherwise, the Agent automatically sets this object to logout(3) after a timeout period. • logout(3) - A value for an NMS to log out. • changePassword(4) - A value for the login NMS to change the password, only if snAgGblPasswordChangeMode was configured to “anyMgmtEntity”. • changeReadOnlyCommunity(5) - A value for the login NMS to change the read-only community string, only if snAgGblPasswordChangeMode was configured to “anyMgmtEntity”. • changeReadWriteCommunity(6) - A value for the login NMS to change the read-write community string, only if snAgGblPasswordChangeMode was configured to “anyMgmtEntity”. This object requires a password to be set for the snAgGblPassword object.
snAgGblEnableColdStartTrap brcdIp.1.1.2.1.21 Syntax: Integer	Read-write	Indicates if the SNMP agent process has been enabled to generate cold start traps: • disabled(0) • enabled(1) Default: enabled(1)
snAgGblEnableLinkUpTrap brcdIp.1.1.2.1.22 Syntax: Integer	Read-write	Indicates if the SNMP agent process has been enabled to generate link up traps: • disabled(0) • enabled(1) Default: enabled(1)
snAgGblEnableLinkDownTrap brcdIp.1.1.2.1.23 Syntax: Integer	Read-write	Indicates if the SNMP agent process has been enabled to generate link down traps: • disabled(0) • enabled(1) Default: enabled(1)

Name, OID, and syntax	Access	Description
snAgGblPasswordChangeMode brcdIp.1.1.2.1.24 Syntax: Integer	Read-only	Specifies which management entity is allowed to change the “enable” password for the device. For security reasons, this object can only be modified using the device CLI. Valid values: • anyMgmtEntity(1) - Any SNMP management station, console command line interface, or Telnet command line interface can be used to change the password. • consoleAndTelnet(2) - The password can be changed using the console command line interface or the Telnet command line interface. • consoleOnly(3) - Only the console command line interface can be used. • telnetOnly(4) - Only the Telnet command line interface can be used. Default: consoleAndTelnet(2)
snAgGblReadOnlyCommunity brcdIp.1.1.2.1.25 Syntax: DisplayString	Read-write	Allows you to configure SNMP read-only community strings for the device. This object can be used in an SNMP-Set, but not an SNMP-Get. Get returns a blank. Valid values: Up to 32 characters **NOTE** To use this object, make sure that "password-change any" has been configured in the device to allow passwords to be updated from SNMP or any method.
snAgGblReadWriteCommunity brcdIp.1.1.2.1.26 Syntax: DisplayString	Read-write	Allows you to configure SNMP read-write community strings for the device. This object can be used in an SNMP-Set, but not an SNMP-Get. Get will return a blank. Valid values: Up to 32 characters. **NOTE** To use this object, make sure that "password-change any" has been configured in the device to allow passwords to be updated from SNMP or any method.
snAgGblCurrentSecurityLevel brcdIp.1.1.2.1.27 Syntax: Integer	Read-only	Represents the current login security level (0 through 5). Each level of security requires a password to permit users for different system configurations. Levels are defined in the Image version object.
snAgGblSecurityLevelSet brcdIp.1.1.2.1.28 Syntax: Integer	Read-write	Shows the security level required to set an “enable” password. This security level can be from 0 through 5.

Name, OID, and syntax	Access	Description
snAgGblLevelPasswordsMask brcdIp.1.1.2.1.29 Syntax: Integer32	Read-only	Shows the bitmap of level passwords, which were successfully assigned to the system: • Bit 0 - Level 0 = admin • Bit 4 - Level 4 = port configuration • Bit 5 - Level 5 = read only
snAgGblQueueOverflow brcdIp.1.1.2.1.30 Syntax: Integer	Read-only	The device queues are overflowing: • No(0) • Yes(1)
snAgGblBufferShortage brcdIp.1.1.2.1.31 Syntax: Integer	Read-only	There is a shortage in the device buffers: • No(0) • Yes(1)
snAgGblDmaFailure brcdIp.1.1.2.1.32 Syntax: Integer	Read-only	The device DMAs are in good condition: • No(0) • Yes(1)
snAgGblResourceLowWarning brcdIp.1.1.2.1.33 Syntax: Integer	Read-only	The device has low resources available: • No(0) • Yes(1)
snAgGblExcessiveErrorWarning brcdIp.1.1.2.1.34 Syntax: Integer	Read-only	The device has excessive collision, FCS errors, alignment warnings, and other excessive warnings: • No(0) • Yes(1)
snAgGblCpuUtilData brcdIp.1.1.2.1.35 Syntax: Gauge	Read-only	The statistics collection of utilization of the CPU in the devices. Reading this object in the RUCKUS FastIron devices will reset all the counters. Therefore, it is not required to set the object to snAgGblUtilCollect.
snAgGblCpuUtilCollect brcdIp.1.1.2.1.36 Syntax: Integer	Read-write	Enables or disables the collection of CPU utilization statistics in a device. This can be one of the following: • enable(1) • disable(0)
snAgGblTelnetTimeout brcdIp.1.1.2.1.37 Syntax: Integer32	Read-write	Shows how many minutes a Telnet session can remain idle before it times out. Each value unit is one minute. The value of this object can be up to 240 minutes. A value of 0 means that the Telnet session never times out.
snAgGblEnableWebMgmt brcdIp.1.1.2.1.38 Syntax: Integer	Read-write	Enables or disables access to the device from the Web Management Interface: • disable(0) • enable(1)
snAgGblSecurityLevelBinding brcdIp.1.1.2.1.39 Syntax: Integer32	Read-only	After a network management system logs in to a device with a user ID and password, the privilege level assigned to that system is saved in this object. The privilege level can be one of the following: • Bit 0 - Level 0 = admin • Bit 4 - Level 4 = port configuration • Bit 5 - Level 5 = read only • 255 - Invalid binding

Name, OID, and syntax	Access	Description
snAgGblEnableSLB brcdIp.1.1.2.1.40 Syntax: Integer	Read-only	Enables or disables Server Load Balancing: • disable(0) • enable(1)
snAgSoftwareFeature brcdIp.1.1.2.1.41 Syntax: Octet String	Read-only	Contains a bit string representing the software feature of the running software image. Each bit can have one of the following values: • 0 - The feature is not available • 1 - The feature is available Bit 0 is the least significant bit of an octet, and bit 7 is the most significant bit of an octet: • Octet 0, bit 0 - RMON • Octet 0, bit 1 - IPX switching • Octet 0, bit 2 - Server Load Balancing • Octet 0, bit 3 - Layer 3 filter in switch • Octet 0, bit 4 - IPX routing • Octet 0, bit 6 - IP multicast routing • Octet 0, bit 7 - Local access control • Octet 1, bit 0 - BGP routing • Octet 1, bit 1 - Loopback interface • Octet 1, bit 2 - BigIron multi-management module • Octet 1, bit 3 - BigIron SYSIF II • Octet 1, bit 4 - BigIron POS support • Octet 1, bit 6 - 64 subnet • Octet 1, bit 7 - multi-slot trunk • Octet 2, bit 0 - TACACS • Octet 2, bit 1 - Gigabit Ethernet port auto-negotiation mode • Octet 2, bit 3 - Exodus requested OSPF enhancement • Octet 2, bit 4 - OSPF NSSA • Octet 2, bit 5 - POS • Octet 2, bit 6 - QoS • Octet 2, bit 7 - Single Span

Name, OID, and syntax	Access	Description
		• Octet 3, bit 0 - Fast Span • Octet 3, bit 1 - Base Layer 3 • Octet 3, bit 2 - Static log buffer • Octet 3, bit 3 - Layer 2 POS • Octet 3, bit 4 - BI15K • Octet 3, bit 5 - Layer 2 ATM • Octet 3, bit 6 - ATM • Octet 3, bit 7 - NETFLOW • Octet 4, bit 0 - sFlow • Octet 4, bit 1 - GVRP • Octet 4, bit 2 - GARP • Octet 4, bit 3 - Dynamic trunk • Octet 4, bit 4 - IGC 8G • Octet 4, bit 5 - Rate limit • Octet 4, bit 6 - IPC rate limit • Octet 4, bit 7 - MPLS • Octet 5, bit 0 - IS-IS • Octet 5, bit 1 - Link aggregation • Octet 5, bit 2 - Port dual mode • Octet 5, bit 3 - Private VLAN • Octet 5, bit 4 - MBGP • Octet 5, bit 5 - IPV6 protocol VLAN • Octet 5, bit 6 - X10G • Octet 5, bit 7 - FastIron Edge switch/ router • Octet 6, bit 0 - FDP • Octet 6, bit 1 - Port tag • Octet 6, bit 3 - snSwPortVlanId object has changed from read-only to read-write • Octet 6, bit 4 - LLDP Additional bits are added for new features. Check the MIB file for the software version you are running.
snAgGblEnableModuleInsertedTrap brcdIp.1.1.2.1.42 Syntax: Integer	Read-write	Indicates if the SNMP agent process has been enabled to generate traps for hardware modules that have been inserted in the chassis: • disabled(0) • enabled(1) Default: enabled(1)
snAgGblEnableModuleRemovedTrap brcdIp.1.1.2.1.43 Syntax: Integer	Read-write	Indicates if the SNMP agent process has been enabled to generate traps for hardware modules that have been removed from the chassis: • disabled(0) • enabled(1) Default: enabled(1)

Name, OID, and syntax	Access	Description
snAgGblEnableTelnetServer brcdIp.1.1.2.1.45 Syntax: Integer	Read-write	Enables or disables the Telnet server in a device: • disable(0) • enable(1) Default: enable(1)
snAgGblTelnetPassword brcdIp.1.1.2.1.46 Syntax: DisplayString	Read-write	Contains the Telnet access password, which is only used with an SNMP-Set. An SNMP-Get produces a zero string. This object can have 48 characters. This object requires a password to be set for the snAgGblPassword object.
snAgBuildDate brcdIp.1.1.2.1.47 Syntax: DisplayString	Read-only	Shows the date when the software was built. It can display up to 32 characters.
snAgBuildtime brcdIp.1.1.2.1.48 Syntax: DisplayString	Read-only	Shows the time when the software was built. It can display up to 32 characters.
snAgBuildVer brcdIp.1.1.2.1.49 Syntax: DisplayString	Read-only	Shows the image label of the software. It can display up to 32 characters.
snAgGblCpuUtil1SecAvg brcdIp.1.1.2.1.50 Syntax: Gauge32	Read-only	Shows CPU utilization every second. Use snAgentCpuUtilTable on the devices.
snAgGblCpuUtil5SecAvg brcdIp.1.1.2.1.51 Syntax: Gauge32	Read-only	Shows CPU utilization every five seconds. Use snAgentCpuUtilTable on the devices.
snAgGblCpuUtil1MinAvg brcdIp.1.1.2.1.52 Syntax: Gauge32	Read-only	Shows CPU utilization every minute. Use snAgentCpuUtilTable on the devices.
snAgGblDynMemUtil brcdIp.1.1.2.1.53 Syntax: Gauge32	Read-only	Shows the system dynamic memory utilization of the device in percentage units.
snAgGblDynMemTotal brcdIp.1.1.2.1.54 Syntax: Guage32	Read-only	Shows the total amount of system dynamic memory available in a device in number of bytes.
snAgGblDynMemFree brcdIp.1.1.2.1.55 Syntax: Gauge32	Read-only	Shows the amount of system dynamic memory that is currently available in a device in number of bytes.
snAgTrapHoldTime brcdIp.1.1.2.1.58 Syntax: Integer	Read-write	The number of seconds that traps will be held during device initialization. Traps are buffered while the device is initialized; they are sent when the device is back online. Valid value: 1 - 600

Name, OID, and syntax	Access	Description
snAgSFlowSourceInterface brcdIp.1.1.2.1.59 Syntax: InterfaceIndex	Read-write	Identifies the source interface for sFlow packets sent by the device that is running sFlow Export. Use the ifIndex value for this object to specify the source interface to be used. The interface should have an IP address configured for sFlow. A value of zero (0) indicates that a source interface has not been configured for sFlow. Port 65534 is used to specify a null port.
snAgGblTelnetLoginTimeout brcdIp.1.1.2.1.60 Syntax: Integer	Read-write	Indicates how many minutes you have to log in before Telnet is disconnected. Valid values: 1 - 10 minutes Default: 1 minute
snAgGblBannerExec brcdIp.1.1.2.1.61 Syntax: DisplayString	Read-write	Enter a message that will be displayed when a user enters the Privileged EXEC CLI level of a device. Enter up to 2048 characters for this banner. Use the character "\n" within the string to start a new line. Leave this object blank if no message is to be displayed.
snAgGblBannerIncoming brcdIp.1.1.2.1.62 Syntax: DisplayString	Read-write	Enter a message that will be displayed on the console when a user establishes a Telnet session. This message includes the location where the user is connecting from and displays a text message that can be configured. Enter up to 2048 characters for this banner. Use the character "\n" within the string to start a new line. Leave this object blank if no message is to be displayed.
snAgGblBannerMotd brcdIp.1.1.2.1.63 Syntax: DisplayString	Read-write	Enter the message of the day that is displayed on a user's terminal when the user establishes a Telnet CLI session. Enter up to 2048 characters for this banner. Use the character "\n" within the string to start a new line. Leave this object blank if no message is to be displayed.
snAgWebMgmtServerTcpPort brcdIp.1.1.2.1.64 Syntax: Integer	Read-write	This object allows you to specify which TCP port will be used for the Web Management Interface. Enter a number from 1 through 65535.

Agent board table

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

Name, OID, and syntax	Access	Description
snAgentBrdTable brcdIp.1.1.2.2.1	None	A table of each physical board information.

Agent Groups
Agent board table

Name, OID, and syntax	Access	Description
snAgentBrdIndex brcdIp.1.1.2.2.1.1.1 Syntax: Integer32	Read-only	The index to the agent board table. Valid values: 1 - 42
snAgentBrdMainBrdDescription brcdIp.1.1.2.2.1.1.2 Syntax: DisplayString	Read-only	Contains the main board description. This object can have up to 128 characters.
snAgentBrdMainBrdId brcdIp.1.1.2.2.1.1.3 Syntax: Octet String	Read-only	The main board identifier, which can uniquely identify a board type. It is an encoded octet string. The octets in the string provide the following information: **Octet 0** - Identifies the format of this object's octet string. If the format version has a value of 2, the octets after the version octet have the following meaning: **Octet 1** - Product type: • BI_WG - 0x57 • BI_BB - 0x42 • BI_NI - 0x4E • BI_NI2 - 0x32 • NI_M4 - 0x4D • BI_SLB - 0x53 **Octet 2** - Module type: • MASTER_FIBER_8G - 0x0 • MASTER_FIBER_4G - 0x1 • MASTER_COPPER_16 - 0x2 • SLAVE_FIBER_4G - 0x3 • FI_MASTER_FIBER_2G - 0x4 • FI_MASTER_FIBER_4G - 0x5 • MASTER_COPPER_8G - 0x6 • FI_MASTER_FIBER_8G - 0x7 • SLAVE_FIBER_8G - 0x8 • MASTER_COPPER_12_2 - 0x9 • SLAVE_COPPER_24 - 0xA

Name, OID, and syntax	Access	Description
		• FI_SLAVE_COPPER_24 - 0xB • SLAVE_100FX_16 - 0xC • SLAVE_100FX_8 - 0xD • SLAVE_COPPER_8G - 0xE • SLAVE_COPPER_16_2 - 0xF • STACK_FIBER_8G - 0x10 • STACK_COPPER_8G - 0x11 • MASTER_FIBER_2G - 0x12 • SLAVE_100FX_24 - 0x13 • MASTER_FIBER_0G - 0x14 • POS_622M - 0x15 • POS_155M - 0x16 • SLAVE_FIBER_2G - 0x17 • SLAVE_COPPER_2G - 0x18 • FI_SLAVE_FIBER_2G - 0x19 • FI_SLAVE_FIBER_4G - 0x1A • FI_SLAVE_FIBER_8G - 0x1B • FI_SLAVE_COPPER_8G - 0x1C • FI_MASTER_COPPER_8G - 0x1D • POS_155M2P - 0x1E
		• FI_MASTER_COPPER_4G - 0x1F • FI_MASTER_COPPER_2G - 0x20 • MASTER_COPPER_4G - 0x21 • MASTER_COPPER_2G - 0x22 • MASTER_M4_8G - 0x23 • MASTER_M4_4G - 0x24 • MASTER_M4_2G - 0x25 • MASTER_M4_0G - 0x26 • MASTER_M5_0G - 0x27 • POS_2488M - 0x28 • SLAVE_M5_0G - 0x29 • POS_N2488M - 0x2A • STACK_IPC_48_2 - 0x2B • SLAVE_NPA_FIBER_4G - 0x2C • ATM_2PORT - 0x2D • ATM_4PORT - 0x2E • SLAVE_FIBER_10G - 0x2F • STACK_FES_48_2 - 0x30 • STACK_FES_24_2 - 0x31 • STACK_FES_96_4 - 0x32 • STACK_FES_12G - 0x33

Name, OID, and syntax	Access	Description
		• STACK_FESX_24G - 0x34 • STACK_FESX_24_2_G - 0x35 • STACK_FESX_24_1_G - 0x36 • STACK_FESX_48G - 0x37 • STACK_FESX_48_2_G - 0x38 • STACK_FESX_48_1_G - 0x39 • SUPERX_FI_MGMT - 0x40 • SUPERX_FI_2P10G - 0x41 • SUPERX_FI_24GC - 0x42 • SUPERX_FI_24GF - 0x43 • SUPERX_FI_2P10G_WAN - 0x44 • SUPERX_FI_MGMT_II - 0x4a • SLAVE_JC_48E - 0xC3 • SLAVE_JC_48T - 0xC4 • MASTER_JC_M4_8G - 0xC5 • SLAVE_JC_8G - 0xC6 • SLAVE_JC_B16GF - 0xC8 • MASTER_JC_B2404 - 0xC9 • SLAVE_JC_B16GC - 0xCA • SLAVE_JC_B24FX - 0xCE
		Octet 3 - Processor type: • PVR_M603 - 3 • PVR_M604 - 4 • PVR_M603E - 6 • PVR_M603EV - 7 • PVR_M750 - 8 • PVR_M604E - 9 • PVR_M8245 - 81 **Octet 4 to Octet 5** - Processor speed in MHz **Octet 6** - MAC type: • MAC_None - 0 • MAC_SEEQ_10_100 - 1 • MAC_DEC_10_100 - 2 • MAC_3COM_10_100 - 3 • MAC_X10GMAC_10000 - 4 • MAC_SEEQ_1000 - 5 • MAC_GMAC_1000 - 6 • MAC_VLSI_1000 - 7

Name, OID, and syntax	Access	Description
		Octet 7 - PHY type: • PHY_NONE - 0 • PHY_QSI - 1 • PHY_BROADCOM - 2 • PHY_ICS - 3 • PHY_NATIONAL - 4 • PHY_LEVEL1 - 6 • PHY_BROADCOM_10_100 - 7 • PHY_LEVEL24 - 8 • PHY_BROADCOM_10000 - 9 • PHY_3COM_10_100 - 9 (for others) **Octet 8** - Port type: • COPPER - 0 • FIBER - 1 **Octet 9** - Fiber port type:
		• NONFIBER - 0 • SX_FIBER - 1 • LX_FIBER - 2 • LHX_FIBER - 3 • LX_SX_FIBER=4 • LHB_FIBER=5 **Octet 10 to Octet 13** - Size of DRAM in Kilobytes **Octet 14 to Octet 17** - Size of boot flash in Kilobytes **Octet 18 to Octet 21** - Size of code flash in Kilobytes **Octet 22 to Octet 27** - Serial number **Octet 28** - Chassis backplane type: • chassis4000 = 0x00 • chassis8000 = 0x02 • chassis15000 = 0x01 • chassisFISX = 0x04 • Turbo8 = 0x07 (stack2) • FastIron2 = 0x06 (stack1)
snAgentBrdMainPortTotal brcdIp.1.1.2.2.1.1.4 Syntax: Integer32	Read-only	Shows the total number of ports on the main board.
snAgentBrdStatusLeds brcdIp.1.1.2.2.1.1.8 Syntax: Integer32	Read-only	The object is replaced by the object snAgentBrdStatusLedString. The value of this LED can be one of the following: • 0 - off (Link off) • 1 - on (Link on)
snAgentBrdTrafficLeds brcdIp.1.1.2.2.1.1.9 Syntax: Integer32	Read-only	The object is replaced by the object snAgentBrdTrafficLedString. The value of this LED can be one of the following: • 0 - off (No traffic) • 1 - on (Traffic is flowing)

Name, OID, and syntax	Access	Description
snAgentBrdMediaLeds brcdIp.1.1.2.2.1.1.10 Syntax: Integer32	Read-only	Applies to devices that have an LED for media type, but this object has been replaced by the object snAgentBrdMediaLedString. The value of this LED can be one of the following: • 0 - Half-duplex • 1 - Full-duplex
snAgentBrdSpeedLeds brcdIp.1.1.2.2.1.1.11 Syntax: Integer32	Read-only	Applies to devices that have an LED for board speed. This object has been replaced by the object snAgentBrdSpeedLedString. The value of this LED can be one of the following: • 0 - 10 Mbit • 1 - 100Mbit
snAgentBrdModuleStatus brcdIp.1.1.2.2.1.1.12 Syntax: Integer	Read-only	Shows the status of a module: • moduleEmpty(0) - The slot of the chassis is empty. • moduleGoingDown(2) - The module is going down. • moduleRejected(3) - The module is being rejected due to a wrong configuration. • moduleBad(4) - The module hardware is bad. • moduleConfigured(8) - The module is configured (stacking). • moduleComingUp(9) - The module is in power-up cycle. • moduleRunning(10) - The module is running. • moduleBlocked(11) - The module is blocked for full height card. By default, this mode is set to notActivated(0).
snAgentBrdRedundantStatus brcdIp.1.1.2.2.1.1.13 Syntax: Integer	Read-only	Shows the status of the redundant module. Non-management modules always return other(1). The management module returns the rest of the states: • other(1) • active(2) • standby(3) • crashed(4) • comingUp(5)
snAgentBrdStatusLedString brcdIp.1.1.2.2.1.1.17 Syntax: Octet String	Read-only	The object contains an octet string that shows the value of the status of the link LED on the front panel. Each LED is encoded into 1 bit for each switch port. The value of each bit can be one of the following: • 0 - Link is off • 1 - Link is on
snAgentBrdTrafficLedString brcdIp.1.1.2.2.1.1.18 Syntax: Octet String	Read-only	A bit array that contains the value of the front panel traffic LEDs. This is a packed bit string; each LED is encoded into 1 bit for each switch port. The value of each bit can be one of the following: • 0 - No traffic • 1 - Traffic is flowing
snAgentBrdMediaLedString brcdIp.1.1.2.2.1.1.19 Syntax: Octet String	Read-only	Applies to devices with an LED for media type. It contains an octet string with 64-bits per slot. The value of each bit can be one of the following: • 0 - Half-duplex • 1 - Full-duplex

Name, OID, and syntax	Access	Description
snAgentBrdSpeedLedString brcdIp.1.1.2.2.1.1.20 Syntax: Octet String	Read-only	Applies to devices that have an LED for traffic speed. Contains an octet string with 64-bits per slot. The value of each bit can be one of the following: • 0 - 10 Mbit • 1 - 100 Mbit

Agent stacking board table

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

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

Name, OID, and syntax	Access	Description
snAgentBrd2MainBrdId brcdIp.1.1.2.2.2.1.4 Syntax: Octet String	Read-only	The main board identifier, which can uniquely identify a board type. It is an encoded octet string. The octets in the string provide the following information: **Octet 0** - Identifies the format of this object's octet string. If the format version has a value of 2, the octets after the version octet have the following meaning: **Octet 1** - Product type: • BI_WG - 0x57 • BI_BB - 0x42 • BI_NI - 0x4E • BI_NI2 - 0x32 • NI_M4 - 0x4D • BI_SLB - 0x53 **Octet 2** - Module type: • MASTER_FIBER_8G - 0x0 • MASTER_FIBER_4G - 0x1 • MASTER_COPPER_16 - 0x2 • SLAVE_FIBER_4G - 0x3 • FI_MASTER_FIBER_2G - 0x4 • FI_MASTER_FIBER_4G - 0x5 • MASTER_COPPER_8G - 0x6 • FI_MASTER_FIBER_8G - 0x7 • SLAVE_FIBER_8G - 0x8 • MASTER_COPPER_12_2 - 0x9 • SLAVE_COPPER_24 - 0xA • FI_SLAVE_COPPER_24 - 0xB • SLAVE_100FX_16 - 0xC • SLAVE_100FX_8 - 0xD • SLAVE_COPPER_8G - 0xE • SLAVE_COPPER_16_2 - 0xF • STACK_FIBER_8G - 0x10 • STACK_COPPER_8G - 0x11 • MASTER_FIBER_2G - 0x12 • SLAVE_100FX_24 - 0x13 • MASTER_FIBER_0G - 0x14 • POS_622M - 0x15 • POS_155M - 0x16 • SLAVE_FIBER_2G - 0x17 • SLAVE_COPPER_2G - 0x18 • FI_SLAVE_FIBER_2G - 0x19 • FI_SLAVE_FIBER_4G - 0x1A • FI_SLAVE_FIBER_8G - 0x1B • FI_SLAVE_COPPER_8G - 0x1C • FI_MASTER_COPPER_8G - 0x1D • POS_155M2P - 0x1E

Name, OID, and syntax	Access	Description
		• FI_MASTER_COPPER_4G - 0x1F • FI_MASTER_COPPER_2G - 0x20 • MASTER_COPPER_4G - 0x21 • MASTER_COPPER_2G - 0x22 • MASTER_M4_8G - 0x23 • MASTER_M4_4G - 0x24 • MASTER_M4_2G - 0x25 • MASTER_M4_0G - 0x26 • MASTER_M5_0G - 0x27 • POS_2488M - 0x28 • SLAVE_M5_0G - 0x29 • POS_N2488M - 0x2A • STACK_IPC_48_2 - 0x2B • SLAVE_NPA_FIBER_4G - 0x2C • ATM_2PORT - 0x2D • ATM_4PORT - 0x2E • SLAVE_FIBER_10G - 0x2F • STACK_FES_48_2 - 0x30 • STACK_FES_24_2 - 0x31 • STACK_FES_96_4 - 0x32 • STACK_FES_12G - 0x33 • STACK_FESX_24G - 0x34 • STACK_FESX_24_2_G - 0x35 • STACK_FESX_24_1_G - 0x36 • STACK_FESX_48G - 0x37 • STACK_FESX_48_2_G - 0x38 • STACK_FESX_48_1_G - 0x39 • SUPERX_FI_MGMT - 0x40 • SUPERX_FI_2P10G - 0x41 • SUPERX_FI_24GC - 0x42 • SUPERX_FI_24GF - 0x43 • SUPERX_FI_2P10G_WAN - 0x44 • SUPERX_FI_MGMT_II - 0x4a • SLAVE_JC_48E - 0xC3 • SLAVE_JC_48T - 0xC4 • MASTER_JC_M4_8G - 0xC5 • SLAVE_JC_8G - 0xC6 • SLAVE_JC_B16GF - 0xC8 • MASTER_JC_B2404 - 0xC9 • SLAVE_JC_B16GC - 0xCA **Octet 3** - Processor type: • PVR_M603 - 3 • PVR_M604 - 4 • PVR_M603E - 6 • PVR_M603EV - 7 • PVR_M750 - 8 • PVR_M604E - 9 • PVR_M8245 - 81

Name, OID, and syntax	Access	Description
		Octet 4 to Octet 5 - Processor speed in MHz. **Octet 6** - MAC type: • MAC_None - 0 • MAC_SEEQ_10_100 - 1 • MAC_DEC_10_100 - 2 • MAC_3COM_10_100 - 3 • MAC_X10GMAC_10000 - 4 • MAC_SEEQ_1000 - 5 • MAC_GMAC_1000 - 6 • MAC_VLSI_1000 - 7 **Octet 7** - PHY type: • PHY_NONE - 0 • PHY_QSI - 1 • PHY_BROADCOM - 2 • PHY_ICS - 3 • PHY_NATIONAL - 4 • PHY_LEVEL1 - 6 • PHY_BROADCOM_10_100 - 7 • PHY_LEVEL24 - 8 • PHY_BROADCOM_10000 - 9 • PHY_3COM_10_100 - 9 **Octet 8** - Port type: • COPPER - 0 • FIBER - 1 **Octet 9** - Fiber port type: • NONFIBER - 0 • SX_FIBER - 1 • LX_FIBER - 2 • LHX_FIBER - 3 • LX_SX_FIBER=4 • LHB_FIBER=5 **Octet 10 to Octet 13** - Size of DRAM in Kilobytes. **Octet 14 to Octet 17** - Size of boot flash in Kilobytes. **Octet 18 to Octet 21** - Size of code flash in Kilobytes. **Octet 22 to Octet 27** - Serial number. **Octet 28** - Chassis backplane type: • chassis4000 - 0x00 • chassis8000 - 0x02 • chassis15000 - 0x01 • chassisFISX - 0x04 • Turbo8 - 0x07 (stack2) • FastIron2 - 0x06 (stack1)
snAgentBrd2MainPortTotal brcdIp.1.1.2.2.2.1.5 Syntax: Integer	Read-only	The total number of ports for the main board.

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

Trap receiver table

The trap receiver table allows you to configure trap receivers on IPv4 and IPv6 devices to send the traps.

NOTE

The snAgTrpRcvrTable is deprecated and replaced by fdryTrapReceiverTable.

Name, OID, and syntax	Description
fdryTrapReceiverTable 1.3.6.1.4.1.1991.1.1.10.1.1.1	The trap receiver table.
fdryTrapReceiverIndex 1.3.6.1.4.1.1991.1.1.10.1.1.1.1.1 Syntax: Unsigned32	The index to the Trap Receiver Table.
fdryTrapReceiverAddrType 1.3.6.1.4.1.1991.1.1.10.1.1.1.1.2 Syntax: InetAddressType	Trap Receiver IP address Type. Supported address types are IPv4(1) and IPv6(2)
fdryTrapReceiverAddr 1.3.6.1.4.1.1991.1.1.10.1.1.1.1.3 Syntax: InetAddress	Trap Receiver IP address.
fdryTrapReceiverCommunityOrSecurityName 1.3.6.1.4.1.1991.1.1.10.1.1.1.1.4 Syntax: Octet String	Community string to use. In case of USM (SNMPv3) security model, this object is used to provide the security name.
fdryTrapReceiverUDPPort 1.3.6.1.4.1.1991.1.1.10.1.1.1.1.5 Syntax: Integer32	UDP port number of the trap receiver.

Name, OID, and syntax	Description
fdryTrapReceiverSecurityModel 1.3.6.1.4.1.1991.1.1.10.1.1.1.1.6 Syntax: SecurityModel	Version of trap format to be used.
fdryTrapReceiverSecurityLevel 1.3.6.1.4.1.1991.1.1.10.1.1.1.1.7 Syntax: Securitylevel	Used for USM (SNMPv3) security model to specify the level of security. The security name is provided by fdryTrapReceiverCommunityOrSecurityName.
fdryTrapReceiverRowStatus 1.3.6.1.4.1.1991.1.1.10.1.1.1.1.8 Syntax: RowStatus	This variable is used to create, modify, or delete a row in this table. When a row in this table is in active(1) state, no objects in that row can be modified except this object.

Boot sequence table

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

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

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

Name, OID, and syntax	Access	Description
snAgBootSeqTable brcdIp.1.1.2.4.1	None	Identifies the boot sequence table.
snAgBootSeqIndex brcdIp.1.1.2.4.1.1.1 Syntax: Integer	Read-only	The index to the boot sequence table.
snAgBootSeqInstruction brcdIp.1.1.2.4.1.1.2 Syntax: Integer	Read-write	Shows the image from which the device will boot: • fromPrimaryFlash(1) • fromSecondaryFlash(2) • fromTftpServer(3) • fromBootpServer(4)
snAgBootSeqIpAddr brcdIp.1.1.2.4.1.1.3 Syntax: IpAddress	Read-write	If the object Boot sequence table is set to “fromTftpServer”, this object shows the IP address of the TFTP server that contains the image that will be used in the boot.
snAgBootSeqFilename brcdIp.1.1.2.4.1.1.4 Syntax: DisplayString	Read-write	Shows the name of the image filename on the TFTP server that will be used in the boot. This object applies only if the object Boot sequence table is set to “fromTftpServer”. This object can have up to 32 characters.

Name, OID, and syntax	Access	Description
snAgBootSeqRowStatus brcdIp.1.1.2.4.1.1.5 Syntax: Integer	Read-write	Creates or deletes an entry in the boot sequence table: • other(1) • valid(2) • delete(3) • create(4)

Encoded octet strings table

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

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

The applicable snAgCfgLoad command value is as follows:

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

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

Agent System Parameters

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Agent system parameters configuration table

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

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

Configured module table

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

Name, OID, and syntax	Access	Description
snAgentConfigModuleTable brcdIp.1.1.2.8.1	None	A table of information about each configured module.

Name, OID, and syntax	Access	Description
snAgentConfigModuleIndex brcdIp.1.1.2.8.1.1.1 Syntax: Integer32	Read-only	The index to the agent-configured module table.
snAgentConfigModuleType brcdIp.1.1.2.8.1.1.2 Syntax: Integer32	Read-write	The module type that has been configured for the device: • fdryIcx7750QSFP6port40gModule(2132) • fdryIcx77506Q6port40gModule(2133) • fdryIcx775026QBaseModule(2134) • fdryIcx775048FBaseModule(2135) • fdryIcx775048CBaseModule(2136)
		• fdryIcx7650648FBaseModule(2144) • fdryIcx7650648ZPBaseModule(2148) • fdryIcx7650648PBaseModule(2149) • fdryIcx76001Port100gModule(2152) • fdryIcx76002Port80gModule(2153) • fdryIcx76004Port40gModule(2154) • fdryIcx76504Port160gModule(2155) • fdryIcx76502Port200gModule(2156) • fdryIcx76502Port80gModule(2157) • fdryIcx7250624GBaseModule(2160) • fdryIcx7250624BaseModule(2162) • fdryIcx7250648BaseModule(2163) • fdryIcx7250624PoeBaseModule(2164) • fdryIcx7250648PoeBaseModule(2165) • fdryIcx7250sfpplus4Port4gModule(2168) • fdryIcx7250sfpplus8Port80gModule(2169) • fdryIcx7850632QBaseModule(2192) • fdryIcx7850648FBaseModule(2193) • fdryIcx7850648FSBaseModule(2194) • fdryIcx780012Port1200gModule(2200)

Name, OID, and syntax	Access	Description
		• fdryIcx78008Port800gModule(2201) • fdryFws24PortCopperBaseModule(2224) - From FastIron 08.0.20, this module ID is reused for RUCKUS ICX 7450 because FWS is not supported. • fdryFws48PortCopperBaseModule(2225) - From FastIron 08.0.20, this module ID is reused for RUCKUS ICX 7450 because FWS is not supported. • fdryFws24GPortCopperBaseModule(2226) • fdryFws48GPortCopperBaseModule(2227) - From FastIron 08.0.20, this module ID is reused for RUCKUS ICX 7450 because FWS is not supported. • fdryIcx7450624BaseModule(2224) • fdryIcx7450648BaseModule(2225) • fdryIcx7450648FBaseModule(2227) • fdryIcx7450624PoeBaseModule(2228) • fdryIcx7450648PoeBaseModule(2229) • fdryIcx7450632ZPBaseModule(2230) • fdryIcx7400ServiceModule (2232) • fdryIcx7450sfpplus4Port40gModule(2233) • fdryIcx7450copper4Port40gModule(2234) • fdryIcx7450sfp4Port4gModule(2235) • fdryIcx7450qsfpplus1Port40gModule(2236) • fdryIcx7150648ZPBaseModule (2066) • fdryIcx7150648648ZPsfpplus8Port80gModule (2075)
snAgentConfigModuleRowStatus brcdIp.1.1.2.8.1.1.3 Syntax: Integer	Read-write	To create or delete a configured module table entry: • other(1) • valid(2) • delete(3) • create(4)
snAgentConfigModuleDescription brcdIp.1.1.2.8.1.1.4 Syntax: DisplayString	Read-only	The description of the configured module.
snAgentConfigModuleOperStatus brcdIp.1.1.2.8.1.1.5 Syntax: DisplayString	Read-only	The module operational status. A blank indicates that the physical module has not been inserted in the chassis.
snAgentConfigModuleSerialNumber brcdIp.1.1.2.8.1.1.6 Syntax: DisplayString	Read-only	The module serial number. A blank indicates that the serial number has not been programmed in the module's EEPROM or the serial number is not supported in the module. This object returns the device serial number.

Name, OID, and syntax	Access	Description
snAgentConfigModuleNumberOfPorts brcdIp.1.1.2.8.1.1.7 Syntax: Integer32	Read-only	The number of ports in the module.
snAgentConfigModuleMgmtModuleType brcdIp.1.1.2.8.1.1.8 Syntax: Integer	Read-only	The management module types: • other(1) • nonManagementModule(2) • unknownManagementModule(3) • m1ManagementModule(4) • m2ManagementModule(5) • m3ManagementModule(6) • m4ManagementModule(7) • m5ManagementModule(8) • jetcoreStackManagementModule(9) • muchoManagementModule(10) • rottWeilerManagementModule(11) • fesXStackManagementModule(12) • fgsStackManagementModule(13) • icxStackManagementModule (19)
snAgentConfigModuleNumberOfCpus brcdIp.1.1.2.8.1.1.9 Syntax: Integer32	Read-only	The number of CPUs in the module.

Configuration module table for stacking

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

Name, OID, and syntax	Access	Description
snAgentConfigModule2Table brcdIp.1.1.2.8.2	None	A table of each configured stacking module information.
snAgentConfigModule2Unit brcdIp.1.1.2.8.2.1.1 Syntax: Integer	Read-only	The index to the configured stacking module table. Value can be from 1 through 12 for Stacking system, or 1 throught 56 for SPX system.
snAgentConfigModule2Slot brcdIp.1.1.2.8.2.1.2 Syntax: Integer	Read-only	The index to the agent-configured module table. Value can be from 1 through 4.
snAgentConfigModule2Type brcdIp.1.1.2.8.2.1.3 Syntax: Integer	Read-only	The module type that has been configured for the device: • fdryIcx7150624BaseModule(2064) • fdryIcx7150648BaseModule(2065) • fdryIcx7150648ZPBaseModule(2066) • fdryIcx7150612CPoeBaseModule(2068) • fdryIcx7150624PoeBaseModule(2069)

Name, OID, and syntax	Access	Description
		• fdryIcx7150648PoeBaseModule(2070) • fdryIcx7150648PoeFBaseModule(2071) • fdryIcx7150gc2Port2gModule(2072) • fdryIcx7150sfpplus4Port40gModule(2073) • fdryIcx7150sfpplus2Port20gModule(2074) • fdryIcx7150sfpplus8Port80gModule(2075) • fdryIcx7750QSFP6port40gModule(2132) • fdryIcx77506Q6port40gModule(2133) • fdryIcx775026QBaseModule(2134) • fdryIcx775048FBaseModule(2135) • fdryIcx775048CBaseModule(2136) • fdryIcx7650648FBaseModule(2144) • fdryIcx7650648ZPBaseModule(2148) • fdryIcx7650648PBaseModule(2149) • dryIcx76001Port100gModule(2152) • fdryIcx76002Port80gModule(2153) • fdryIcx76004Port40gModule(2154) • fdryIcx76504Port160gModule(2155) • fdryIcx76502Port200gModule(2156) • fdryIcx76502Port80gModule(2157)
		• fdryIcx7250624BaseModule(2162) • fdryIcx7250648BaseModule(2163) • fdryIcx7250624GBaseModule(2160) • fdryIcx7250624PoeBaseModule(2164) • fdryIcx7250648PoeBaseModule(2165) • fdryIcx7250sfpplus4Port4gModule(2168) • fdryIcx7250sfpplus8Port80gModule(2169) • fdryIcx78506432QBaseModule(2192) • fdryIcx7850648FBaseModule(2193) • fdryIcx7850648FSBaseModule(2194) • fdryIcx785012Port1200gModule(2200) • fdryIcx78508Port800gModule(2201) • fdryFws24PortCopperBaseModule(2224) - From FastIron 08.0.20, this module ID is reused for RUCKUS ICX 7450 because FWS is not supported. • fdryFws48PortCopperBaseModule(2225) - From FastIron 08.0.20, this module ID is reused for RUCKUS ICX 7450 because FWS is not supported.

Name, OID, and syntax	Access	Description
		• fdryFws48GPortCopperBaseModule(2227) - From FastIron 08.0.20, this module ID is reused for RUCKUS ICX 7450 because FWS is not supported. • fdryIcx7450624BaseModule(2224) • fdryIcx7450648BaseModule(2225) • fdryIcx7450648FBaseModule(2227) • fdryIcx7450624PoeBaseModule(2228) • fdryIcx7450648PoeBaseModule(2229) • fdryIcx7450632ZPBaseModule(2230) • fdryIcx7400ServiceModule (2232) • fdryIcx7450sfpplus4Port40gModule(2233) • fdryIcx7450copper4Port40gModule(2234) • fdryIcx7450sfp4Port4gModule(2235) • fdryIcx7450qsfpplus1Port40gModule(2236)
snAgentConfigModule2RowStatus brcdIp.1.1.2.8.2.1.4 Syntax: Integer	Read-write	To create or delete a configured module table entry: • other(1) • valid(2) • delete(3) • create(4)
snAgentConfigModule2Description brcdIp.1.1.2.8.2.1.5 Syntax: Integer	Read-only	A description of the configured module.
snAgentConfigModule2OperStatus brcdIp.1.1.2.8.2.1.6 Syntax: Integer	Read-only	The module operational status. A zero length string indicates that the physical module has not been inserted in the chassis.
snAgentConfigModule2SerialNumber brcdIp.1.1.2.8.2.1.7 Syntax: DisplayString	Read-only	The module serial number. A zero length string indicates that the module serial number EEPROM has not been programmed or the module does not support serial number EEPROM.
snAgentConfigModule2NumberOfPorts brcdIp.1.1.2.8.2.1.8 Syntax: Integer	Read-only	The number of ports on a module.

Name, OID, and syntax	Access	Description
snAgentConfigModule2MgmtModuleType brcdIp.1.1.2.8.2.1.9 Syntax: Integer	Read-only	The management module types: • other(1) • nonManagementModule(2) • unknownManagementModule(3) • m1ManagementModule(4) • m2ManagementModule(5) • m3ManagementModule(6) • m4ManagementModule(7) • m5ManagementModule(8) • jetcoreStackManagementModule(9) • muchoManagementModule(10) • rottWeilerManagementModule(11) • fesXStackManagementModule(12) • fgsStackManagementModule(13) • icxStackManagementModule (19)
snAgentConfigModule2NumberOfCpus brcdIp.1.1.2.8.2.1.10 Syntax: Integer	Read-only	The number of CPUs on the module.

Agent user access group

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

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

Agent user account table

The objects in this table provide information about user accounts.

Name, OID, and syntax	Access	Description
snAgentUserAccntTable brcdIp.1.1.2.9.2	None	A table of user account information.
snAgentUserAccntName brcdIp.1.1.2.9.2.1.1 Syntax: DisplayString	Read-only	Displays the user name. This object can have up to 48 characters

Name, OID, and syntax	Access	Description
snAgentUserAccntPassword brcdIp.1.1.2.9.2.1.2 Syntax: DisplayString	Read-write	Contains the user password. Valid values: Up to 48 characters **NOTE** **The password-change any** command must be configured on the device to set the password field through SNMP SET operation.
snAgentUserAccntEncryptCode brcdIp.1.1.2.9.2.1.3 Syntax: Integer32	Read-write	States the password encryption method code.
snAgentUserAccntPrivilege brcdIp.1.1.2.9.2.1.4 Syntax: Integer32	Read-write	Shows the user privilege.
snAgentUserAccntRowStatus brcdIp.1.1.2.9.2.1.5 Syntax: Integer	Read-write	Creates, modifies, or deletes a user account table entry: • other(1) • valid(2) • delete(3) • create(4) • modify(5)

System CPU utilization table

Name, OID, and syntax	Access	Description
snAgentCpuUtilTable brcdIp.1.1.2.11.1	None	The table to list utilization for all CPUs.
snAgentCpuUtilSlotNum brcdIp.1.1.2.11.1.1.1 Syntax: Integer32	Read-only	The slot number of the module that contains the CPU.
snAgentCpuUtilCpuId brcdIp.1.1.2.11.1.1.2 Syntax: Integer32	Read-only	The ID of the CPU: • For non-VM1/WSM management module, there is one CPU. • For VM1/WSM, there is one management CPU and three slave CPUs. The management CPU could be turned off. • For POS and ATM, there is no management CPU but two slave CPUs. • The ID for the management CPU is 1. A value of 2 and greater identifies the slave CPUs.
snAgentCpuUtilInterval brcdIp.1.1.2.11.1.1.3 Syntax: Integer32	Read-only	The value, in seconds, for this utilization. For both management and slave CPUs, utilizations for 1 sec, 5 sec, 60 sec, and 300 sec intervals are displayed.

Name, OID, and syntax	Access	Description
snAgentCpuUtilPercent brcdIp.1.1.2.11.1.1.5 Syntax: Gauge32	Read-only	The statistical CPU utilization in units of one percent.
snAgentCpuUtil100thPercent brcdIp.1.1.2.11.1.1.6 Syntax: Gauge32	Read-only	The statistical CPU utilization in units of one-hundredth of a percent.

Switch Group Configuration

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Switch group configuration

The switch group configuration table is supported on the RUCKUSFastIron devices.

Name, OID, and syntax	Access	Description
snSwGroupOperMode brcdIp.1.1.3.1.1 Syntax: Integer	Read-write	Indicates if switch ports have VLANs defined: • noVLan(1) - All switch ports with no port VLANs and no tag assigned. • vlanByPort(2) - All switch ports with basic port-based VLANs.
snSwGroupIpL3SwMode brcdIp.1.1.3.1.2 Syntax: Integer	Read-write	Indicates if the Layer 3 IP switch is enabled for the switch group: • disabled(0) • enabled(1)
snSwGroupIpMcastMode brcdIp.1.1.3.1.3 Syntax: Integer	Read-write	Indicates if the IP multicast pruning mode is enabled for the switch group: • disabled(0) • active(1) • passive(2)
snSwGroupDefaultCfgMode brcdIp.1.1.3.1.4 Syntax: Integer	Read-write	Indicates if the switch group contains a default configuration. If the default configuration is overwritten, the state will change to non-default: • default(1) - Has a default configuration. • nonDefault(2) - Has a non-default configuration.
snSwGroupSwitchAgeTime brcdIp.1.1.3.1.5 Syntax: Integer32	Read-write	Sets the aging period for ports on the device, defining how long a port address remains active in the address table. Valid values: 0 = no aging, or 67 - 65535 seconds Default: 300 seconds
snVLanGroupVlanCurEntry brcdIp.1.1.3.1.6 Syntax: Integer32	Read-only	Shows the number of VLANs that are currently configured.
snFdbTableCurEntry brcdIp.1.1.3.1.9 Syntax: Integer32	Read-only	Shows the total number of entries in the Filtering Databse (FDB) that are configured currently.

Switch Group Configuration
Switch group configuration

Name, OID, and syntax	Access	Description
snFdbTableStationFlush brcdIp.1.1.3.1.10 Syntax: Integer	Read-write	Shows the state of the flush operation for the FDB table. The following value can be written: • flush(3) - Perform the flush operation. After the flush operation starts, any new flush request is rejected until the operation is complete or failed. The following values can only be read: • normal(1) - Normal state • error(2) - Operation failed • flushing(4) - Operation is in process
snPortStpSetAll brcdIp.1.1.3.1.11 Syntax: Integer32	Read-write	The value of this object is 1, which means that Port STP **Set-all** command is invoked. The snPortStpPriority and snPortStpPathCost which are the read-write STP-related attributes of the first row of the table, will be used to set the same attributes for all the ports in the system. **NOTE** Before setting this object, all the intended attributes of the given row of the table must be set. Otherwise, the current data of the row will be used to set the entire port table. The previous setting will be overwritten by the new one.
snSwProbePortNum brcdIp.1.1.3.1.12 Syntax: Integer32	Read-write	Indicates which chassis port is assigned as the chassis switch probe port. That port operates as a traffic analyzer port. Only one port in the chassis or stackable switch can be assigned as the traffic analyzer port. The value of this object represents the following: • Bit 0 to bit 7 - Port number • Bit 8 to bit 11 - Slot number
snSw8021qTagMode brcdIp.1.1.3.1.13 Syntax: Integer	Read-write	Indicates if IEEE802.1q has been enabled for the switch group: • disabled(0) • enabled(1) Default: disabled(0)
snSwGlobalStpMode brcdIp.1.1.3.1.14 Syntax: Integer	Read-write	Indicates whether or not Spanning Tree System Global Mode has been enabled for the switch group: • disabled(0) • enabled(1)
snSwIpMcastQuerierMode brcdIp.1.1.3.1.15 Syntax: Integer	Read-write	The IP Multicast pruning mode is configured in either Non-Querier or Querier mode. • querier(1) - Send out host queries. (active) • nonQuerier(2) - Do not send out host queries. (passive) Default: querier(1)

Name, OID, and syntax	Access	Description
snSwViolatorPortNumber brcdIp.1.1.3.1.17 Syntax: Integer32	Read-only	Indicates the port number of the switch or router that receives the violator packet. This number is included in the locked address violation trap. The value of this object contains the following: • Bit 0 to bit 7 - Port number • Bit 8 to bit 11 - Slot number (for chassis devices only)
snSwViolatorMacAddress brcdIp.1.1.3.1.18 Syntax: MAC address	Read-only	Indicates the source MAC address of the violator packet received by the switch or router. This number is included in the locked address violation trap.
snVLanGroupVlanMaxEntry brcdIp.1.1.3.1.19 Syntax: Integer32	Read-write	Shows the maximum number of VLAN entries that can be configured.
snSwEosBufferSize brcdIp.1.1.3.1.20 Syntax: Integer32	Read-only	Specifies buffer size for all the different EOS buffers.
snVLanByPortEntrySize brcdIp.1.1.3.1.21 Syntax: Integer32	Read-only	Specifies the size of each VLAN table entry.
snSwPortEntrySize brcdIp.1.1.3.1.22 Syntax: Integer32	Read-only	Specifies the size of each port table entry.
snFdbStationEntrySize brcdIp.1.1.3.1.23 Syntax: Integer32	Read-only	Specifies the size of each FDB station table entry.
snPortStpEntrySize brcdIp.1.1.3.1.24 Syntax: Integer32	Read-only	Specifies the size of each port STP table entry.
snSwEnableBridgeNewRootTrap brcdIp.1.1.3.1.25 Syntax: Integer	Read-write	Indicates whether the SNMP agent process is permitted to generate bridge new root traps.
snSwEnableBridgeTopoChangeTrap brcdIp.1.1.3.1.26 Syntax: Integer	Read-write	Indicates whether the SNMP agent process is permitted to generate bridge topology change traps.
snSwEnableLockedAddrViolationTrap brcdIp.1.1.3.1.27 Syntax: Integer	Read-write	Indicates whether the SNMP agent process is permitted to generate locked address violation traps.
snSwClearCounters brcdIp.1.1.3.1.33 Syntax: Integer	Read-write	Clears software counters: • valid(0) - An SNMP-GET of this MIB shows that it is a valid command to use. • clear(1) - Clear counter commands of the following counters: Dot3, MIB2, IP, and IPX counters for all ports.
snSw8021qTagType brcdIp.1.1.3.1.34 Syntax: Integer32	Read-only	Specifies the IEEE802.1q tag type that is embedded in the length or type field of an Ethernet packet. It specifies that the two octets after the length or type field in an Ethernet packet are the tag value. Default: 33024

Switch Group Configuration
Switch group configuration

Name, OID, and syntax	Access	Description
snSwBroadcastLimit brcdIp.1.1.3.1.35 Syntax: Integer32	Read-write	Specifies the number of broadcast packets per second. This limits the number of broadcast packets to forward out of the switch ports. Setting this object to 0 disables the limitation check. Default: 0
snSwMaxMacFilterPerSystem brcdIp.1.1.3.1.36 Syntax: Integer32	Read-only	Specifies the maximum number of MAC filters per system in the MAC filter table.
snSwMaxMacFilterPerPort brcdIp.1.1.3.1.37 Syntax: Integer32	Read-only	Specifies the maximum number of MAC filters per port in the port MAC access filter table.
snSwDefaultVLanId brcdIp.1.1.3.1.38 Syntax: Integer	Read-write	Shows the VLAN ID of the default port VLAN. Valid values: 1 - 4095
snSwGlobalAutoNegotiate brcdIp.1.1.3.1.39 Syntax: Integer	Read-write	Applies only to Gigabit Ethernet ports. Specifies the negotiation mode of the port: • disable(0) - All Gigabit Ethernet ports are in non negotiation mode. • enable(1) - All Gigabit Ethernet ports will start auto-negotiation indefinitely until they succeed. • negFullAuto(2) - All Gigabit Ethernet ports will start with auto-negotiation. If the negotiation fails, then they will automatically switch to non-negotiation mode. Gigabit Ethernet ports on all stackable products do not support negFullAuto(2). • other(3) Default: negFullAuto(2)
snSwQosMechanism brcdIp.1.1.3.1.40 Syntax: Integer	Read-write	Specifies the Quality of Service (QoS) mechanism: • strict(0) • weighted(1) Default: weighted(1)
snSwSingleStpMode brcdIp.1.1.3.1.41 Syntax: Integer	Read-write	Indicates if the Single Spanning Tree System Mode in the Switch Group is enabled: • disabled(0) • enabled(1) Default: disabled(0)
snSwFastStpMode brcdIp.1.1.3.1.42 Syntax: Integer	Read-write	Indicates if Fast Spanning Tree System Mode in the Switch Group is enabled: • disabled(0) • enabled(1)
snSwViolatorIfIndex brcdIp.1.1.3.1.43 Syntax: Integer32	Read-only	The port number of the device that received a violator packet. This number is included in the locked address violator trap.

Name, OID, and syntax	Access	Description
snSwSingleStpVLanId brcdIp.1.1.3.1.44 Syntax: Integer32	Read-only	The VLAN ID of the Single Spanning Tree VLAN if Single Spanning Tree was enabled. This object returns zero if Single Spanning Tree was disabled.
snSwJumboMode brcdIp.1.1.3.1.45 Syntax: Integer	Read-only	Jumbo mode enables support of the jumbo frame (10200 bytes). Jumbo mode can be enabled or disabled; the default is enabled mode. Please note that enabling/disabling jumbo mode will take effect only after saving the configuration and performing a system reload. • disabled(0) • enabled(1)
snSWACLPerPortPerVlanMode brcdIp.1.1.3.1.46 Syntax: Integer	Read-write	Allows the access list on selective ports of VLAN or VE. Please note that enabling/disabling ACL per port per VLAN will take effect only after saving the configuration and performing a system reload. • disabled (0) • enabled (1) ACL per port per VLAN mode is disabled by default.
snSwIpMcastVersion brcdIp.1.1.3.1.47 Syntax: Integer32	Read-write	Sets the Multicast version at the global level Values are 2 or 3. The default is 2.

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Switch port information

The following table contains information about the switch port groups.

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

Name, OID, and syntax	Access	Description
snSwIfInfoTable brcdIp.1.1.3.3.5	None	The switch port information table.
snSwIfInfoPortNum brcdIp.1.1.3.3.5.1.1 Syntax: InterfaceIndex	Read-only	Shows the port or interface index.
snSwIfInfoMonitorMode brcdIp.1.1.3.3.5.1.2 Syntax: Integer	Read-write	This object is deprecated by snSwIfInfoMirrorMode object and snPortMonitorTable.
snSwIfInfoMirrorPorts brcdIp.1.1.3.3.5.1.3 Syntax: Integer	Read-write	Contains a list of port or interface indexes (ifindex) that mirror this interface when monitoring is enabled.
snSwIfInfoTagMode brcdIp.1.1.3.3.5.1.4 Syntax: Integer	Read-write	Indicates if the port has an 802.1q tag: • tagged(1) - Ports can have multiple VLAN IDs because these ports can be members of more than one VLAN. • untagged(2) - There is only one VLAN ID per port.
snSwIfInfoTagType brcdIp.1.1.3.3.5.1.5 Syntax: Integer32	Read-only	Indicates the IEEE 802.1q tag type of an interface. The tag type is embedded in the two octets in the length or type field of an Ethernet packet. It specifies that the two octets after the length or type field in an Ethernet packet is the tag value. Default value: 33024

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Name, OID, and syntax	Access	Description
snSwIfInfoChnMode brcdIp.1.1.3.3.5.1.6 Syntax: Integer	Read-write	Indicates if the port operates in half- or full-duplex mode: • none(0) - This is not used. • halfDuplex(1) - Half-duplex mode. Available only for 10/100 Mbps ports. • fullDuplex(2) - Full-duplex mode. 100BaseFx, 1000BaseSx, and 1000BaseLx ports operate only at fullDuplex(2). The read-back channel status from hardware is as follows: • halfDuplex(1) - Half-duplex mode. • fullDuplex(2) - Full-duplex mode. The port media type (expansion or regular) and port link type (trunk or feeder) determine the value of this object. The port cannot be set to half-duplex mode if the port connect mode is m200e(4). However, the value of this parameter may be automatically set whenever the expansion port is connected, for example, in the case of a cascade-connecting device.

Name, OID, and syntax	Access	Description
snSwIfInfoSpeed brcdIp.1.1.3.3.5.1.7 Syntax: Integer	Read-write	Indicates the speed configuration for a port: • none(0) - Link down or no traffic. • sAutoSense(1) - Auto-sensing 10 or 100 Mbps. • s10M(2) - 10 Mbps. • s100M(3) - 100 Mbps. • s1G(4) - 1 Gbps. • s1GM(5) - 1 Gbps master. • s155M(6) - 155 Mbps (ATM) (for expansion board only). • s10G(7) - 10 Gbps. • s622M(8) • s2488M(9) • s9953M(10) • s16G(11) - 16 Gbps. • sOpticBased(12) • s40G(13) - 40 Gbps. • S2500M(14) - 2.5 Gbps. • S5000M(15) - 5 Gbps. • S100G(16) - 100 Gbps. • S25G (17) - 25 Gbps. The read-back hardware status is the following: • none(0) - Link down or no traffic. • s10M(2) - 10 Mbps. • s100M(3) - 100 Mbps. • s1G(4) - 1G bits per second. • s1GM(5) - 1G bits per second master. • s155M(6) - 155 Mbps (ATM) (for expansion board only). • s10G(7) - 10 Gbps. • s16G(11) - 16 Gbps. • s40G(13) - 40 Gbps. • S2500M(14) - 2.5 Gbps. The port media type (expansion or regular) and port link type (trunk or feeder) determine whether this object can be written and the valid values for this object. It is not allowed to change speed for trunk ports. For expansion ports, all of the listed speeds can be set; however, the value of this parameter may be automatically set whenever the expansion port is connected, for example, in the case of a cascade-connecting device.

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Switch port information

Name, OID, and syntax	Access	Description
snSwIfInfoMediaType brcdIp.1.1.3.3.5.1.8 Syntax: Integer	Read-only	Shows the media type for the port: • other(1) - Other or unknown media. • m100BaseTX(2) - 100 Mbps copper. • m100BaseFX(3) - 100 Mbps fiber. • m1000BaseFX(4) - 1 Gbps fiber. • mT3(5) - 45 Mbps (T3). • m155ATM(6) - 155 Mbps (ATM). • m1000BaseTX(7) - 1 Gbps copper. • m622ATM(8) - 622 Mbps (ATM). • m155POS(9) - 155 Mbps (POS). • m622POS(10) - 622 Mbps (POS). • m2488POS(11) - 2488 Mbps (POS). • m10000BaseFX(12) - 10 Gbps fiber. • m16GStacking(14) - 16 Gbps fiber. • m100GBaseFX(15) - 100 Gbps fiber. • m40GStacking(16) - 40 Gbps fiber. • m40GBaseFX(17) - 40 Gbps fiber. • m10000BaseTX(18) - 10 Gbps copper. • m2500BaseTX(19) - 2.5 Gbps. • m100GBaseTX(20) - 100 Gbps fiber. • mMultiGigBZ(21) - 2.5G/5G/10G multiGig per seconnd fiber. • m40GBaseTX(22) - 40 Gbps fiber. • m25GBaseTX(23) - 25 Gbps fiber.

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

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Name, OID, and syntax	Access	Description
snSwIfStpPortEnable brcdIp.1.1.3.3.5.1.15 Syntax: Integer	Read-write	Indicates if STP is enabled for the port: • disabled(0) • enabled(1)
snSwIfDhcpGateListId brcdIp.1.1.3.3.5.1.16 Syntax: Integer	Read-write	Specifies the ID for a DHCP gateway list entry relative to this switch port. Valid values: 0 through 32. A value of 0 means that the ID is unassigned.
snSwIfName brcdIp.1.1.3.3.5.1.17 Syntax: Display string	Read-write	Indicates the port name or description. This description may have been entered using the CLI. Valid values: Up to 32 characters for most devices.
snSwIfDescr brcdIp.1.1.3.3.5.1.18 Syntax: Display string	Read-only	A textual string containing the slot or port information about the interface.
snSwIfInfoAutoNegotiate brcdIp.1.1.3.3.5.1.19 Syntax: Integer	Read-write	Applies only to Gigabit Ethernet ports. Indicates if auto-negotiation mode is enabled on the port: • disabled(0) - The port will be placed in non-negotiation mode. • enabled(1) - The port will start auto-negotiation indefinitely until it succeeds. • negFullAuto(2) - The port will start with auto-negotiation. If the negotiation fails, then it will automatically switch to non-negotiation mode. This option is not supported in stackable products with Gigabit Ethernet ports. • global(3) - The port negotiation mode follows the value of snSwGlobalAutoNegotiate. • other(4) - Non-Gigabit Ethernet port returns this value. Default: global(3)
snSwIfInfoFlowControl brcdIp.1.1.3.3.5.1.20 Syntax: Integer	Read-write	Indicates if port flow control is enabled: • disable(0) • enable(1) Default: enabled(1)

Name, OID, and syntax	Access	Description
snSwIfInfoGigType brcdIp.1.1.3.3.5.1.21 Syntax: Integer	Read-only	Applies only to Gigabit Ethernet ports. Shows the media type for the port: • m1000BaseSX(0) - 1-Gbps fiber, with a short wavelength transceiver • m1000BaseLX(1) - 1-Gbps fiber, with a long wavelength transceiver (3 km) • m1000BaseLH(2) - 1-Gbps fiber, with a special wavelength transceiver (50 km) • m1000BaseLHB(4) - 1-Gbps fiber, with a special wavelength transceiver (150 km) • m1000BaseTX(5) - 1-Gbps copper (100 m) • m10000BaseSR(6) - 10-Gbps fiber, with a short range wavelength transceiver (100 m) • m10000BaseLR(7) - 10-Gbps fiber, with a long range wavelength transceiver (10 km) • m10000BaseER(8) - 10-Gbps fiber, with an extended range wavelength transceiver (40 km) • sfpCWDM1470nm80Km(9) - 1-Gbps CWDM fiber, with a wavelength 1470nm, reach 80 kms • sfpCWDM1490nm80Km(10) - 1-Gbps CWDM fiber, with a wavelength 1490nm, reach 80 kms • sfpCWDM1510nm80Km(11) - 1-Gbps CWDM fiber, with a wavelength 1510nm, reach 80 kms • sfpCWDM1530nm80Km(12) - 1-Gbps CWDM fiber, with a wavelength 1530nm, reach 80 kms

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Name, OID, and syntax	Access	Description
		• sfpCWDM1550nm80Km(13) - 1-Gbps CWDM fiber, with a wavelength 1550nm, reach 80 kms • sfpCWDM1570nm80Km(14) - 1-Gbps CWDM fiber, with a wavelength 1570nm, reach 80 kms • sfpCWDM1590nm80Km(15) - 1-Gbps CWDM fiber, with a wavelength 1590nm, reach 80 kms • sfpCWDM1610nm80Km(16) - 1-Gbps CWDM fiber, with a wavelength 1610nm, reach 80 kms • sfpCWDM1470nm100Km(17) - 1-Gbps CWDM fiber, with a wavelength 1470nm, reach 100 kms • sfpCWDM1490nm100Km(18) - 1-Gbps CWDM fiber, with a wavelength 1490nm, reach 100 kms • sfpCWDM1510nm100Km(19) - 1-Gbps CWDM fiber, with a wavelength 1510nm, reach 100 kms • sfpCWDM1530nm100Km(20) - 1-Gbps CWDM fiber, with a wavelength 1530nm, reach 100 kms • sfpCWDM1550nm100Km(21) - 1-Gbps CWDM fiber, with a wavelength 1550nm, reach 100 kms • sfpCWDM1570nm100Km(22) - 1-Gbps CWDM fiber, with a wavelength 1570nm, reach 100 kms • sfpCWDM1590nm100Km(23) - 1-Gbps CWDM fiber, with a wavelength 1590nm, reach 100 kms

Name, OID, and syntax	Access	Description
snSwIfInfoGigType (continued)		• sfpCWDM1610nm100Km(24) - 1-Gbps CWDM fiber, with a wavelength 1610nm, reach 100 kms • m1000BaseLHX(25) - 1-Gbps fiber, with a special wavelength transceiver (150 km) • m1000BaseLMC(35) - Link Media Copper • mXFP10000BaseSR(36) - 10GBASE fiber, 850nm serial pluggable XFP optic (LC), target range 300 m over MMF • mXFP10000BaseLR(37) - 10GBASE fiber, 1310nm serial pluggable XFP optic (LC) for up to 10 km over SMF • mXFP10000BaseER(38) - 10GBASE fiber, 1550nm serial pluggable XFP optic (LC) for up to 40 km over SMF • mXFP10000BaseSW(39) - Not used • mXFP10000BaseLW(40) - Not used • mXFP10000BaseEW(41) - Not used • mXFP10000BaseCX4(42) - 10GBASE-CX4, XFP module, 15 m, CX4 connector • mXFP10000BaseZR(43) - 1550nm serial pluggable XFP optic (LC) for up to 80 km over SMF • mXFP10000BaseZRD(44) - 10GBASE-ZR DWDM, XFP optic, 80 km • mXFP10000BaseSRSW(46) - Same as mXFP10000BaseSR(36)

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Name, OID, and syntax	Access	Description
		• mXFP10000BaseLRLW(47) - Same as mXFP10000BaseLR(37) • mXFP10000BaseEREW(48) - Same as mXFP10000BaseER(38) • m100GBaseTX(51) - 100G BASE fiber • m1000BaseXGSR(136) - 10G BASE fiber • mMultiGigBZ(52) - 2.5/5/10 multiGig fiber • m40GBaseTX(53) - 40GBASE fiber • m25GBaseTX(54) - 25GBASE fiber • notApplicable(255) - A non-gigabit port • mCFP100GBaseSR10(145) - 100-GbE CFP optic (MPO 2x12), SR10, for distances up to 100 m over MMF • mCFP100GBaseLR4(146) - 100-GbE CFP optic (SC), LR4, for distances up to 10 km over SMF • mCFP100GBaseER4(147) - 100-GbE CFP optic, ER4, for distances up to 40 km over SMF • mCFP100GBase10x10g2Km(148) - 100-GbE CFP optic (LC), 10x10, for distances up to 2 km over SMF
		• mCFP100GBase10x10g10Km(149) - 100-GbE CFP optic (LC), 10x10, for distances up to 10 km over SMF • qSFP40000BaseSR4(150) - SR proper value for 40G • qSFP40000Base10KmLR4(151) - LR proper vallue for 40G • mCFP2-100GBaseSR10(154) • mCFP2-100GBaseLR4(155) • mCFP2-100GBaseER4(156) • mCFP2-100GBase10x10g2Km(157) • mCFP2-100GBase10x10g10Km(158)

Name, OID, and syntax	Access	Description
snSwIfFastSpanPortEnable brcdIp.1.1.3.3.5.1.22 Syntax: Integer	Read-write	Indicates if fast span is enabled on the port: • disabled(0) • enabled(1)
snSwIfFastSpanUplinkEnable brcdIp.1.1.3.3.5.1.23 Syntax: Integer	Read-write	Indicates if fast span uplink is enabled on the port: • disabled(0) • enabled(1)
snSwIfRouteOnly brcdIp.1.1.3.3.5.1.25 Syntax: Integer	Read-write	Indicates if Layer 2 switching is enabled on a routing switch port: • disabled(0) - Instructs the routing switch to perform routing first. If that fails, it performs switching. • enabled(1) - Instructs the routing switch to perform routing only. For a Layer 2 switching-only product, reading this object always returns "disabled". Writing "enabled" to this object takes no effect. Default: disabled(0)
snSwIfPresent brcdIp.1.1.3.3.5.1.26 Syntax: Integer	Read-only	Indicates if the mini-GBIC optic is absent or present: • false(0) • true(1)
snSwIfGBICStatus brcdIp.1.1.3.3.5.1.27 Syntax: Integer	Read-only	Indicates if the Gigabit port has a GBIC or miniGBIC port: • GBIC(1) - GBIC • miniGBIC(2) - MiniGBIC • empty(3) - GBIC is missing • other(4) - Not a removable Gigabit port
snSwIfLoadInterval brcdIp.1.1.3.3.5.1.28 Syntax: Integer	Read-write	Shows the number of seconds for which average port utilization should be calculated. Valid values: 30 through 300, in 30-second increments. Default: 300 seconds
snSwIfStatsInFrames brcdIp.1.1.3.3.5.1.29 Syntax: Counter32	Read-only	Shows the total number of packets received on the interface.
snSwIfStatsOutFrames brcdIp.1.1.3.3.5.1.30 Syntax: Counter32	Read-only	Shows the total number of packets transmitted out of the interface.

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Name, OID, and syntax	Access	Description
snSwIfStatsAlignErrors brcdIp.1.1.3.3.5.1.31 Syntax: Counter32	Read-only	Shows the number of dot3StatsAlignmentErrors, which consists of frames received on a particular interface that are not an integral number of octets in length and do not pass the FCS check. The count represented by an instance of this object is incremented when the alignmentError status is returned by the MAC service to the LLC (or other MAC user). According to the conventions of IEEE 802.3 Layer Management, received frames for which multiple error conditions are obtained are counted exclusively according to the error status presented to the LLC.
snSwIfStatsFCSErrors brcdIp.1.1.3.3.5.1.32 Syntax: Counter32	Read-only	Shows the number of dot3StatsFCSErrors, which consists of frames received on a particular interface that are an integral number of octets in length but do not pass the FCS check. The count represented by an instance of this object is incremented when the frameCheckError status is returned by the MAC service to the LLC (or other MAC user). According to the conventions of IEEE 802.3 Layer Management, received frames for which multiple error conditions are obtained are counted exclusively according to the error status presented to the LLC.
snSwIfStatsMultiColliFrames brcdIp.1.1.3.3.5.1.33 Syntax: Counter32	Read-only	Shows the number of dot3StatsMultipleCollisionFrames, which consists of successfully transmitted frames on a particular interface for which transmission is inhibited by more than one collision. A frame that is counted by an instance of this object is also counted by the corresponding instance of ifOutUcastPkts, ifOutMulticastPkts, or ifOutBroadcastPkts and is not counted by the corresponding instance of the dot3StatsSingleCollisionFrames object.
snSwIfStatsTxColliFrames brcdIp.1.1.3.3.5.1.34 Syntax: Counter32	Read-only	Shows the number of successfully transmitted frames on a particular interface for which transmission is inhibited by more than one collision. This count is a combination of the dot3StatsSingleCollisionFrames and dot3StatsMultipleCollisionFrames objects.

Name, OID, and syntax	Access	Description
snSwIfStatsRxColliFrames brcdIp.1.1.3.3.5.1.35 Syntax: Counter32	Read-only	Shows the number of successfully received frames on a particular interface for which transmission is inhibited by more than one collision.
snSwIfStatsFrameTooLongs brcdIp.1.1.3.3.5.1.36 Syntax: Counter32	Read-only	Shows the number of dot3StatsFrameTooLongs, which consists of frames received on a particular interface that exceed the maximum permitted frame size. The count represented by an instance of this object is incremented when the frameTooLong status is returned by the MAC service to the LLC (or other MAC user). According to the conventions of IEEE 802.3 Layer Management, received frames for which multiple error conditions are obtained are counted exclusively according to the error status presented to the LLC.
snSwIfStatsFrameTooShorts brcdIp.1.1.3.3.5.1.37 Syntax: Counter32	Read-only	Shows the number frames received on a particular interface that are below the minimum permitted frame size.
snSwIfStatsInBcastFrames brcdIp.1.1.3.3.5.1.38 Syntax: Counter32	Read-write	Shows the total number of broadcast packets received on the interface.
snSwIfStatsOutBcastFrames brcdIp.1.1.3.3.5.1.39 Syntax: Counter32	Read-only	Shows the total number of broadcast packets transmitted out of the interface.
snSwIfStatsInMcastFrames brcdIp.1.1.3.3.5.1.40 Syntax: Counter32	Read-only	Shows the total number of multicast packets received on the interface.
snSwIfStatsOutMcastFrames brcdIp.1.1.3.3.5.1.41 Syntax: Counter32	Read-only	Shows the total number of multicast packets transmitted out of the interface.
snSwIfStatsInDiscard brcdIp.1.1.3.3.5.1.42 Syntax: Counter32	Read-only	Shows the number of inbound packets that will be discarded even though they have no errors. These packets will be discarded to prevent them from being delivered to a higher-layer protocol. For example, packets may be discarded to free up buffer space.
snSwIfStatsOutDiscard brcdIp.1.1.3.3.5.1.43 Syntax: Counter32	Read-only	Shows the number of outbound packets that will be discarded even though they contain no errors. For example, packets may be discarded to free up buffer space.
snSwIfStatsMacStations brcdIp.1.1.3.3.5.1.44	Read-only	Shows the total number of MAC Stations connected to the interface.

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Name, OID, and syntax	Access	Description
snSwIfStatsLinkChange brcdIp.1.1.3.3.5.1.45 Syntax: Counter32	Read-only	Shows the total number of link state changes on the interface.
snSwIfInOctets brcdIp.1.1.3.3.5.1.46 Syntax: Counter64	Read-only	Shows the total number of octets received on the interface, including framing characters. This object is a 64-bit counter of the ifInOctets object defined in RFC 1213. The octet string is in big-endian byte order. This object has eight octets.
snSwIfOutOctets brcdIp.1.1.3.3.5.1.47 Syntax: Counter64	Read-only	Shows the total number of octets transmitted out of the interface, including framing characters. This object is a 64-bit counter of the ifOutOctets object, defined in RFC 1213. The octet string is in big-endian byte order. This object has eight octets.
snSwIfStatsInBitsPerSec brcdIp.1.1.3.3.5.1.48 Syntax: Gauge32	Read-only	Shows the number of bits per second received on the interface over a five-minute interval.
snSwIfStatsOutBitsPerSec brcdIp.1.1.3.3.5.1.49 Syntax: Gauge32	Read-only	Shows the number of bits per second transmitted out of the interface over a five-minute interval.
snSwIfStatsInPktsPerSec brcdIp.1.1.3.3.5.1.50 Syntax: Gauge32	Read-only	Shows the number of packets per second received on the interface over a five-minute interval.
snSwIfStatsOutPktsPerSec brcdIp.1.1.3.3.5.1.51 Syntax: Gauge32	Read-only	Shows the number of packets per second transmitted out of the interface over a five-minute interval.
snSwIfStatsInUtilization brcdIp.1.1.3.3.5.1.52 Syntax: Integer	Read-only	Indentifies the input network utilization in hundredths of a percent over a five-minute interval. Valid values: 0 through 10000
snSwIfStatsOutUtilization brcdIp.1.1.3.3.5.1.53 Syntax: Integer	Read-only	Shows the output network utilization in hundredths of a percent over a five-minute interval. Valid values: 0 through 10000
NOTE Ethernet devices must allow a minimum idle period between transmission of frames known as interframe gap (IFG) or interpacket gap (IPG). The gap provides a brief recovery time between frames to allow devices to prepare to receive the next frame. The minimum IFG is 96 bit times, which is 9.6 microseconds for 10 Mbps Ethernet, 960 nanoseconds for 100 Mbps Ethernet, and 96 nanoseconds for 1 Gbps Ethernet. In addition, to account for the bit rate on the port, port utilization should also account for the IFG, which normally is filtered by the packet synchronization circuitry. Refer to the etherHistoryUtilization objects in the RFC 1757: Remote Network Monitoring Management Information Base for details.		
snSwIfStatsInKiloBitsPerSec brcdIp.1.1.3.3.5.1.54 Syntax: Unsigned32	Read-only	Shows the bit rate, in kilobits per second, received on a 10 Gigabit or faster interface within a five-minute interval.

Name, OID, and syntax	Access	Description
snSwIfStatsOutKiloBitsPerSec brcdIp.1.1.3.3.5.1.55 Syntax: Unsigned32	Read-only	Shows the bit rate, in kilobits per second, transmitted from a 10 Gigabit or faster interface within a five-minute interval.
snSwIfStatsInJumboFrames brcdIp.1.1.3.3.5.1.56 Syntax: Counter64	Read-only	The total number of jumbo packets received on the interface.
snSwIfStatsOutJumboFrames brcdIp.1.1.3.3.5.1.57 Syntax: Counter64	Read-only	The total number of jumbo packets transmitted out of the interface.
snSwIfInfoNativeMacAddress brcdIp.1.1.3.3.5.1.62 Syntax: PhysAddress	Read-only	The port's native MAC address. The native MAC address represents the switch port.
snSwIfQosMonitorDropCounterMode brcdIp.1.1.3.3.5.1.63 Syntax: Integer	Read-write	Enables or disables the monitoring egress drop counter on the port. The ICX 7150 has a set of queue drop counters and a port is selected to associate with these counters. Only when the port is selected, these drop counters are monitored and included in the total egress drop for the port. You can select only one port in a unit. This OID is only applied to the ICX 7150 platform and is enabled by default on other ICX platforms. Valid values: • disable(0) • enable(1)
snSwIfLRMAdapterPresent brcdIp.1.1.3.3.5.1.64 Syntax: Integer	Read-only	Displays the state for the Long Reach Module (LRM) adapter presented on this port. Some ICX devices support LRM optics on 10-Gbps fiber ports. The LRM adapter is used to support LRM optics on those switch ports. Valid values are false and true. The default is the false state. • false: The port is not connected to LRM adapter • true: The port is connected to LRM adapter
snSwIfStpBPDUGuardMode brcdIp.1.1.3.3.5.1.65 Syntax: TruthValue	Read-only	The status of the spanning tree BPDU guard on an Ethernet port. The default is the false state.
snSwIfStpRootGuardMode brcdIp.1.1.3.3.5.1.66 Syntax: TruthValue	Read-only	The status of the spanning tree root guard on an ethernet port. Declares the port to be on root guard for all spanning trees. The default is the false state.

Name, OID, and syntax	Access	Description
snSwIfRstpAdminEdgePortMode brcdIp.1.1.3.3.5.1.67 Syntax: TruthValue	Read-only	The status of the rapid spanning tree admin edge port on an Ethernet port. Declares the port to be an operational edge for all VLANs. The default is the false state.

Egress MIB counter table

The following table lists the egress counters of all queues given a particular port supported on all ICX devices.

Name, OID, and syntax	Access	Description
brcdIfEgressCounterInfoTable brcdIp.1.1.3.3.11	None	The table lists the information of egress counters of all the queues present in the physical ports.
brcdIfEgressCounterIfIndex brcdIp.1.1.3.3.11.1.1 Syntax: InterfaceIndex	None	The port number of the egress counter in the physical port. The port or interface index (ifindex).
brcdIfEgressCounterQueueId brcdIp.1.1.3.3.11.1.2 Syntax: Integer	None	The queue number of the egress counter in the given port.
brcdIfEgressCounterType brcdIp.1.1.3.3.11.1.3 Syntax: Integer	Read-only	The queue type of the egress counter in a given port. • other(1) • unicast(2) • multicast(3) • total(4)
brcdIfEgressCounterPkts brcdIp.1.1.3.3.11.1.4 Syntax: Counter64	Read-only	The egress packet counters of the queue in a given port.
brcdIfEgressCounterDropPkts brcdIp.1.1.3.3.11.1.5 Syntax: Counter64	Read-only	The egress dropped packet counters of the queue in a given port. The ICX 7150 platform has another set of queue drop counters that are displayed only when the port is monitored using the snSwIfQosMonitorDropCounterMode object or CLI command. Without the port selection, only a partial amount of the total drop counters may display.

Interface ID Registration Group

- Interface ID to ifIndex lookup table 153
- ifIndex to interface ID lookup table 154
- Interface ID2 to ifIndex lookup table 155
- ifIndex to interface ID2 lookup table 157
- Optical lane monitoring table 158

Interface ID to ifIndex lookup table

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

Name, OID, and syntax	Access	Description
snInterfaceLookupTable brcdIp.1.1.3.3.3	None	The Interface ID to ifIndex lookup table.
snInterfaceLookupInterfaceId brcdIp.1.1.3.3.3.1.1 Syntax: InterfaceId	Read-only	Shows the interface ID, which consists of the following: **Octet 0** - Port type, which can be one of the following: • 1 - Ethernet • 2 - POS • 3 - ATM • 4 - Virtual • 5 - Loopback • 6 - GRE Tunnel **Octet 1** • If the value of Octet 0 is 1, 2, 3, 7, or 9, then this octet shows the slot number of the device. • If the value of Octet 0 is 6 or 8, then this octet shows the tunnel ID. • If the value of Octet 0 is 5, then this octet shows the loopback ID. • If the value of Octet 0 is 4, then this octet shows a virtual ID. **Octet 2** - If the value of Octet 0 is 1, 2, 3, 7, or 9, then this octet shows the port number. **Octet 3** - If the value of Octet 0 is 7 or 9, then this octet shows the ATM Subif number. **Octet 4** - If the value of Octet 0 is 9, then this octet shows the ATM VPI number. **Octet 5** - If the value of Octet 0 is 9, then this octet shows the ATM VCI number.

Name, OID, and syntax	Access	Description
snInterfaceLookupIfIndex brcdIp.1.1.3.3.3.1.2 Syntax: Integer32	Read-only	Shows the interface in the ifIndex format.

ifIndex to interface ID lookup table

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

Name, OID, and syntax	Access	Description
snIfIndexLookupTable brcdIp.1.1.3.3.4	None	The ifIndex to interface ID lookup table.
snIfIndexLookupIfIndex brcdIp.1.1.3.3.4.1.1 Syntax: Integer32	Read-only	Shows the interface in the ifIndex format.

Name, OID, and syntax	Access	Description
snIfIndexLookupInterfaceId brcdIp.1.1.3.3.4.1.2 Syntax: InterfaceId	Read-only	Shows the interface ID, which consists of the following: **Octet 0** - Port type, which can be one of the following: • 1 - Ethernet • 2 - POS • 3 - ATM • 4 - Virtual • 5 - Loopback • 6 - GRE Tunnel • 7 - ATM Subif • 8 - MPLS Tunnel • 9 - ATM PVC • 10 - Management • 11 - Trunk • 12 - IP Tunnel (for IP tunnels, except MPLS) **Octet 1** • If the value of Octet 0 is 1, 2, 3, 7, or 9, then this octet shows the slot number of the device. • If the value of Octet 0 is 6 or 8, then this octet shows the tunnel ID. • If the value of Octet 0 is 5, then this octet shows the loopback ID. • If the value of Octet 0 is 4, then this octet shows a virtual ID. **Octet 2** - If the value of Octet 0 is 1, 2, 3, 7, or 9, then this octet shows the port number. **Octet 3** - If the value of Octet 0 is 7 or 9, then this octet shows the ATM Subif number). **Octet 4** - If the value of Octet 0 is 9, then this octet shows the ATM VPI number. **Octet 5** - If the value of Octet 0 is 9, then this octet shows the ATM VCI number.

Interface ID2 to ifIndex lookup table

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

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

Name, OID, and syntax	Access	Description
snInterfaceLookup2Table brcdIp.1.1.3.3.7	None	The Interface ID2 to ifIndex lookup table.

Interface ID Registration Group
Interface ID2 to ifIndex lookup table

Name, OID, and syntax	Access	Description
snInterfaceLookup2InterfaceId brcdIp.1.1.3.3.7.1.1 Syntax: InterfaceId	Read-only	Shows the interface ID, which consists of the following: **Octet 0** - Port type, which can be one of the following: • 1 - Ethernet • 2 - POS • 3 - ATM • 4 - Virtual • 5 - Loopback • 6 - GRE Tunnel • 7 - ATM Subif • 8 - MPLS Tunnel • 9 - ATM PVC • 10 - Management • 11 - Trunk • 12 - IP Tunnel (for IP tunnels, except MPLS). **Octet 1** • If the value of Octet 0 is 1, then this octet shows the unit number of the device. • If the value of Octet 0 is 2, 3, 7, or 9, then this octet shows the slot number of the device. **NOTE** These options are not supported for RUCKUS ICX products. **Octet 2** -If the value of Octet 0 is 1, then this octet shows the slot number. If the value of Octet 0 is 2, 3, 7, or 9, then this octet shows the port number. **Octet 3** - If the value of Octet 0 is 1, then this octet shows the port number. If the value of Octet 0 is 7 or 9, then this octet shows the ATM Subif number. **Octet 4** - If the value of Octet 0 is 9, then this octet shows the ATM VPI number. **Octet 5** - If the value of Octet 0 is 9, then this octet shows the ATM VCI number.
snInterfaceLookup2IfIndex brcdIp.1.1.3.3.7.1.2 Syntax: Integer32	Read-only	Shows the interface in the ifIndex format.

ifIndex to interface ID2 lookup table

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

Name, OID, and syntax	Access	Description
snIfIndexLookup2Table brcdIp.1.1.3.3.8	None	The ifIndex to interface ID2 lookup table.
snIfIndexLookup2IfIndex brcdIp.1.1.3.3.8.1.1 Syntax: Integer32	Read-only	Shows the interface in the ifIndex format.
snIfIndexLookup2InterfaceId brcdIp.1.1.3.3.8.1.2 Syntax: InterfaceId	Read-only	Shows the interface ID, which consists of the following: **Octet 0** - Port type, which can be one of the following: • 7 - ATM Subif • 8 - MPLS Tunnel • 9 - ATM PVC • 10 - Management • 11 - Trunk • 12 - IP Tunnel (for IP tunnels, except MPLS) **Octet 1** • If the value of Octet 0 is 1, then this octet shows the unit number of the device. • If the value of Octet 0 is 2, 3, 7, or 9, then this octet shows the slot number of the device. **NOTE** These options are not supported for RUCKUS ICX products. **Octet 2** - If the value of Octet 0 is 1, then this octet shows the slot number. If the value of Octet 0 is 2, 3, 7, or 9, then this octet shows the port number. **Octet 3** - If the value of Octet 0 is 1, then this octet shows the port number. If the value of Octet 0 is 7 or 9, then this octet shows the ATM Subif number. **Octet 4** - If the value of Octet 0 is 9, then this octet shows the ATM VPI number. **Octet 5** - If the value of Octet 0 is 9, then this octet shows the ATM VCI number.

Optical lane monitoring table

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

Name, OID, and syntax	Access	Description
snIfOpticalLaneMonitoringTable brcdIp.1.1.3.3.10	None	This table lists the instrumented parameters of all lanes within a 40G optic of type SR4 and LR4, 100G optic of type LR4 and LR10. The LR4 and SR4 have 4 lanes per optic and LR10 has 10 lanes per optic.
snIfOpticalLaneMonitoringLane brcdIp.1.1.3.3.10.1.1 Syntax: Unsigned32	None	This objects is the lane number of the 40G and 100G optic. LR4 and SR4 have 4 lanes per optic and LR10 has 10 lanes per optic.
snIfOpticalLaneMonitoringTemperature brcdIp.1.1.3.3.10.1.2 Syntax: DisplayString	Read-only	This object holds the value of the transmitter laser diode temperature for the lane in the interface. Indicates the health of the transmitter. The format is xxx.yyyy C (Celsius), followed by whether the measured value is normal, high or low alarm, or high or low warning.
snIfOpticalLaneMonitoringTxPower brcdIp.1.1.3.3.10.1.3 Syntax: DisplayString	Read-only	This object holds the value of the transmitter optical signal power for the lane in the interface, measured in dBm, followed by whether this is a normal value, or high or low warning or alarm.
snIfOpticalLaneMonitoringRxPower brcdIp.1.1.3.3.10.1.4 Syntax: DisplayString	Read-only	This object holds the value of the receiver optical signal power for the lane in the interface, measured in dBm, followed by whether this is a normal value, or high or low warning or alarm.
snIfOpticalLaneMonitoringTxBiasCurrent brcdIp.1.1.3.3.10.1.5 Syntax: DisplayString	Read-only	The Tx Bias Current. It is measured in mA, and is followed by whether this is a normal value, or high or low warning or alarm.
snIfOpticalLaneMonitoringVoltage brcdIp.1.1.3.3.10.1.6 Syntax: DisplayString	Read-only	This object holds the value of the transmitter laser diode voltage for the lane in the interface. This object indicates the health of the transmitter.

System DRAM

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System temperature table

This section displays the SNMP MIB objects for temperature readings on the RUCKUSFastIron devices.

For stacking devices, refer to System stacking temperature table on page 159. The system temperature table shows temperature reading information for each module's temperature sensor.

Name, OID, and syntax	Access	Description
snAgentTempTable brcdIp.1.1.2.13.1	None	The table that displays the temperature reading for each module's temperature sensor. Note that temperature readings are displayed only for those modules that have temperature sensors.
snAgentTempSlotNum brcdIp.1.1.2.13.1.1.1 Syntax: Integer32	None	The slot number of the module to which the temperature sensor is attached.
snAgentTempSensorId brcdIp.1.1.2.13.1.1.2 Syntax: Integer32	None	The identification number of the module's temperature sensor. The number of temperature sensors vary by switch model.
snAgentTempSensorDescr brcdIp.1.1.2.13.1.1.3 Syntax: Display string	Read-only	The description of the temperature sensor.
snAgentTempValue brcdIp.1.1.2.13.1.1.4 Syntax: Integer	Read-only	The temperature reading for the temperature sensor. This value is displayed in units of 0.5° Celsius.

System stacking temperature table

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

Name, OID, and syntax	Access	Description
snAgentTemp2Table brcdIp.1.1.2.13.3	None	This table lists the temperatures of the modules in each unit. This table is applicable only to modules with temperature sensors.
snAgentTemp2UnitNum brcdIp.1.1.2.13.3.1.1 Syntax: Integer	None	The unit number of the module that contains the temperature sensor represented by this row.

Name, OID, and syntax	Access	Description
snAgentTemp2SlotNum brcdIp.1.1.2.13.3.1.2 Syntax: Integer	None	The slot number of the module that contains the temperature sensor represented by this row.
snAgentTemp2SensorId brcdIp.1.1.2.13.3.1.3 Syntax: Integer	None	The temperature sensor ID of the member module that is represented by this row:
snAgentTemp2SensorDescr brcdIp.1.1.2.13.3.1.4 Syntax: DisplayString	Read-only	Description of the temperature sensor. This is the same as snAgentTempSensorId, which is in numeric format. It is used to traverse the temperature sensor table. The description provides the meaning and purpose of this sensor. There can be up to 128 characters in the description.
snAgentTemp2Value brcdIp.1.1.2.13.3.1.5 Syntax: Integer	Read-only	Temperature of the sensor represented by this row. Each unit is 0.5° Celsius.

System stacking temperature threshold table

This section displays the MIB objects for the fan speed switching temperature threshold values.

Name, OID, and syntax	Access	Description
snAgentTempThreshold2Table brcdIp.1.1.2.13.4 SYNTAX: SEQUENCE OF SnAgentTempThreshold2Entry	NA	Table to list temperature threshold levels for 3 speeds of fan settings, threshold and warning temperature . Depending on the temperature level, the fans run at diffrent speeds of RPM. There are 3 levels of temperature settings for 3 fan speeds (low, high, shutdown). This table is applicable to only those modules with temperature sensors. For each row, there are 3 temperature threshold values. The high value, if reached causes the fan to run at next high level speed and when it reduces the below the low value, the fan runs at next low speed.
snAgentTempThreshold2Entry brcdIp.1.1.2.13.4.1 SYNTAX: SEQUENCE OF SnAgentTempThreshold2Entry	NA	A row in the module temperature threshold table.
snAgentTempThreshold2UnitNum brcdIp.1.1.2.13.4.1.1 SYNTAX: Integer	NA	The unit number in the system for which threshold levels represented by this row are applicable.
snAgentTempThreshold2Rule brcdIp.1.1.2.13.4.1.2 SYNTAX: Integer	NA	The Rule number in the system for which threshold levels represented by this row are applicable.
snAgentTempThreshold2LowValue brcdIp.1.1.2.13.4.1.3 SYNTAX: Integer	Read-only	The low value for the temperature threshold, below which the fans would need to operate at the next lower speed. Each unit is degrees Celcius. This value is not applicable for the 'low' level, as there is no more lower speed.

Name, OID, and syntax	Access	Description
snAgentTempThreshold2HighValue brcdIp.1.1.2.13.4.1.4 SYNTAX: Integer	Read-only	The high value for the temperature threshold, above which the fans would need to operate at the next higher speed. If it reaches more than thehigh threshold value for 'high' level, the module will be shutdown.. Each unit is degrees Celcius.
snAgentTempThreshold2ShutdownValue brcdIp.1.1.2.13.4.1.5 SYNTAX: Integer	Read-only	Actual temperature higher than this threshold value will shutdown a partial of the switch hardware to cool down the system. Each unit is degrees Celcius. Only management module built with temperature sensor hardware is applicable. For those non-applicable management module, it returns no-such-name.

Software licensing

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

Name, OID, and syntax	Access	Description
fdryLicensePackageName brcdIp.1.1.2.15.1.1.1 Syntax: DisplayString	None	The name of the package, whose license information, this entry displays.
fdryLicenseLid brcdIp.1.1.2.15.1.1.2 Syntax: DisplayString	None	The License ID (LID) of the chassis or the line module for which this entry displays license information.
fdryLicenseHash brcdIp.1.1.2.15.1.1.3 Syntax: DisplayString	None	A unique hash for identifying a license entry in the system. This helps traverse through the entries with the same package name and LID.
fdryLicenseType brcdIp.1.1.2.15.1.1.4 Syntax: Integer	Read-only	The type of the license, which can be either normal or trial.
fdryLicensePrecedence brcdIp.1.1.2.15.1.1.5 Syntax: Unsigned32	Read-only	Defines the priority of a particular trial license among those having the same package name and LID. This is primarily used for determining which license to use when there are many trial and normal licenses with the same package name and LID.
fdryLicenseTrialDays brcdIp.1.1.2.15.1.1.6 Syntax: Unsigned32	Read-only	The number of trial days for the license, if it is a trial license. Otherwise, the value has no meaning for normal licenses and read as 0 on a Get operation.
fdryLicenseTrialTimeElapsed brcdIp.1.1.2.15.1.1.7 Syntax: Unsigned32	Read-only	The cumulative number of hours used for this trial license. This counts all the usages of the trial license. For a normal license, this is 0.
fdryLicenseTrialTimeLeft brcdIp.1.1.2.15.1.1.8 Syntax: Unsigned32	Read-only	The number of hours left for the trial license. This is derived from the total number of hours and the cumulative number of hours used. For a normal license, this is 0.

Name, OID, and syntax	Access	Description
fdryLicenseTrialState brcdIp.1.1.2.15.1.1.9 Syntax: Integer	Read-only	This indicates the state of the trial license: • Invalid - The license is not valid. • Unused - The license is never used. • Active - The license has been used at least once. • Expired - The license has expired and can no longer be used.
fdryLicenseVendorInfo brcdIp.1.1.2.15.1.1.10 Syntax: DisplayString	Read-only	This is the RUCKUS-specific package data which is an octet string. This contains encoded information of license-specific information such as package bit mask, number of ports and so on.
fdryLicenseSlot brcdIp.1.1.2.15.1.1.11 Syntax: Integer32 **NOTE** This object is not supported on the RUCKUSFastIron devices	Read-only	This indicates the slot number of the module to which the license belongs. There is a one-to-one mapping between LID and slot number, as each module has a unique LID and can be present in only one slot.
snSAULicenseUnitTable brcdIp.1.1.2.15.4	Not-accessible	A list of SAU licenses maintained by each unit.
snSAULicenseUnitEntry brcdIp.1.1.2.15.4.1	Not-accessible	An entry in SAU license table.
snSAULicenseUnitIndex brcdIp.1.1.2.15.4.1.1 Syntax: DisplayString	Read-only	The stacking unit ID.
snSAULicensePackageName brcdIp.1.1.2.15.4.1.2 Syntax: DisplayString	Read-only	Name of the license package.
snSAUIsPremLicensePresent brcdIp.1.1.2.15.4.1.3 Syntax: Integer	Read-only	The present state of the L3 premium license: • none (0) • yes (1) • no (2) None means the license is not applicable to this device
snSAUIsPoDLicensePresent brcdIp.1.1.2.15.4.1.4 Syntax: Integer	Read-only	The present state of the PoD license: • none (0) • yes (1) • no (2) None means the license is not applicable to this device
snSAUPoDLicensedSpeed brcdIp.1.1.2.15.4.1.5 Syntax: Integer	Read-only	The port speed of the PoD license: • none (0) • speed10G (1) None means the license is not applicable to this device

Name, OID, and syntax	Access	Description
snSAUPoDLicensedPorts brcdIp.1.1.2.15.4.1.6 Syntax: Integer32	Read-only	The number of licenses ports. The capacity of the PoD license. Zero means no PoD license or the license is not applicable to this device.
snSAUIsMACSecLicensePresent brcdIp.1.1.2.15.4.1.7 Syntax: Integer	Read-only	The present state of the MACSec license: • none (0) • yes (1) • no (2) None means the license is not applicable to this device
snSAUPremSerialNumber brcdIp.1.1.2.15.4.1.8 Syntax: DisplayString	Read-only	This is the serial number of CoE L3 premium license.
snSAUPoDSerialNumber brcdIp.1.1.2.15.4.1.9 Syntax: DisplayString	Read-only	This is the serial number of CoE PoD license.
snSAUMACsecSerialNumber brcdIp.1.1.2.15.4.1.10 Syntax: DisplayString	Read-only	This is the serial number of CoE MACsec license.
snSAUICX7150SerialNumber brcdIp.1.1.2.15.4.1.11 Syntax: DisplayString	Read-only	This is the serial number of CoE ICX7150 license. FOR ICX7150 platform, only one SAU license option can be installed. e.g. 4x10gr. It is a combination of l3 premium and PoD license, thus there is only a license serial number at one time

DNS MIB Definition

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DNS table

The table lists the IPv4 and IPv6 DNS service names for the RUCKUS FastIron devices.

Name, OID, and syntax	Access	Description
fdryDns2DomainNameTable brcdIp.1.1.3.34.1.1 Syntax: Sequence of FdryDns2DomainNameTable	None	The DNS name table.
fdryDns2DomainNameIndex brcdIp.1.1.3.34.1.1.1.1 Syntax: Unsigned32	None	The index to the DNS name table.
fdryDns2DomainNameAddrType brcdIp.1.1.3.34.1.1.1.2 Syntax: InetAddressType	Read-create	The DNS IP address type: • ipv4(1) • ipv6(2) Default: ipv4(1)
fdryDns2DomainNameName brcdIp.1.1.3.34.1.1.1.3 Syntax: DisplayString	Read-create	The DNS domain name string.
fdryDns2DomainNameRowStatus brcdIp.1.1.3.34.1.1.1.4 Syntax: RowStatus	Read-create	This variable is used to create, modify, or delete a row in this table. When a row in this table is in active(1) state, no objects in that row can be modified except for this object.

DNS group (IPv4)

The Domain Name System (DNS) resolver feature allows you to use a host name to perform Telnet, ping, and traceroute. You can also define a DNS domain on a Layer 2 Switch or Layer 3 Switch and thereby recognize all hosts within that domain.

The following objects provide information on DNS. They apply to all IPv4 devices.

Name, OID, and syntax	Access	Description
snDnsDomainName brcdIp.1.1.3.9.1 Syntax: DisplayString	Read-write	Shows the DNS domain name. This object can have up to 80 characters.
snDnsGatewayIpAddrList brcdIp.1.1.3.9.2 Syntax: Octet String	Read-write	Shows the DNS gateway IP addresses. This list contains up to four IP addresses, represented by octet strings. This object has 16 octets.

IPv4 and IPv6 MIB table for DNS servers

The DNS address table lists the IPv4 and IPv6 DNS addresses. These objects apply to the RUCKUS FastIron devices.

NOTE
The snDnsDomainName and snDnsGatewayIpAddrList tables have been deprecated and replaced by fdryDnsDomainNameTable and fdryDnsServerAddressTable respectively.The fdryDnsDomainNameTable and fdryDnsServerAddressTable combine IPv4 and IPv6 DNS Servers.

Name, OID, and syntax	Access	Description
fdryDnsServerTable brcdIp.1.1.3.34.2.1	None	The DNS address list table that lists the IPv4 and IPv6 DNS addresses.
fdryDnsServerAddrType brcdIp.1.1.3.34.2.1.1.1 Syntax: InetAddressType	None	The DNS IP address type: • ipv4(1) • ipv6(2) Default: ipv4(1)
fdryDnsServerIndex brcdIp.1.1.3.34.2.1.1.2 Syntax: Unsigned32	None	The index to the DNS address table. Up to four DNS IP addresses are supported for each protocol (IPv4 and IPv6).
fdryDnsServerAddr brcdIp.1.1.3.34.2.1.1.3 Syntax: InetAddress	Read-create	The DNS IP address.
fdryDnsServerRowStatus brcdIp.1.1.3.34.2.1.1.4 Syntax: RowStatus	Read-create	This variable is used to create, modify, or delete a row in this table. When a row in this table is in active(1) state, no objects in that row can be modified except for this object.

Trace route group

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- IP community list string table 170

Trace route group

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

1. The originating Layer 3 Switch sends a probe packet (a UDP packet) to the destination address with a time-to-live (TTL) value of 1.
2. The first Layer 3 Switch that receives this packet decrements the TTL, then drops the packet and returns a ICMP packet to the originator.
3. The originating Layer 3 Switch records the route in the Trace route result table on page 168.
4. The originating Layer 3 Switch sends a probe packet (a UDP packet) to the destination address with a TTL value of 2.
5. The second Layer 3 Switch that receives this packet decrements the TTL, then drops the packet and returns an ICMP packet to the originator.
6. The originating Layer 3 Switch records the route in Trace route result table on page 168.

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

General trace route group

The following objects define the trace route probe packet.

Name, OID, and Syntax	Access	Description
snRtIpTraceRoute brcdIp.1.2.2.10	None	
snRtIpTraceRouteGeneral brcdIp.1.2.2.10.1	None	Shows the general IP address of the trace route.
snRtIpTraceRouteTargetAddr brcdIp.1.2.2.10.1.1 Syntax: IpAddress	Read-write	Shows the target IP address of the trace route.
snRtIpTraceRouteMinTtl brcdIp.1.2.2.10.1.2 Syntax: Integer	Read-write	Indicates the minimum TTL value carried in the first probe packet. Valid values: 1 - 255 seconds Default: 1 second
snRtIpTraceRouteMaxTtl brcdIp.1.2.2.10.1.3 Syntax: Integer	Read-write	Indicates the maximum TTL value carried in the last probe packet. Valid values: 1 - 255 seconds. Default: 30 second

Name, OID, and Syntax	Access	Description
snRtIpTraceRouteTimeOut brcdIp.1.2.2.10.1.4 Syntax: Integer	Read-write	Indicates the number of seconds the Layer 3 Switch waits for a response from the probe packet (i.e. the ICMP packet) before timing out. Valid values: 1 - 120 seconds. Default: 2 seconds
snRtIpTraceRouteControl brcdIp.1.2.2.10.1.5 Syntax: Integer	Read-write	Indicates the progress of the trace route: • start(1) - snRtIpTraceRouteDestAddr must have been initialized before start(1) can be written. • abort(2) - Stops the current trace route operation. • success(3) - The destination address is reached. • failure(4) - Either the destination address is not reach, trace route times out, or the ending TTL is reached before the operation is completed. • inProgress(5) - Trace route operation has started. Only "start" and "abort" are writable values; whereas, "success", "failure" and "inProgress" are read-only (or returned) values. The Trace route result table on page 168 contains the routes and target addresses.

Trace route result table

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

Name, OID, and Syntax	Access	Description
snRtIpTraceRouteResult brcdIp.1.2.2.10.2	None	
snRtIpTraceRouteResultTable brcdIp.1.2.2.10.2.1	None	The trace route result table.
snRtIpTraceRouteResultEntry brcdIp.1.2.2.10.2.1.1	None	An entry of the trace route result table.
snRtIpTraceRouteResultndex brcdIp.1.2.2.10.2.1.1.1 Syntax: Integer32	Read-only	The index for an entry in the trace route results table.
snRtIpTraceRouteResultAdr brcdIp.1.2.2.10.2.1.1.2 Syntax: IpAddress	Read-only	Indicates the IP address of the Layer 3 Switch or the target IP address of the Layer 3 Switch.
snRtIpTraceRouteResultRoundTripTime1 brcdIp.1.2.2.10.2.1.1.3 Syntax: Time ticks	Read-only	Shows the round trip time between the transmission of the first probe packet and the received response of the ICMP packet.
snRtIpTraceRouteResultRoundTripTime2 brcdIp.1.2.2.10.2.1.1.4 Syntax: Time ticks	Read-only	Shows the round trip time between the transmission of the second probe and the received response of the ICMP packet.

IP prefix list table

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

Name, OID, and Syntax	Access	Description
snIpPrefixListTable brcdIp.1.2.2.14	None	IP prefix list table.
snIpPrefixListEntry brcdIp.1.2.2.14.1 Syntax: SnIpPrefixListEntry	None	An entry in the IP Prefix List table.
snIpPrefixListName brcdIp.1.2.2.14.1.1 Syntax: Octet String	Read-only	Specifies the name of the prefix list. This name can be used when applying the prefix list to a neighbor. It is an octet string; each character of the name is represented by one octet. There can be up to 32 octets for this name.
snIpPrefixListSequence brcdIp.1.2.2.14.1.2 Syntax: Integer32	Read-only	Shows the sequence of an entry in the table. There can be up to 100 prefix list entries. If a sequence number is not specified, then entries are numbered in increments of 5, beginning with prefix list entry 5. Incoming or outgoing routes are matched against the entries in the IP prefix list in numerical order, beginning with the lowest sequence number.
snIpPrefixListDesc brcdIp.1.2.2.14.1.3 Syntax: Octet String	Read-write	Specifies the description of the prefix. This description is in an octet string; each character in the description is represented by one octet. There can be up to 80 octets in the description.
snIpPrefixListAction brcdIp.1.2.2.14.1.4 Syntax: Integer	Read-write	Indicates what to do with the route if it matches this entry: • deny(0) • permit(1)
snIpPrefixListAddr brcdIp.1.2.2.14.1.5 Syntax: IpAddress	Read-write	Shows the IP address of the prefix.
snIpPrefixListMask brcdIp.1.2.2.14.1.6 Syntax: IpAddress	Read-write	Shows the number of bits in the prefix network mask.
snIpPrefixListGeValue brcdIp.1.2.2.14.1.7 Syntax: Integer	Read-write	Specifies that the prefix is greater than the value of the IP prefix list table object. Valid values: 0 - 32
snIpPrefixListLeValue brcdIp.1.2.2.14.1.8 Syntax: Integer	Read-write	Specifies that the prefix is less than the value of the IP prefix list table object. Valid values: 0 - 32

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

IP community list string table

This table contains the list of community strings used.

Name, OID, and Syntax	Access	Description
snIpCommunityListStringTable brcdIp.1.2.2.17	None	IP community list string table.
snIpCommunityListStringName brcdIp.1.2.2.17.1.1 Syntax: Octet String	Read-only	An index for an entry in the table. This object can have up to 32 octets.
snIpCommunityListStringSequence brcdIp.1.2.2.17.1.2 Syntax: Integer32	Read-only	Indicates the sequence of this entry in the table.
snIpCommunityListStringAction brcdIp.1.2.2.17.1.3 Syntax: Integer	Read-write	Indicates the action to take if the community string on the packet matches this filter: • deny(0) • permit(1)
snIpCommunityListStringCommNum brcdIp.1.2.2.17.1.4 Syntax: Integer	Read-write	Shows the community string's number, represented by four octets. This number can be from 1 to 0xFFFFFFFF. There can be up to 20 community string numbers.
snIpCommunityListStringInternet brcdIp.1.2.2.17.1.5 Syntax: Integer	Read-write	Indicates if the community is enabled: • disabled(0) • enabled(1)

Name, OID, and Syntax	Access	Description
snIpCommunityListStringNoAdvertise brcdIp.1.2.2.17.1.6 Syntax: Integer	Read-write	Indicates the community string will not be advertised to any internal or external peers: • false(0) • true(1)
snIpCommunityListStringNoExport brcdIp.1.2.2.17.1.7 Syntax: Integer	Read-write	Indicates if this route is not advertised as an EBGP peer: • false(0) • true(1)
snIpCommunityListStringRowStatus brcdIp.1.2.2.17.1.8 Syntax: Integer	Read-write	Controls the management of the table rows. The values that can be written are: • delete(3) - Delete the row • create(4) - Create a new row • modify(5) - Modify an existing row If the row exists, then a SET with a value of create(4) returns a "bad value" error. Deleted rows are removed from the table immediately. The following values can be returned on reads: • noSuch(0) - No such row • invalid(1) - Row is inoperative • valid(2) - Row exists and is valid
snIpCommunityListStringLocalAs brcdIp.1.2.2.17.1.9 Syntax: Integer	Read-write	Determines if this route will be sent to peers in other sub autonomous systems within the local confederation. Do not advertise this route to an external system.

Power Over Ethernet MIB

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Power Over Ethernet global objects

The following objects apply globally to FastIron X Series Power Over Ethernet (POE) devices. The information in these objects is available in the output of the **show inline power** command.

Name, OID, and syntax	Access	Description
snAgentPoeGblPowerCapacityTotal brcdIp.1.1.2.14.1.1 Syntax: Unsigned32	Read-only	This object shows the total inline power capacity available in the device. The inline power capacity is measured in milliwatts.
snAgentPoeGblPowerCapacityFree brcdIp.1.1.2.14.1.2 Syntax: Unsigned32	Read-only	This object shows the inline power capacity currently available in the device that is unallocated. The inline power capacity is measured in milliwatts.
snAgentPoeGblPowerAllocationsRequestsHonored brcdIp.1.1.2.14.1.3 Syntax: Unsigned32	Read-only	This object shows the number of times the inline power allocations requests were honored.

Power Over Ethernet port table

The following table presents information about the FastIron X Series POE ports.

Name, OID, and syntax	Access	Description
snAgentPoePortNumber brcdIp.1.1.2.14.2.2.1.1 Syntax:InterfaceIndex	Read-only	The port number in the ifIndex value.
snAgentPoePortControl brcdIp.1.1.2.14.2.2.1.2 Syntax: Integer	Read-create	Powers on or off the inline power on a port. If a port does not have inline power capability, reading this object returns other(1). Valid values are: • other(1) • disable(2) • enable(3) • enableLegacyDevice(4)
snAgentPoePortWattage brcdIp.1.1.2.14.2.2.1.3 Syntax: Integer32	Read-create	Adjusts the inline power wattage. Valid values are from 1000 through 15400(IEEE802_3AF)/ 30000(IEEE802_3AT). Each unit is in milliwatts. This object can only be set after snAgentPoePortControl has been set to “enable(3)” or “enableLegacyDevice(4)”. If a port does not have inline power capability, reading this object returns an undefined value.

Name, OID, and syntax	Access	Description
snAgentPoePortClass brcdIp.1.1.2.14.2.2.1.4 Syntax: Integer32	Read-create	Adjusts the inline power class. Valid values are from 0 through 3(IEEE802_3AF)/4(IEEE802_3AT). This object can only be set after snAgentPoePortControl has been set to “enable(3)” or “enableLegacyDevice(4)”. If a port does not have inline power capability, reading this object returns an undefined value.
snAgentPoePortPriority brcdIp.1.1.2.14.2.2.1.5 Syntax: Integer	Read-create	Shows the inline power allocation priority for the power device: • invalid(0) - Not a POE port • critical(1) • high(2) • low(3) • medium(4) • other(5)
snAgentPoePortConsumed brcdIp.1.1.2.14.2.2.1.6 Syntax: Integer32	Read-only	Amount of inline power consumed by the port. Each unit is in milliwatts.
snAgentPoePortType brcdIp.1.1.2.14.2.2.1.7 Syntax: DisplayString	Read-only	Inline power device type: 802.3af, 802.3at, or legacy device.
snAgentPoePortPDClass 1.3.6.1.4.1.1991.1.1.2.14.2.2.1.8 Syntax: Integer32	Read-only	This is a power device (PD) signature which the device learns in the process of PD-classification. PD defection and PD-classification are two steps in powering PD. If the PD is powered with user power Specification, then the PoE port power limit will be set based on PD-detected class.

POE unit table

The follwing table provides POE information for each unit on a stack. Only the unit that has POE capability is displayed in a table row. The information in these objects is available in the output of the **show inline power** command for a POE device in a stack.

Name, OID, and syntax	Access	Description
snAgentPoeUnitTable brcdIp.1.1.2.14.4.1	None	POE unit table.
snAgentPoeUnitIndex brcdIp.1.1.2.14.4.1.1.1 Syntax: Unsigned32	Read-only	The index for the POE unit table.
snAgentPoeUnitPowerCapacityTotal brcdIp.1.1.2.14.4.1.1.2 Syntax: Unsigned32	Read-only	This object shows the total inline power capacity available on a device. Inline power capacity is measured in milliwatts.
snAgentPoeUnitPowerCapacityFree brcdIp.1.1.2.14.4.1.1.3 Syntax: Unsigned32	Read-only	This object shows the unallocated inline power capacity currently available on a device. Inline power capacity is measured in milliwatts.
snAgentPoeUnitPowerAllocationsRequestsHonored brcdIp.1.1.2.14.4.1.1.4 Syntax: Unsigned32	Read-only	This object shows number of times the inline power allocation requests were honored on the device.

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Global objects for stacking

NOTE

This chapter presents the MIB objects for devices that support the stacking functionality. The following MIB objects apply to the RUCKUS ICX stacking devices.

Name, OID, and syntax	Access	Description
snStackingGlobalConfigState brcdIp.1.1.3.31.1.1 Syntax: Integer	Read-write	Shows the state of the stacking feature: • none(0) - Neutral • enabled(1) - Stacking is enabled and can send and receive packets. • disabled(2) - Stacking is disabled and cannot send or receive packets.
snStackingGlobalMacAddress brcdIp.1.1.3.31.1.2 Syntax: MAC address	Read-write	Management MAC address of the stacking system. This is available so you can change the management MAC address of the stack for administrative purposes; however, it is strongly recommended that this command should be used with extreme caution to prevent duplicate MAC addresses. You must reboot the system before the new MAC address takes effect. This object is mutually exclusive from enabling the persistent MAC timer. Enter zero MAC addresses to remove the configured MAC address.
snStackingGlobalTopology brcdIp.1.1.3.31.1.5 Syntax: Integer	Read-only	The topology of the stacking system: • other(1) • chain(2) • ring(3) • standalone(4)
snStackingGlobalMode brcdIp.1.1.3.31.1.6 Syntax: Integer	Read-only	The stacking mode of the system: • stackingMode - the system is installed with STK EEPROM represents it is in stacking mode. • nonStackingMode - the system is not installed with STK EEPROM represents it is not in stacking mode.
snStackingGlobalMixedMode brcdIp.1.1.3.31.1.7 Syntax: Integer	Read-only	The mixed stacking mode of the system: • familyStackingMode - The system is in family stacking mode (heterogeneous). • classicStackingMode - The system is not in family stacking mode (homogeneous).

Name, OID, and syntax	Access	Description
snStackingGlobalMaxUnitNumber brcdIp.1.1.3.31.1.8 Syntax: Integer32	Read-only	The maximum number of units in the stacking system. The default value will be 1 for non-stacking devices.
snStackingGlobalConfigHightestPriority brcdIp.1.1.3.31.1.9 Syntax: Integer32	Read-only	The highest stack priority that can be configured in the stacking system. The default value will be 0 for non-stacking devices.
snStackingGlobaZeroTouchEnable brcdIp.1.1.3.31.1.10 Syntax: Integer	Read-write	Configure Stack Zero Touch feature for a stacking system on the global level. The Zero Touch feature discovers new stack member units, assigns them IDs, defines stack-port/trunk, and allows member unit to join the stacking system. The none state will be displayed if stacking is not enabled. • none: neutral state, receive packets only • enabled: Stack Zero touch feature is enabled The default state is none.

Stacking configuration unit table

Use the following table to display and configure stacking information for each unit.

Name, OID, and syntax	Access	Description
snStackingConfigUnitTable brcdIp.1.1.3.31.2.1	None	The stacking configuration table.
snStackingConfigUnitIndex brcdIp.1.1.3.31.2.1.1.1 Syntax: Integer	None	The ID of the unit in a stack.
snStackingConfigUnitPriority brcdIp.1.1.3.31.2.1.1.2 Syntax: Integer32	Read-write	The priority in active or backup election. Value can be from 0 through 255.
snStackingConfigUnitConfigStackPort brcdIp.1.1.3.31.2.1.1.3 Syntax: InterfaceIndex	Read-write	Not supported beginning release 08.0.90. The IfIndex for the configured stacking port. If no stacking port is configured, this object displays zero and the first two 10 Gigabit ports as the default stacking ports. Enter zero to remove the configured stacking port.
snStackingConfigUnitRowStatus brcdIp.1.1.3.31.2.1.1.4 Syntax: Integer	Read-write	This object is used to delete a row in the table and control if they are used. The following values can be written for a SET: • delete(3) - Deletes the row. Deleted rows are deleted immediately. The following values can be returned on reads: • noSuchName - No such row • other(1) - Some other cases • valid(2) - The row exists and is valid

Name, OID, and syntax	Access	Description
snStackingConfigUnitType brcdIp.1.1.3.31.2.1.1.5 Syntax: DisplayString	Read-only	A description of the configured or active system type for each unit.
snStackingConfigUnitState brcdIp.1.1.3.31.2.1.1.6 Syntax: Integer	Read-only	The state of the unit: • local(1) • remote(2) • reserved(3) • empty(4)
snStackingConfigUnitStackPort1 brcdIp.1.1.3.31.2.1.1.7 Syntax: InterfaceIndex	Read-write	First stack port for each unit. It returns 0 if the stack port does not exist.
snStackingConfigUnitStackPort2 brcdIp.1.1.3.31.2.1.1.8 Syntax: InterfaceIndex or zero	Read-write	Second stack port for each unit. It returns 0 if the stack port does not exist.
snStackingConfigUnitStackTrunk1 brcdIp.1.1.3.31.2.1.1.11 Syntax: Octet String	Read-write	A list of interface indices which are the port membership of a stack trunk on unit. Each interface index is a 32-bit integer in big endian order. It returns NULL if stack trunk does not exist. Entering an empty octet string means to delete this stack trunk. Note that the maximum stack trunk on a unit is 2. Each stack trunk contains up to 16 ports.
snStackingConfigUnitStackTrunk2 brcdIp.1.1.3.31.2.1.1.12 Syntax: Octet String	Read-write	A list of interface indices which are the port membership of a stack trunk on unit. Each interface index is a 32-bit integer in big endian order. It returns NULL if stack trunk does not exist. Entering empty octet string means to delete this stack trunk. Note that the maximum stack trunk on an unit is 2. Each stack trunk contains up to 16 ports.
snStackingConfigUnitName brcdIp.1.1.3.31.2.1.1.13 Syntax: DisplayString (Size 0 - 64)	Read-write	A name description of stacking unit.

Stacking operation unit table

Use the following table to display information about the role and status of a unit in a stack.

Name, OID, and syntax	Access	Description
snStackingOperUnitTable brcdIp.1.1.3.31.2.2	None	Stacking operation unit table.
snStackingOperUnitIndex brcdIp.1.1.3.31.2.2.1.1 Syntax: Integer	None	ID of the unit in the stack.

Stacking MIB Definition
Stacking operation unit table

Name, OID, and syntax	Access	Description
snStackingOperUnitRole brcdIp.1.1.3.31.2.2.1.2 Syntax: Integer	Read-only	The role of the unit: • other(1) • active(2) • standby(3) • member(4) • standalone(5)
snStackingOperUnitMac brcdIp.1.1.3.31.2.2.1.3 Syntax: MAC address	Read-only	The unit's MAC address.
snStackingOperUnitPriority brcdIp.1.1.3.31.2.2.1.4 Syntax: Integer32	Read-only	The priority in active or backup election. Values can be from 0 through 255.
snStackingOperUnitState brcdIp.1.1.3.31.2.2.1.5 Syntax: Integer	Read-only	The state of the unit • local(1) • remote(2) • reserved(3) • empty(4)
snStackingOperUnitDescription brcdIp.1.1.3.31.2.2.1.6 Syntax: DisplayString	Read-only	Describes the stacking state of the unit. This object can display up to 128 characters.
snStackingOperUnitStackPort1 brcdIp.1.1.3.31.2.2.1.7 Syntax: InterfaceIndex or zero	Read-only	First stack port for the unit. It returns 0 if the stack port does not exist.
snStackingOperUnitStackPort1State brcdIp.1.1.3.31.2.2.1.8 Syntax: Integer	Read-only	The state of the first stack port state of a unit: • other(1) • up(2) • down(3)
snStackingOperUnitStackPort2 brcdIp.1.1.3.31.2.2.1.9 Syntax: InterfaceIndex or zero	Read-only	Second stack port of a unit. It returns 0 if the stack port does not exist.
snStackingOperUnitStackPort2State brcdIp.1.1.3.31.2.2.1.10 Syntax: Integer	Read-only	The state of the second stack port state of a unit: • other(1) • up(2) • down(3)
snStackingOperUnitNeighbor1 brcdIp.1.1.3.31.2.2.1.11 Syntax: Integer32	Read-only	The first stacking neighbor unit (left) number. If there is no neighbor unit, then it returns 0.
snStackingOperUnitNeighbor2 brcdIp.1.1.3.31.2.2.1.12 Syntax: Integer32	Read-only	The second stacking neighbor unit (right) number. If there is no neighbor unit, then it returns 0.
snStackingOperUnitImgVer brcdIp.1.1.3.31.2.2.1.13 Syntax: DisplayString	Read-only	The version of the software image running on the unit. This object can have up to 32 characters.
snStackingOperUnitBuildlVer brcdIp.1.1.3.31.2.2.1.14 Syntax: DisplayString	Read-only	The version of the software build running on the unit. This object can have up to 32 characters.

Stacking neighbor port table

The stacking neighbor port table displays stacking neighbors for each unit.

Name, OID, and syntax	Access	Description
snStackingNeighborPortTable brcdIp.1.1.3.31.2.6	None	Stacking neighbor port table.
snStackingNeighborPortUnit brcdIp.1.1.3.31.2.6.1.1 Syntax: Integer32	None	The stacking unit ID.
snStackingNeighborPortStackPort brcdIp.1.1.3.31.2.6.1.2 Syntax: InterfaceIndex or zero	None	The IfIndex for the stack port on the unit. Each unit can contain up to 10 stack ports and peripheral ports.
snStackingNeighborPortNeighborPort brcdIp.1.1.3.31.2.6.1.3 Syntax: InterfaceIndex or zero	Read-only	The IfIndex for the neighbor port of the stack port on the unit. It returns 0 if the neighbor port does not exist for the stack port.

FDP MIB Defintions

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FDP interface table

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

NOTE

You cannot disable the Cisco Discovery Protocol (CDP) on individual interfaces.

Name, OID, and syntax	Access	Description
snFDP brcdIp.1.1.3.20		
snFdpMIBObjects brcdIp.1.1.3.20.1		
snFdpInterface brcdIp.1.1.3.20.1.1		
snFdpInterfaceTable brcdIp.1.1.3.20.1.1.1	None	Status of FDP on the device interfaces.
snFdpInterfaceEntry brcdIp.1.1.3.20.1.1.1.1 Syntax: FdpInterfaceEntry	None	An entry in the snFdpInterfaceTable, having the status of FDP on an interface.
snFdpInterfaceIfIndex brcdIp.1.1.3.20.1.1.1.1.1	None	Shows the ifIndex value of the local interface.
snFdpInterfaceFdpEnable brcdIp.1.1.3.20.1.1.1.1.2 Syntax: Integer	Read-write	The flag, whether the RUCKUS Wireless Discovery Protocol is currently running on this interface. It has no effect when FDP is disabled (snFdpGlobalRun = FALSE). • false(0) - FDP is disabled. • true(1) - FDP is enabled. Default: true(1)
snFdpInterfaceCdpEnable brcdIp.1.1.3.20.1.1.1.1.3 Syntax: Integer	Read-write	The flag, whether the Cisco Discovery Protocol is currently running on this interface. It has no effect when CDP is disabled (snCdpGlobalRun = FALSE). • false(0) - CDP is disabled. • true(1) - CDP is enabled. Default: true(1)

FDP cache table

Each entry in the FDP cache table contains information received from FDP or Cisco Discovery Protocol (CDP) on one interface of one device. The table is available if FDP or CDP is enabled globally. Entries appear when an FDP or CDP advertisement is received from a neighbor device. Entries are deleted when FDP or CDP is disabled on an interface or globally.

Name, OID, and syntax	Access	Description
snFdpCache brcdIp.1.1.3.20.1.2		
snFdpCacheTable brcdIp.1.1.3.20.1.2.1	None	The table for the cached information obtained via receiving FDP or CDP messages.
snFdpCacheEntry brcdIp.1.1.3.20.1.2.1.1 Syntax: FdpCacheEntry	None	An entry in the snFdpCacheTable, having the information received via FDP or CDP on one interface from one device. Entries appear when a FDP or CDP advertisement is received from a neighbor device.Entries disappear when FDP or CDP is disabled on the interface, or globally.
snFdpCacheIfIndex brcdIp.1.1.3.20.1.2.1.1.1	None	Shows the ifIndex value of the local interface.
snFdpCacheDeviceIndex brcdIp.1.1.3.20.1.2.1.1.2 Syntax: Integer32	Read-only	A unique value for each device from which FDP or CDP messages are being received.
snFdpCacheDeviceId brcdIp.1.1.3.20.1.2.1.1.3 Syntax: DisplayString	Read-only	Shows a description for the device as reported in the most recent FDP or CDP message. A zero-length string indicates no Device-ID field (TLV) was reported in the most recent FDP or CDP message.
snFdpCacheAddressType brcdIp.1.1.3.20.1.2.1.1.4 Syntax: Integer	Read-only	Indicates the type of address contained in the FDP cache table object for this entry: • ip(1) • ipx(2)
snFdpCacheAddress brcdIp.1.1.3.20.1.2.1.1.5 Syntax: Octet String	Read-only	Shows the network-layer address of the device's SNMP agent, as reported in the most recent FDP or CDP message. A device may have more than one address. This object shows the first address on the device. The format of this object depends on the value of the snFdpCacheAddressType object: • ip(1) - 4 octets • ipx(2) - 10 octets: – Octets 1-4 - Network number – Octets 5-10 - Host number
snFdpCacheVersion brcdIp.1.1.3.20.1.2.1.1.6 Syntax: DisplayString	Read-only	Shows the software version running in the device as reported in the most recent FDP or CDP message.

Name, OID, and syntax	Access	Description
snFdpCacheDevicePort brcdIp.1.1.3.20.1.2.1.1.7 Syntax: DisplayString	Read-only	Shows the port ID of the device as reported in the most recent FDP or CDP message. This will typically be the value of the ifName object. A zero-length string indicates no Port-ID field (TLV) was reported in the most recent FDP or CDP message.
snFdpCachePlatform brcdIp.1.1.3.20.1.2.1.1.8 Syntax: DisplayString	Read-only	Shows the device's hardware platform as reported in the most recent FDP or CDP message. A zero-length string indicates that no Platform field (TLV) was reported in the most recent FDP or CDP message.
snFdpCacheCapabilities brcdIp.1.1.3.20.1.2.1.1.9 Syntax: DisplayString	Read-only	Shows the device's functional capabilities as reported in the most recent FDP or CDP message.
snFdpCacheVendorId brcdIp.1.1.3.20.1.2.1.1.10 Syntax: Integer	Read-only	Indicates if FDP or CDP received the entry: • fdp(1) • cdp(2)
snFdpCacheIsAggregateVlan brcdIp.1.1.3.20.1.2.1.1.11 Syntax: Integer	Read-only	Indicates if this entry is from a neighbor device that is in an aggregated VLAN: • false(0) - It is not in an aggregated VLAN. • true(1) - It is in an aggregate VLAN.
snFdpCacheDeviceTagType brcdIp.1.1.3.20.1.2.1.1.12 Syntax: Integer	Read-only	Shows the tag type of the neighbor device that sent this entry.
snFdpCacheDevicePortVlanMask brcdIp.1.1.3.20.1.2.1.1.13 Syntax: Octet String	Read-only	Shows the port VLAN masks, in a 512-byte octet string, of the neighbor that sent this entry.
snFdpCachePortTagMode brcdIp.1.1.3.20.1.2.1.1.14 Syntax: Integer	Read-only	Shows the port tag mode on the neighbor device: • untagged(1) • tagged(2) • dual(3)

FDP global configuration objects

The following objects are used to configure FDP globally.

Name, OID, and syntax	Access	Description
snFdpGlobal brcdIp.1.1.3.20.1.3		
snFdpGlobalRun brcdIp.1.1.3.20.1.3.1 Syntax: Integer	Read-write	Indicates if the FDP is enabled: • false(0) - FDP is disabled. FDP entries in snFdpCacheTable are deleted when FDP is disabled. • true(1) - FDP is enabled. Enabling FDP automatically enables CDP globally. Default: false(0)

Name, OID, and syntax	Access	Description
snFdpGlobalMessageInterval brcdIp.1.1.3.20.1.3.2 Syntax: Integer	Read-write	Indicates the interval at which FDP messages are to be generated. Valid values: 5 - 900 seconds Default: 60 seconds
snFdpGlobalHoldTime brcdIp.1.1.3.20.1.3.3 Syntax: Integer	Read-write	Indicates how long the receiving device will hold FDP messages. Valid values: 10 - 255 seconds Default: 180 seconds
snFdpGlobalCdpRun brcdIp.1.1.3.20.1.3.4 Syntax: Integer	Read-write	Shows if the CDP is enabled: • false(0) - CDP is disabled. CDP entries in snFdpCacheTable are deleted when FDP is disabled. • true(1) - CDP is enabled. Enabling CDP does not automatically enable FDP globally. Default: false (0)

FDP cached address entry table

The FDP cached address entry table shows all the cached addresses from which FDP or CDP messages are being received. The table is available if FDP or CDP is enabled globally.

Name, OID, and syntax	Access	Description
snFdpCachedAddr brcdIp.1.1.3.20.1.4		
snFdpCachedAddressTable brcdIp.1.1.3.20.1.4.1	None	The FDP cached address entry table.
snFdpCachedAddressEntry brcdIp.1.1.3.20.1.4.1.1	None	An entry in the snFdpCacheAddressTable, containing one cached address from FDP/CDP messages.
snFdpCachedAddrIfIndex brcdIp.1.1.3.20.1.4.1.1.1 Syntax: Integer	None	Shows the ifIndex value of the local interface.
snFdpCachedAddrDeviceIndex brcdIp.1.1.3.20.1.4.1.1.2 Syntax: Integer32	Read-only	Shows a unique value for each device from which FDP or CDP messages are being received.
snFdpCachedAddrDeviceAddrEntryIndex brcdIp.1.1.3.20.1.4.1.1.3 Syntax: Integer32	Read-only	Shows a unique value for each address on the device from which FDP or CDP messages are being received. A device may have several addresses. There will be one entry for each address.
snFdpCachedAddrType brcdIp.1.1.3.20.1.4.1.1.4 Syntax: Integer	Read-only	Indicates the type of address contained in the FDP cached address entry table object for this entry: • ip(1) • ipx(2)

Name, OID, and syntax	Access	Description
snFdpCachedAddrValue brcdIp.1.1.3.20.1.4.1.1.5 Syntax: Octet String	Read-only	Indicates the network-layer address of the device's SNMP agent as reported in the most recent FDP or CDP message. The format of this object depends on the value of the snFdpCachedAddrValue object: • ip(1) - 4 octets • ipx(2) - 10 octets: – Octets 1-4 - Network number – Octets 5-10 - Host number

System Logging Group

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Global system logging group objects

The following objects are for global system logging processes for all devices.

Name, OID, and syntax	Access	Description
snAgSysLogGblEnable brcdIp.1.1.2.6.1.1 Syntax: Integer	Read-write	Enables or disables system logging. Set this object to one of the following values: • disable(0) • enable(1) Default: enable(1)
snAgSysLogGblBufferSize brcdIp.1.1.2.6.1.2 Syntax: Integer32	Read-write	Sets the number of dynamic system logging entries. Valid values: Up to 100 entries Default: 50 entries
snAgSysLogGblClear brcdIp.1.1.2.6.1.3 Syntax: Integer	Read-write	Clears the dynamic and static system log buffers. Set this object to one of the following values: • normal(0) - System logs will not be cleared. • clearAll(1) - Clears both dynamic and static system log buffers. • clearDynamic(2) - Clears only the dynamic system log. • clearStatic(3) - Clears only the static system log.
snAgSysLogGblCriticalLevel brcdIp.1.1.2.6.1.4 Syntax: Integer32	Read-write	Filters and identifies the events that will be logged in the logging buffer. This object consists of 32 bits. The following shows the meaning of each bit: **Bit Meaning** 8- 31 Reserved 7 Warning (warning conditions) 6 Notification (normal but significant conditions) 5 Informational (informational messages) 4 Error (error conditions) 2 Debugging (debugging messages) 1 Critical (critical conditions). Setting this bit to 1 tells the logging buffer to accept the corresponding event. 0 Alert (immediate action needed). Setting this bit to 0 makes the logging buffer reject the corresponding event. Default: 255

System Logging Group
Global system logging group objects

Name, OID, and syntax	Access	Description
snAgSysLogGblLoggedCount brcdIp.1.1.2.6.1.5 Syntax: Counter32	Read-write	Shows the number events logged in the system logging buffer.
snAgSysLogGblDroppedCount brcdIp.1.1.2.6.1.6 Syntax: Counter32	Read-only	Shows the number of events dropped from the system logging buffer.
snAgSysLogGblFlushedCount brcdIp.1.1.2.6.1.7 Syntax: Counter32	Read-only	Shows the number of times that the system logging buffer was cleared.
snAgSysLogGblOverrunCount brcdIp.1.1.2.6.1.8 Syntax: Counter32	Read-only	Shows the number of times that the system logging buffer has wrapped around.
snAgSysLogGblServer brcdIp.1.1.2.6.1.9 Syntax: IpAddress	Read-only	IP address of syslog server.
snAgSysLogGblFacility brcdIp.1.1.2.6.1.10 Syntax: Integer	Read-write	Shows the facility code: • kern(1) • user(2) • mail(3) • daemon(4) • auth(5) • syslog(6) • lpr(7) • news(8) • uucp(9) • sys9(10) • sys10(11) • sys11(12) • sys12(13) • sys13(14) • sys14(15) • cron(16) • local0(17) • local1(18) • local2(19) • local3(20) • local4(21) • local5(22) • local6(23) • local7(24) Default: user(2)
snAgSysLogGblPersistenceEnable brcdIp.1.1.2.6.1.11 Syntax: Integer	Read-write	Enables or disables system logging persistence.

Dynamic system logging buffer table

The following table applies to all devices. It contains the events logged in the dynamic system log. Events that are not logged in the static system log are logged in the dynamic system log.

Name, OID, and syntax	Access	Description
snAgSysLogBufferTable brcdIp.1.1.2.6.2	None	Dynamic system logging buffer table.
snAgSysLogBufferIndex brcdIp.1.1.2.6.2.1.1 Syntax: Integer32	Read-only	Shows the index to the dynamic system logging buffer table.
snAgSysLogBufferTimeStamp brcdIp.1.1.2.6.2.1.2 Syntax: Time ticks	Read-only	Shows the time stamp for when the event is logged.
snAgSysLogBufferCriticalLevel brcdIp.1.1.2.6.2.1.3 Syntax: Integer	Read-only	The critical level of this event: • other(1) • alert(2) • critical(3) • debugging(4) • emergency(5) • error(6) • informational(7) • notification(8) • warning(9)
snAgSysLogBufferMessage brcdIp.1.1.2.6.2.1.4 Syntax: DisplayString	Read-only	Displays the system logging message.
snAgSysLogBufferCalTimeStamp brcdIp.1.1.2.6.2.1.5 Syntax: DisplayString	Read-only	Shows the time stamp when the event is logged. This object is used only if an external time source, such as an SNTP server, is configured. Otherwise, the value of this object is 0. This object returns a NULL terminated time stamp string if the system calendar time was set. It returns a blank if the system calendar time was not set.

Static system logging buffer table

The following table applies to all devices. It contains the events logged in the static system log. The static system log receives power failures, fan failures, temperature warnings, or shutdown messages.

Name, OID, and syntax	Access	Description
snAgStaticSysLogBufferTable brcdIp.1.1.2.6.3	Not-accessible	Static system logging buffer table.
snAgStaticSysLogBufferEntry brcdIp.1.1.2.6.3.1	Not-accessible	A row in the static system logging buffer table.

Name, OID, and syntax	Access	Description
snAgStaticSysLogBufferIndex brcdIp.1.1.2.6.3.1.1 Syntax: Integer	Read-only	The index to the static system logging buffer table.
snAgStaticSysLogBufferTimeStamp brcdIp.1.1.2.6.3.1.2 Syntax: Time ticks	Read-only	A time stamp, in number of time ticks, when the event is logged.
snAgStaticSysLogBufferCriticalLevel brcdIp.1.1.2.6.3.1.3 Syntax: Integer	Read-only	The critical level of this event: • other(1) • alert(2) • critical(3) • debugging(4) • emergency(5) • error(6) • informational(7) • notification(8) • warning(9)
snAgStaticSysLogBufferMessage brcdIp.1.1.2.6.3.1.4 Syntax: DisplayString	Read-only	The system logging message.
snAgStaticSysLogBufferCalTimeStamp brcdIp.1.1.2.6.3.1.5 Syntax: DisplayString	Read-only	A time stamp when the event is logged. This object is used only if an external time source, such as an SNTP server, is configured. Otherwise, the value of this object is 0. If an SNTP server is used to maintain time, then this object adds the value of the snAgStaticSysLogBufferTimeStamp object to the SNTP base to calculate the absolute time. This object returns a NULL terminated time stamp string if the system calendar time was set. It returns a blank if the system calendar time was not set.

System log server table

The system log (syslog) server table shows which server receives syslog messages. Every server in the table receives all syslog messages.

Name, OID, and syntax	Access	Description
snAgSysLogServerTable brcdIp.1.1.2.6.4	Not-accessible	System log server table.
snAgSysLogServerEntry brcdIp.1.1.2.6.4.1	Not-accessible	A row in the SysLog Server table.
snAgSysLogServerIP brcdIp.1.1.2.6.4.1.1 Syntax: IpAddress	Read-write	IP address of system log server.
snAgSysLogServerUDPPort brcdIp.1.1.2.6.4.1.2 Syntax: Integer	Read-write	UDP port number of the syslog server. Valid values: 0 - 65535

Name, OID, and syntax	Access	Description
snAgSysLogServerRowStatus brcdIp.1.1.2.6.4.1.3 Syntax: Integer	Read-write	Controls the management of the table rows. The following values can be written: • delete(3) - Deletes the row. • create(4) - Creates a new row. If the row exists, then a SET with a value of create(4) returns a "bad value" error. Deleted rows are removed from the table immediately. The following values can be returned on reads: • other(1) - Other. • valid(2) - Row exists and is valid.

sFlow MIB

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sFlow

This section presents the sFlow objects that are proprietary to products.

snSFlowGlb

Name, OID and Syntax	Access	Description
snSFlowGlb 1.3.6.1.4.1.1991.1.1.3.19.1 Syntax: EnabledStatus	Read-only	Enable sFlow sampling globally to enable or disable sFlow sampling on all interfaces. Disabled: sFlow sampling disabled. Enabled: sFlow sampling enabled. The default value is Disabled.
snSflowStatus 1.3.6.1.4.1.1991.1.1.3.19.1.1 Syntax: EnabledStatus	Read-only	To enable or disable sflow sampling on all the interfaces. disabled - sflow sampling disabled enableed - sflow sampling enabled Unless globally enabled, it cannot be enabled on an interface specifically. The default value is disabled.
snSflowSampleRate 1.3.6.1.4.1.1991.1.1.3.19.1.2 Syntax: Unsigned32	Read-only	To set the rate wt which the packet sampling to happen.A value of 512 means, every 512th packet is simpleed forflow collection. The default value is 4096.
snSflowSourcePort 1.3.6.1.4.1.1991.1.1.3.19.1.3 Syntax: Unsigned32	Read-only	To set the UDP source port for sending the sflow samplesto the configured collectors. Any permissible value canbe configured for this and default value is 8888.
snSflowAgentAddrType 1.3.6.1.4.1.1991.1.1.3.19.1.4 Syntax: InetAddressType	Read-only	To set the Agent IPv4/IPv6 address type on the switch. Sflow uses the Agent IP address in the samples sent to collector and this address is dynamically determined based on L2/L3 switch,but can be administratively set also.
snSflowAgentAddr 1.3.6.1.4.1.1991.1.1.3.19.1.5 Syntax: InetAddress	Read-only	To set the Agent IPv4/IPv6 address on the switch.Sflow uses the Agent IP address in the samples sent to collector and this address is dynamically determined based on L2/L3 switch,but can be administratively set also.

sFlow collector table

Currently, RFC 3176 allows only one sFlow destination to be configured. To configure two or more destinations, use the following table.

Name, OID, and syntax	Access	Description
snSflowCollectorTable brcdIp.1.1.3.19.2 Syntax: Sequence of SnSflowCollectorEntry	Not-accessible	Table of all but first sFlow collectors. The first collector can be configured using sFlowTable in RFC 3176. The RFC cannot be used to configure more than one sFlow collectors. This table has been created to fill this gap.
snSflowCollectorEntry brcdIp.1.1.3.19.2.1 Syntax: SnSflowCollectorEntry	Not-accessible	A row in the sFlow collector table.
snSflowCollectorIndex brcdIp.1.1.3.19.2.1.1 Syntax: Integer32	Read-only	The index to the sFlow collector table.
snSflowCollectorIP brcdIp.1.1.3.19.2.1.2 Syntax: IpAddress	Read-write	The IP address of the sFlow collector.
snSflowCollectorUDPPort brcdIp.1.1.3.19.2.1.3 Syntax: Integer32	Read-write	The sFlow collector UDP port number.
snSflowCollectorRowStatus brcdIp.1.1.3.19. 2.1.4 Syntax: Integer	Read-write	To create, update or delete a SFlow collector table entry. If the row exists, then a SET with value of create(4) returns error 'badValue'. Deleted rows go away immediately. The following values can be returned on reads: • noSuch(0) - No such row. • other(1) - Some other case. • valid(2) - Row exists and is valid.

VLAN Layer 2 Switch MIB Definition

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VLAN by port membership table

The following table is the Port VLAN (Layer 2 VLAN) port membership table.

Name, OID, and syntax	Access	Description
snVLanByPortMemberTable brcdIp.1.1.3.2.6	None	This table is used to create or delete a port VLAN (Layer 2 VLAN) entry.
snVLanByPortMemberEntry brcdIp.1.1.3.2.6.1	None	An entry in the Port VLAN port membership table.
snVLanByPortMemberVLanId brcdIp.1.1.3.2.6.1.1 Syntax: Integer	Read-only	The VLAN identifier (VLAN ID). Valid values: 1 - 4095 VLAN IDs
snVLanByPortMemberPortId brcdIp.1.1.3.2.6.1.2 Syntax: Integer	Read-only	The ifIndex that is a member of the port VLAN.
snVLanByPortMemberRowStatus brcdIp.1.1.3.2.6.1.3 Syntax: Integer	Read-write	Controls the management of the table rows. The following values can be written: • delete(3) - Delete the row. • create(4) - Create a new row. If the row exists, then a SET with a value of create(4) returns a bad value error. Deleted rows are removed from the table immediately. The following values can be returned on reads: • noSuch(0) - No such row. • other(1) - Some other case. • valid(2) - Row exists and is valid.
snVLanByPortMemberTagMode brcdIp.1.1.3.2.6.1.4 Syntax: Integer	Read-write	For a tagged or dual-mode port, there can be multiple VLANs per port. For an untagged port, there is only one VLAN ID per port. The values are: • tagged(1) • untagged(2)

Port VLAN configuration table

NOTE

The snVLanByPortTable object was deprecated. Use VLanByPortCfgTable instead of snVLanByPortTable.

Name, OID, and syntax	Access	Description
snVLanByPortCfgTable brcdIp.1.1.3.2.7	None	The Port VLAN (Layer 2 VLAN) configuration table.
snVLanByPortCfgEntry brcdIp.1.1.3.2.7.1	None	An entry of the port VLAN configuration table.
snVLanByPortCfgVLanId brcdIp.1.1.3.2.7.1.1 Syntax: Integer	Read-only	The VLAN ID index to this table. Each VLAN identifier can be a member of multiple ports. Valid values: 1 - 4095
snVLanByPortCfgQos brcdIp.1.1.3.2.7.1.2 Syntax: PortQosTC	Read-write	Shows the Quality of Service (QoS) settings for the devices. For Stackable devices, the values can be one of the following: • level0(0) - Low priority • level1(1) - High priority For Chassis devices, the value can be one of the following: • level0(0) • level1(1) • level2(2) • level3(3) • level4(4) • level5(5) • level6(6) • level7(7)
snVLanByPortCfgStpMode brcdIp.1.1.3.2.7.1.3 Syntax: Integer	Read-write	Indicates whether or not Spanning Tree Protocol (STP) is enabled: • disabled(0) • enabled(1) The following values are supported on FastIron SuperX software releases: • disabled(0) • enableStp(1) • enableRstp(2)
snVLanByPortCfgStpPriority brcdIp.1.1.3.2.7.1.4 Syntax: Integer	Read-write	Shows the value of the dot1dStpPriority, which is the first two octets of the STP or RSTP bridge ID. The STP and RSTP bridge IDs are eight octets long. This object contains the writable portion of the bridge ID. Valid values: 1 - 65535

Name, OID, and syntax	Access	Description
snVLanByPortCfgStpGroupMaxAge brcdIp.1.1.3.2.7.1.5 Syntax: Integer32	Read-write	Shows the value of dot1dStpBridgeMaxAge, which is the last six octets or the STP or RSTP bridge ID. All bridges use this object for MaxAge when this bridge is acting as the root. **NOTE** 802.1D-1990 specifies that the range for this parameter is related to the value of dot1dStpBridgeHelloTime object. The granularity of this timer is specified by 802.1D-1990 to be one second. An agent may return a bad value error if a set is attempted to a value which is not a whole number of seconds. (Refer to RFC 1493 Bridge MIB.) Valid values: 6 - 40
snVLanByPortCfgStpGroupHelloTime brcdIp.1.1.3.2.7.1.6 Syntax: Integer	Read-write	Shows the value of dot1dStpBridgeHelloTime, which is the value used by all bridges when this bridge is acting as the root. **NOTE** The granularity of this timer is specified by 802.1D-1990 to be one second. An agent may return a bad Value error if a set is attempted to a value which is not a whole number of seconds. (Refer to RFC 1493 Bridge MIB.) Valid values: 1 - 10
snVLanByPortCfgStpGroupForwardDelay brcdIp.1.1.3.2.7.1.7 Syntax: Integer32	Read-write	Shows the value of dot1dStpBridgeForwardDelay, which is the value used by all bridges for ForwardDelay when this bridge is acting as the root. **NOTE** 802.1D-1990 specifies that the range for this parameter is related to the value of dot1dStpBridgeMaxAge object. The granularity of this timer is specified by 802.1D-1990 to be one second. An agent may return a bad value error if a set is attempted to a value which is not a whole number of seconds. (Refer to RFC 1493 Bridge MIB.) Valid values: 2 - 30
snVLanByPortCfgBaseNumPorts brcdIp.1.1.3.2.7.1.8 Syntax: Integer32	Read-only	The number of ports controlled by this bridging entity.
snVLanByPortCfgBaseType brcdIp.1.1.3.2.7.1.9 Syntax: Integer	Read-only	Indicates what type of bridging this bridge can perform. If a bridge is actually performing a certain type of bridging, this will be indicated by entries in the port table for the given type: • unknown(1) • transparentOnly(2) • sourcerouteOnly(3) • srt(4)

Name, OID, and syntax	Access	Description
snVLanByPortCfgStpProtocolSpecification brcdIp.1.1.3.2.7.1.10 Syntax: Integer	Read-only	Shows what version of STP is being run: • unknown(1) • decLb100(2) - Indicates the DEC LANbridge 100 Spanning Tree Protocol. • ieee8021d(3) - IEEE 802.1d implementations will return this value. If future versions of the IEEE Spanning Tree Protocol are released that are incompatible with the current version, a new value will be defined.
snVLanByPortCfgStpMaxAge brcdIp.1.1.3.2.7.1.11 Syntax: Integer	Read-only	Shows the value of dot1dStpMaxAge, which is the maximum age that the STP information can exist before it is discarded. The STP information is learned from the network. The value of this object is in hundredths of a second, and is the actual value that this bridge is currently using. (Refer to RFC 1493 Bridge MIB.)
snVLanByPortCfgStpHelloTime brcdIp.1.1.3.2.7.1.12 Syntax: Timeout	Read-only	Shows the value of dot1dStpHelloTime, which is the interval between the transmission of configuration bridge PDUs by this node. This value applies to any port when it is the root of the spanning tree or is trying to become the root. This is the actual value that this bridge is currently using. This value is in hundredths of a second. (Refer to RFC 1493 Bridge MIB.)
snVLanByPortCfgStpHoldTime brcdIp.1.1.3.2.7.1.13 Syntax: Integer32	Read-only	Shows the value of dot1dStpHoldTime, which is the interval when no more than two configuration bridge PDUs can be transmitted by this node. The interval is in units of hundredths of a second. (Refer to RFC 1493 Bridge MIB.)
snVLanByPortCfgStpForwardDelay brcdIp.1.1.3.2.7.1.14 Syntax: Timeout	Read-only	Shows the value of dot1dStpForwardDelay, which controls how fast a port changes its spanning state when moving towards the forwarding state. The value determines how long the port stays in each of the listening and learning states, which precede the forwarding state. This value is also used, when a topology change has been detected and is under way, to age all dynamic entries in the forwarding database. **NOTE** This value is the one that this bridge is currently using in contrast to dot1dStpBridgeForwardDelay, which is the value that this bridge and all others would start using should this bridge become the root.This value is measured in hundredths of a second. (Refer to RFC 1493 Bridge MIB.)
snVLanByPortCfgStpTimeSinceTopologyChange brcdIp.1.1.3.2.7.1.15 Syntax: Time ticks	Read-only	Shows the time since the last topology change was detected by the bridge entity. This time is in hundredths of a second.

Name, OID, and syntax	Access	Description
snVLanByPortCfgStpTopChanges brcdIp.1.1.3.2.7.1.16 Syntax: Counter32	Read-only	Shows the total number of topology changes detected by this bridge since the management entity was last reset or initialized.
snVLanByPortCfgStpRootCost brcdIp.1.1.3.2.7.1.17 Syntax: Integer32	Read-only	Shows the value of dot1dStpRootCost, which is the cost of the path to the root as seen from this bridge. (Refer to RFC 1493 Bridge MIB.)
snVLanByPortCfgStpRootPort brcdIp.1.1.3.2.7.1.18 Syntax: Integer32	Read-only	Shows the value of dot1dStpRootPort, which is the port number of the port which offers the lowest cost path from this bridge to the root bridge. (Refer to RFC 1493 Bridge MIB.)
snVLanByPortCfgStpDesignatedRoot brcdIp.1.1.3.2.7.1.19 Syntax: BridgeId	Read-only	Shows the value of dot1dStpDesignatedRoot, which is the bridge identifier of the root of the spanning tree as determined by the Spanning Tree Protocol as executed by this node. This value is used as the root identifier parameter in all configuration bridge PDUs originated by this node. (Refer to RFC 1493 Bridge MIB.)
snVLanByPortCfgBaseBridgeAddress brcdIp.1.1.3.2.7.1.20 Syntax: MAC address	Read-only	Shows the MAC address used by this bridge when it must be referred to in a unique fashion. It is recommended that this be the numerically smallest MAC address of all ports that belong to this bridge; however, it is only required to be unique. When concatenated with dot1dStpPriority, a unique bridge identifier is formed, which is used in the Spanning Tree Protocol.
snVLanByPortCfgVLanName brcdIp.1.1.3.2.7.1.21 Syntax: DisplayString	Read-write	Shows the name of the VLAN community string. Valid values: Up to 32 characters
snVLanByPortCfgRouterIntf brcdIp.1.1.3.2.7.1.22 Syntax: Integer32	Read-write	This object is optional. It identifies the virtual interface for the router to the VLAN, and applies only to the router. If an SNMP-Get value is zero, that means this object was not configured.
snVLanByPortCfgRowStatus brcdIp.1.1.3.2.7.1.23 Syntax: Integer	Read-write	Deletes a VLAN entry. Delete(3).
snVLanByPortCfgStpVersion brcdIp.1.1.3.2.7.1.24 Syntax: Integer **NOTE** This object is supported only on the FastIron SuperX devices.	Read-write	Shows the version of Spanning Tree Protocol the bridge is currently running: • stpCompatible(0) - STP (IEEE 802.1D) • rstp(2) - RSTP (IEEE 802.1w)

Port VLAN configuration table

Name, OID, and syntax	Access	Description
snVLanByPortCfgMcastMode brcdIp.1.1.3.2.7.1.26 Syntax: Integer	Read-write	Multicast (IGMP snooping) mode on the VLAN can be set as either active or passive or disabled. The default is disabled. • disabled(0): P Multicast is disabled on this VLAN • active(1): this VLAN generates IGMP queries • passive(2): this VLAN listens for IGMP packets Default: disabled(0)
snVLanByPortCfgMcastVersion brcdIp.1.1.3.2.7.1.27 Syntax: Integer32	Read-write	Specifies version of Multicast on this VLAN. Values are 2 or 3. The default is 2. The initial value is 0.

Forwarding Database Group

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Forwarding database static table information

The following table contains the forwarding database information for each station known to the system. There is one entry per station.

Name, OID, and syntax	Access	Description
snFdbTable brcdIp.1.1.3.4.1	None	The forwarding database static table.
snFdbStationIndex brcdIp.1.1.3.4.1.1.1 Syntax: Integer	Read-only	Shows the FDB Station index to the FDB Station table.
snFdbStationAddr brcdIp.1.1.3.4.1.1.2 Syntax: Integer	Read-write	Shows the snFdbs physical address. The physical address represents a MAC Station.
snFdbStationPort brcdIp.1.1.3.4.1.1.3 Syntax: Integer32	Read-write	Indicates the station slot or port number: • Bit 0 to bit 7 - Port number. • Bit 8 to bit 11 - Slot number (slot for chassis only).
snFdbVLanId brcdIp.1.1.3.4.1.1.4 Syntax: Integer	Read-write	Indicates the Station VLAN ID.
snFdbStationQos brcdIp.1.1.3.4.1.1.5 Syntax: Integer	Read-write	Shows the Quality of Service (QoS) values for the station: For stackable stations, the values can be: • low(0) - Low priority • high(1) - High priority For chassis stations, the values can be: • level0(0) • level1(1) • level2(2) • level3(3) • level4(4) • level5(5) • level6(6) • level7(7)
snFdbStationType brcdIp.1.1.3.4.1.1.6 Syntax: Integer	Read-write	Shows the station type: • notSupported(0) - A read-only value: this product does not support multilayer switching. • host(1) - Any MAC station. • router(2) - A router-typed station.

Forwarding Database Group
Forwarding database static table information

Name, OID, and syntax	Access	Description
snFdbRowStatus brcdIp.1.1.3.4.1.1.7 Syntax: Integer	Read-write	Controls the management of the table rows. The following values can be written: • delete(3) - Deletes the row. • create(4) - Creates a new row. If the row exists, then a SET with a value of create(4) returns a "bad value" error. Deleted rows are removed from the table immediately. The following values can be returned on reads: • noSuch(0) - No such row. • invalid(1) - Row is inoperative. • valid(2) - Row exists and is valid.
snFdbStationIf brcdIp.1.1.3.4.1.1.8 Syntax: InterfaceIndex	Read-write	Station interface index.

Port STP Configuration Group

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Port STP configuration groups

The Spanning Tree Protocol (STP) eliminates Layer 2 loops in networks by selectively blocking some ports and allowing other ports to forward traffic based on global (bridge) and local (port) parameters you can configure.

STP table

NOTE

The snPortStpTable was deprecated. It has been replaced by snIfStpTable.

Name, OID, and syntax	Access	Description
snIfStpTable brcdIp.1.1.3.5.2	None	A specific snIfStpTable consists of a number of switch ports. This table exists only if snVLanByPortCfgTable exists and snVLanByPortCfgStpMode is enabled for each VLAN.
snIfStpVLanId brcdIp.1.1.3.5.2.1.1 Syntax: Integer	Read-only	Shows the VLAN ID of the VLAN switch community. Valid values: 1 - 65535
snIfStpPortNum brcdIp.1.1.3.5.2.1.2 Syntax: InterfaceIndex	Read-only	Shows the port number of the switch that has the ifIndex value.
snIfStpPortPriority brcdIp.1.1.3.5.2.1.3 Syntax: Integer	Read-write	Shows the value of the priority field, which is contained in the first (in network byte order) octet of the (2 octet long) Port ID. The second octet of the Port ID is given by the value of dot1dStpPort. The two octets combine to form the identity of the root bridge in a spanning tree (instance of STP). The bridge with the lowest value has the highest priority and is the root. Valid values: 0 - 255
snIfStpCfgPathCost brcdIp.1.1.3.5.2.1.4 Syntax: Integer	Read-write	Shows the value of the dot1dStpPortPathCost, which is the port's path cost of paths towards the spanning tree root which include this port. 802.1D-1990 recommends that the default value of this parameter be in inverse proportion to the speed of the attached LAN. Writing value zero to this object sets the path cost to a default value which automatically changes according to port speed. Valid values: 0 - 200000000
snIfStpOperState brcdIp.1.1.3.5.2.1.5 Syntax: Integer	Read-only	Indicates if the port STP entry is activated and is in running mode: • notActivated(0) • activated(1) Default: notActivated(0)

Port STP Configuration Group
Port STP configuration groups

Name, OID, and syntax	Access	Description
snIfStpPortState brcdIp.1.1.3.5.2.1.8 Syntax: Integer	Read-only	Shows the port's current state as defined by application of the Spanning Tree Protocol. This state controls what action a port takes when it receives a frame: • disabled(1) - The port is not participating in STP. This can occur when the port is disconnected or STP is disabled on the port. • blocking(2) - STP has blocked Layer 2 traffic on this port to prevent a loop. The device or VLAN can reach the root bridge using another port with the forwarding(5) state. When a port is in this state, the port does not transmit or receive user frames, but the port does continue to receive STP BPDUs. • listening(3) - STP is responding to a topology change and this port is listening for a BPDU from neighboring bridges in order to determine the new topology. No user frames are transmitted or received during this state. • learning(4) - The port has passed the listening state and will change to the blocking or forwarding state, depending on the results of STP's reconvergence. The port does not transmit or receive user frames during this state. However, the device can learn the MAC addresses of frames that the port receives during this state and make corresponding entries in the MAC table. • forwarding(5) - STP is allowing the port to send and receive frames. • broken(6) - Ports that are malfunctioning are placed into this state by the bridge. • preforwarding(7)
snIfStpPortDesignatedCost brcdIp.1.1.3.5.2.1.9 Syntax: Integer32	Read-only	The cost to the root bridge as advertised by the designated bridge that is connected to this port. This value is compared to the Root Path Cost field in received bridge PDUs.
snIfStpPortDesignatedRoot brcdIp.1.1.3.5.2.1.10 Syntax: BridgeId	Read-only	Shows the unique ID of the root bridge. The root bridge is recorded as the root in the configuration BPDUs, which are transmitted by the designated bridge for the segment to which the port is attached.
snIfStpPortDesignatedBridge brcdIp.1.1.3.5.2.1.11 Syntax: BridgeId	Read-only	Shows the ID of the designated bridge. The designated bridge is the device that connects the network segment to the root bridge.
snIfStpPortDesignatedPort brcdIp.1.1.3.5.2.1.12 Syntax: Octet String	Read-only	Shows the ID of the port on the designated bridge that connects to the root bridge on the network. This object has two octets.

Name, OID, and syntax	Access	Description
snIfStpPortAdminRstp brcdIp.1.1.3.5.2.1.13 Syntax: TruthVal	Read-write	Enables or disables RSTP of a port which is a member of a VLAN. If the VLAN is not operating in RSTP, this object will return FALSE(2) and this object is not writable.
snIfStpPortProtocolMigration brcdIp.1.1.3.5.2.1.14 Syntax: TruthVal	Read-write	When operating in RSTP (version 2) mode, writing TRUE(1) to this object forces this port to transmit RSTP BPDUs. Any other operation on this object has no effect and it always returns FALSE(2) when read.
snIfStpPortAdminEdgePort brcdIp.1.1.3.5.2.1.15 Syntax: TruthVal	Read-write	The administrative value of the edge port parameter. A value of TRUE(1) indicates that this port should be assumed as an edge port and a value of FALSE(2) indicates that this port should be assumed as a non-edge port.
snIfStpPortAdminPointToPoint brcdIp.1.1.3.5.2.1.16 Syntax: TruthVal	Read-write	The administrative point-to-point status of the LAN segment attached to this port. A value of TRUE(1) indicates that this port should always be treated as if it is connected to a point-to-point link. A value of FALSE(2) indicates that this port should be treated as having a shared media connection.
snIfStpOperPathCost brcdIp.1.1.3.5.2.1.17 Syntax: Integer	Read-only	Shows the value of dot1dStpPortPathCost, which is the port's path cost of paths towards the spanning tree root which include this port. 802.1D-1990 recommends that the default value of this parameter be in inverse proportion to the speed of the attached LAN. Reading value zero indicates an unknown path cost value because the port speed cannot be determined due to the speed auto sense in progress or the port link is down. Valid values: 0 - 200000000.
snIfStpPortRole brcdIp.1.1.3.5.2.1.18 Syntax: Integer	Read-only	The STP or RSTP port role: • unknown(0) • alternate(1) • root(2) • designated(3) • backupRole(4) • disabledRole(5)
snIfStpBPDUTransmitted brcdIp.1.1.3.5.2.1.19 Syntax: Counter32	Read-only	The STP or RSTP bridge protocol unit transmitted counter.
snIfStpBPDUReceived brcdIp.1.1.3.5.2.1.20 Syntax: Counter32	Read-only	The STP or RSTP bridge protocol unit received counter.
snIfRstpConfigBPDUReceived brcdIp.1.1.3.5.2.1.21 Syntax: Counter32	Read-only	The RSTP configuration bridge protocol unit received counter.
snIfRstpTCNBPDUReceived brcdIp.1.1.3.5.2.1.22 Syntax: Counter32	Read-only	The RSTP topology change notification bridge protocol unit received counter.

Port STP Configuration Group
Port STP configuration groups

Name, OID, and syntax	Access	Description
snIfRstpConfigBPDUTransmitted brcdIp.1.1.3.5.2.1.23 Syntax: Counter32	Read-only	The RSTP configuration bridge protocol unit transmitted counter.
snIfRstpTCNBPDUTransmitted brcdIp.1.1.3.5.2.1.24 Syntax: Counter32	Read-only	The RSTP topology change notification bridge protocol unit transmitted counter.

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MRP table

The following table contains information about Metro Ring Protocol (MRP) MIB objects.

Name, OID, and syntax	Access	Description
snMetroRingTable brcdIp.1.1.3.29.2.1	None	The MRP table.
snMetroRingVlanId brcdIp.1.1.3.29.2.1.1.1 Syntax: Integer32	None	Identifies a VLAN that controls the metro ring.
snMetroRingId brcdIp.1.1.3.29.2.1.1.2 Syntax: Integer32	None	The metro ring identifier.
snMetroRingConfigState brcdIp.1.1.3.29.2.1.1.3 Syntax: Integer	Read-write	The state of the metro ring. The values are: other(1), enabled(2), disabled(3).
snMetroRingRole brcdIp.1.1.3.29.2.1.1.4 Syntax: Integer	Read-write	Shows the metro ring role: • other(1) - None of the cases below. • master(2) - Device which originates RHP packets. • member(3) - Device which forwards RHP packets.
snMetroRingHelloTime brcdIp.1.1.3.29.2.1.1.5 Syntax: Integer32	Read-write	The time interval to periodically transmit Ring Health Protocol (RHP) in milliseconds.
snMetroRingPreforwardingTime brcdIp.1.1.3.29.2.1.1.6 Syntax: Integer32	Read-write	The time interval that a metro ring stays in the preforwarding state before changing to the forwarding state (in milliseconds).
snMetroRingPort1 brcdIp.1.1.3.29.2.1.1.7 Syntax: InterfaceIndex	Read-write	The ifIndex value of port 1 to configure into the metro ring.
snMetroRingPort2 brcdIp.1.1.3.29.2.1.1.8 Syntax: InterfaceIndex	Read-write	The ifIndex value of port 2 to configure into the metro ring.
snMetroRingName brcdIp.1.1.3.29.2.1.1.9 Syntax: DisplayString	Read-write	The description of the metro ring.

Name, OID, and syntax	Access	Description
snMetroRingRowStatus brcdIp.1.1.3.29.2.1.1.10 Syntax: Integer	Read-write	Creates and deletes rows in the table, and controls whether they are used. Values are: • delete(3) - Deletes a row. • create(4) - Creates a new row. If the row exists, then a SET with a value of create(4) returns a “bad value” error. Deleted rows disappear immediately. The following values can be returned on reads: • noSuchName - No such row • other(1) - Some other cases. • valid(2) - The row exists and is valid.
snMetroRingOperState brcdIp.1.1.3.29.2.1.1.11 Syntax: Integer	Read-only	Shows the metro ring operational state. Valid values:other(1), enabled(2), disabled(3)
snMetroRingTopoGroupId brcdIp.1.1.3.29.2.1.1.12 Syntax: Integer32	Read-only	The ID of the topology group that controls the metro ring.
snMetroRingRHPTransmitted brcdIp.1.1.3.29.2.1.1.13 Syntax: Counter32	Read-only	The Ring Health Protocol (RHP) transmitted counter.
snMetroRingRHPReceived brcdIp.1.1.3.29.2.1.1.14 Syntax: Counter32	Read-only	The Ring Health Protocol (RHP) received counter.
snMetroRingStateChanged brcdIp.1.1.3.29.2.1.1.15 Syntax: Counter32	Read-only	The counter for the number of times the ring state has changed.
snMetroRingTCRBPDUReceived brcdIp.1.1.3.29.2.1.1.16 Syntax: Counter32	Read-only	The topology change protocol received counter.
snMetroRingPriPort brcdIp.1.1.3.29.2.1.1.17 Syntax: InterfaceIndex	Read-only	The ifIndex value of the primary port.
snMetroRingSecPort brcdIp.1.1.3.29.2.1.1.18 Syntax: InterfaceIndex	Read-only	The ifIndex value of the secondary port.
snMetroRingPriPortState brcdIp.1.1.3.29.2.1.1.19 Syntax: Integer	Read-only	The state of the metro ring primary port: • other(1) - None of the cases below. • preforwarding(2) - Port transmits RHP packets; port does not transmit data packets. • forwarding(3) - Port transmits RHP and data packets. • blocking(4) - Port receives RHP packets; does not receive data packets. • disabled(5) - Port is disabled from the metro ring.

Name, OID, and syntax	Access	Description
snMetroRingSecPortState brcdIp.1.1.3.29.2.1.1.20 Syntax: Integer	Read-only	The state of the metro ring secondary port: • other(1) - None of the cases below. • preforwarding(2) - Port transmits RHP packets; port does not transmit data packets. • forwarding(3) - Port transmits RHP and data packets. • blocking(4) - Port receives RHP packets; does not receive data packets. • disabled(5) - Port is disabled from the metro ring.
snMetroRingPriPortType brcdIp.1.1.3.29.2.1.1.21 Syntax: Integer	Read-only	The metro ring primary port type: • other(1) - None of the cases below. • regular(2) - Port is configured to operate on a single ring. • tunnel(3) - Port is configured to operate on multiple rings.
snMetroRingSecPortType brcdIp.1.1.3.29.2.1.1.22 Syntax: Integer	Read-only	The metro ring secondary port type: • other(1) - None of the cases below. • regular(2) - Port is configured to operate on a single ring. • tunnel(3) - Port is configured to operate on multiple rings.
snMetroRingPriPortActivePort brcdIp.1.1.3.29.2.1.1.23 Syntax: InterfaceIndex	Read-only	The ifIndex value of the active primary port.
snMetroRingSecPortActivePort brcdIp.1.1.3.29.2.1.1.24 Syntax: InterfaceIndex	Read-only	The ifIndex value of the active secondary port.

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Switch configuration summary group

The following object applies to the RUCKUS FastIron devices.

Name, OID, and syntax	Access	Description
snSwSummaryMode brcdIp.1.1.3.7.1 Syntax: Integer	Read-write	Indicates whether or not the switch configuration summary is enabled: • disabled(0) • enabled(1) Default: disabled(0)

RADIUS Group

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RADIUS general group

You can use a Remote Authentication Dial In User Service (RADIUS) server to secure the following types of access to the switch or router:

- Telnet access
- SSH access
- Web management access
- Access to the Privileged EXEC level and CONFIG level of the CLI

The following objects provide information on RADIUS authentication and apply to all devices.

Name, OID, and syntax	Access	Description
snRadiusSNMPAccess brcdIp.1.1.3.12.1.1 Syntax: Integer	Read-only	Indicates if the RADIUS group MIB objects can be accessed by an SNMP manager: • disabled(0) - All RADIUS group MIB objects return a "general error". • enabled(1) Default: enabled(1)
snRadiusEnableTelnetAuth brcdIp.1.1.3.12.1.2 Syntax: Integer	Read-write	Indicates if Telnet authentication as specified by the RADIUS general group object is enabled: • disabled(0) • enabled(1) Default: disabled(0)
snRadiusRetransmit brcdIp.1.1.3.12.1.3 Syntax: Integer	Read-write	Indicates the number of authentication query retransmissions that can be sent to the RADIUS server. Valid values: 1 - 5 Default: 2seconds
snRadiusTimeOut brcdIp.1.1.3.12.1.4 Syntax: Integer	Read-write	Specifies the number of seconds to wait for an authentication reply from the RADIUS server. Each unit is one second. Valid values: 1 - 60 Default: 3seconds
snRadiusDeadTime brcdIp.1.1.3.12.1.5 Syntax: Integer	Read-write	Specifies the RADIUS server dead time. Each unit is one minute. Valid values: 1 - 5 Default: 2seconds
snRadiusKey brcdIp.1.1.3.12.1.6 Syntax: DisplayString	Read-write	Shows the authentication key as encrypted text. This object can have up to 64 characters. A write operation can only be done if the SET request uses SNMPv3 with data encrypted using a privacy key.

RADIUS Group
RADIUS general group

Name, OID, and syntax	Access	Description
snRadiusLoginMethod brcdIp.1.1.3.12.1.7 Syntax: Octet String	Read-write	Shows the sequence of authentication methods for the RADIUS server. Each octet represents a method for authenticating the user at login. Each octet can have one of the following values: • enable(1) - Authenticate by the “Enable” password for the command line interface. • radius(2) - Authenticate by requesting the RADIUS server. • local(3) - Authenticate by local user account table. • line(4) - Authenticate by the Telnet password. • tacplus(5) - Authenticate by requesting the TACACS Plus server. • none(6) - Do not authenticate. • tacacs(7) - Authenticate by requesting the TACACS server. Setting a zero length octet string invalidates all previous authentication methods.
snRadiusEnableMethod brcdIp.1.1.3.12.1.8 Syntax: Octet String	Read-write	Shows the sequence of authentication methods for the RADIUS server. Each octet represents a method for authenticating the user after login, as the user enters the privilege mode of the command line interface. Each octet can have one of the following values: • enable(1) - Authenticate by the “Enable” password for the command line interface. • radius(2) - Authenticate by requesting the RADIUS server. • local(3) - Authenticate by local user account table. • line(4) - Authenticate by the Telnet password. • tacplus(5) - Authenticate by requesting the TACACS Plus server. • none(6) - Do not authenticate. • tacacs(7) - Authenticate by requesting the TACACS server. Setting a zero length octet string invalidates all previous authentication methods.

Name, OID, and syntax	Access	Description
snRadiusWebServerMethod brcdIp.1.1.3.12.1.9 Syntax: Octet String	Read-write	Shows the sequence of authentication methods. Each octet represents a method for authenticating the user who is accessing the Web server. Each octet can have one of the following values: • enable(1) - Authenticate by the “Enable” password for the command line interface. • radius(2) - Authenticate by requesting the RADIUS server. • local(3) - Authenticate by local user account table. • line(4) - Authenticate by the Telnet password. • tacplus(5) - Authenticate by requesting the TACACS Plus server. • none(6) - Do not authenticate. • tacacs(7) - Authenticate by requesting the TACACS server. Setting a zero length octet string invalidates all previous authentication methods.
snRadiusSNMPServerMethod brcdIp.1.1.3.12.1.10 Syntax: Octet String	Read-write	Shows the sequence of authentication methods. Each octet represents a method to authenticate the user who is accessing the SNMP server. Each octet can have one of the following values: • enable(1) - Authenticate by the “Enable” password for the command line interface. • radius(2) - Authenticate by requesting the RADIUS server. • local(3) - Authenticate by local user account table. • line(4) - Authenticate by the Telnet password. • tacplus(5) - Authenticate by requesting the TACACS Plus server. • none(6) - Do not authenticate. • tacacs(7) - Authenticate by requesting the TACACS server. Setting a zero length octet string invalidates all previous authentication methods.

RADIUS server table

The following objects provide information on the RADIUS server. Configure RADIUS to populate the objects of RADIUS server table .

NOTE

The snRadiusServerTable is deprecated and replaced by fdryRadiusServerTable.

Name, OID, and syntax	Description
fdryRadiusServerTable 1.3.6.1.4.1.1991.1.1.8.1.1.1	RADIUS server table.
fdryRadiusServerEntry 1.3.6.1.4.1.1991.1.1.8.1.1.1.1	Shows the RADIUS server entry.

RADIUS Group
RADIUS server table

Name, OID, and syntax	Description
fdryRadiusServerIndex 1.3.6.1.4.1.1991.1.1.8.1.1.1.1.1 Syntax: Unsigned32	The index to the Radius server Table. FastIron platform supports upto 8 servers.
fdryRadiusServerAddrType 1.3.6.1.4.1.1991.1.1.8.1.1.1.1.2 Syntax: InetAddressType	Radius server IP address Type.
fdryRadiusServerAddr 1.3.6.1.4.1.1991.1.1.8.1.1.1.1.3 Syntax: InetAddress	Radius server IP address.
fdryRadiusServerAuthPort 1.3.6.1.4.1.1991.1.1.8.1.1.1.1.4 Syntax: Unsigned32	Authentication UDP port number. FastIron platform supports default value 1645. Radius Auth UDP port is 1812.
fdryRadiusServerAcctPort 1.3.6.1.4.1.1991.1.1.8.1.1.1.1.5 Syntax: Unsigned32	Account UDP port number. FastIron platform supports default value 1646. Radius Account port is 1813
fdryRadiusServerRowKey 1.3.6.1.4.1.1991.1.1.8.1.1.1.1.6 Syntax: DisplayString	Authentication key displayed as encrypted text. FastIron platform supports keysize upto 32 characters. Radius server keysize upto 64 characters
fdryRadiusServerUsage 1.3.6.1.4.1.1991.1.1.8.1.1.1.1.7 Syntax: ServerUsage	To allow this server to be dedicated for a particular AAA activity.
fdryRadiusServerRowStatus 1.3.6.1.4.1.1991.1.1.8.1.1.1.1.8 Syntax: RowStatus	This variable is used to create, modify, or delete a row in this table. When a row in this table is in active(1) state, no objects in that row can be modified except this object.
fdryRadiusServerAuthType 1.3.6.1.4.1.1991.1.1.8.1.1.1.1.9 Syntax: OCTET STRING (SIZE(0..3))	To allow this server to support dot1x/ mac-auth/web-auth. 0 - mac-auth 1 - dot1x 2 - web-auth

TACACS Group

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TACACS general MIBs

The Terminal Access Controller Access Control System (TACACS) or security protocols can be used to authenticate the following types of access to devices:

- Telnet access
- SSH access
- Access to management functions
- Web management access
- Access to the Privileged EXEC level and CONFIG level of the CLI

The TACACS and protocols define how authentication, authorization, and accounting (AAA) information is sent between a device and an authentication database on a TACACS server.

The following objects provide information on TACACS authentication and apply to all devices.

Name, OID, and syntax	Access	Description
snTacacsRetransmit brcdIp.1.1.3.13.1.1 Syntax: Integer	Read-write	Shows the number of authentication query retransmissions to the TACACS server. Valid values: 1 - 5 Default: 3
snTacacsTimeOut brcdIp.1.1.3.13.1.2 Syntax: Integer	Read-write	Specifies how many seconds to wait for an authentication reply from the TACACS server. Valid values: 1 - 15 Default: 3 seconds
snTacacsDeadTime brcdIp.1.1.3.13.1.3 Syntax: Integer	Read-write	Specifies the TACACS server dead time in minutes. Valid values: 1 - 5 Default: 3 minutes
snTacacsKey brcdIp.1.1.3.13.1.4 Syntax: DisplayString	Read-write	Authentication key displayed as encrypted text. Valid values: Up to 64 characters A write operation can only be done if the SET request uses SNMPv3 with data encrypted using a privacy key.
snTacacsSNMPAccess brcdIp.1.1.3.13.1.5 Syntax: Integer	Read-only	Indicates whether the TACACS group MIB objects can be accessed by an SNMP manager: • disabled(0) - All TACACS group MIB objects return "general error". • enabled(1) Default: enabled(1)

TACACS server table

The following objects provide information on the TACACS server. Configure TACACS to populate the objects of TACACS server table.

NOTE
The snTacacsServerTable is deprecated and replaced by fdryTacacsServerTable.

Name, OID, and syntax	Description
fdryTacacsServerTable 1.3.6.1.4.1.1991.1.1.9.1.1.1	TACACS server table.
fdryTacacsServerEntry 1.3.6.1.4.1.1991.1.1.9.1.1.1.1	An entry in the TACACS server table.
fdryTacacsServerIndex 1.3.6.1.4.1.1991.1.1.9.1.1.1.1.1 Syntax: Unsigned32	The index to the TACACS server Table. FastIron platform supports upto 8 servers.
fdryTacacsServerAddrType 1.3.6.1.4.1.1991.1.1.9.1.1.1.1.2 Syntax: InetAddressType	TACACS server IP address Type.
fdryTacacsServerAddr 1.3.6.1.4.1.1991.1.1.9.1.1.1.1.3 Syntax: InetAddress	TACACS server IP address.
fdryTacacsServerAuthPort 1.3.6.1.4.1.1991.1.1.9.1.1.1.1.4 Syntax: Unsigned32	Authentication UDP port number. TACACS Auth port is 49.
fdryTacacsServerRowKey 1.3.6.1.4.1.1991.1.1.9.1.1.1.1.5 Syntax: DisplayString	Authentication key displayed as encrypted text. FastIron platform supports keysize upto 32 characters. TACACS server keysize upto 64 characters.
fdryTacacsServerUsage 1.3.6.1.4.1.1991.1.1.9.1.1.1.1.6 Syntax: ServerUsage	To allow this server to be dedicated for a particular AAA activity.
fdryTacacsServerRowStatus 1.3.6.1.4.1.1991.1.1.9.1.1.1.1.7 Syntax: RowStatus	This variable is used to create, modify, or delete a row in this table. When a row in this table is in active(1) state, no objects in that row can be modified except this object.

802.1X Authentication MIB

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802.1X authentication scalar group types

The 802.1X authentication scalar group provides information that is displayed in the outputs of the following CLI commands:

- **show dot1x**
- **show dot1x configuration all**
- **show dot1x configuration ethernet** *port*

NOTE
The following sections present the SNMP MIB objects for 802.1X authentication. These MIB objects are supported on the RUCKUS ICX devices.

Name, OID, and syntax	Access	Description
brcdDot1xAuthGlobalConfigQuietperiod brcdIp.1.1.3.38.1.1 Syntax: Unsigned32	Read-write	If the RUCKUS device is unable to authenticate a client, this object shows the amount of time, in seconds, the RUCKUS device waits before it retries to authenticate that client. The allowed range is from 1 through 4294967294. Default: 60 seconds
brcdDot1xAuthGlobalConfigTxPeriod brcdIp.1.1.3.38.1.2 Syntax: Unsigned32	Read-write	When a client does not return an Extensible Authentication Protocol (EAP) response or identity frame, this object shows the amount of time, in seconds, the RUCKUS device waits before retransmitting the EAP-request or identity frame to the client. The allowed range is from 1 through 4294967294. Default: 30 seconds
brcdDot1xAuthGlobalConfigSuppTimeOut brcdIp.1.1.3.38.1.3 Syntax: Unsigned32	Read-write	When a supplicant (client) does not respond to an EAP-request frame, this object shows the amount of time, in seconds, before the RUCKUS device retransmits the frame. The allowed range is from 1 through 4294967294. Default: 30 seconds
brcdDot1xAuthGlobalConfigAuthServerTimeOut brcdIp.1.1.3.38.1.4 Syntax: Unsigned32	Read-write	When the authentication server (RADIUS) does not respond to a message sent from the client, this object shows the amount of time, in seconds, before the RUCKUS device retransmits the message. The allowed range is from 1 through 4294967294. Default: 30 seconds

Name, OID, and syntax	Access	Description
brcdDot1xAuthGlobalConfigMaxReq brcdIp.1.1.3.38.1.5 Syntax: Unsigned32	Read-write	The number of times the RUCKUS device retransmits an EAP-request or identity request frame if it does not receive an EAP-response or identity response frame from a client. Default: 2 times
brcdDot1xAuthGlobalConfigReAuthMax brcdIp.1.1.3.38.1.6 Syntax: Unsigned32	Read-write	The number of reauthentication attempts that are permitted before the port becomes unauthorized. Default: 2 times
brcdDot1xAuthGlobalConfigReAuthPeriod brcdIp.1.1.3.38.1.7 Syntax: Unsigned32	Read-write	How often (number of seconds) the device automatically reauthenticates clients when periodic reauthentication is enabled. The allowed range is from 1 through 4294967294. Default: 3600 seconds
brcdDot1xAuthGlobalConfigProtocolVersion brcdIp.1.1.3.38.1.8 Syntax: Unsigned32	Read-only	The EAP protocol version.
brcdDot1xAuthGlobalConfigTotalPortsEnabled brcdIp.1.1.3.38.1.9 Syntax: Unsigned32	Read-only	The total number of ports that have 802.1x enabled.
brcdDot1xAuthGlobalConfigReauthStatus brcdIp.1.1.3.38.1.10 Syntax: EnabledStatus	Read-write	Enables or disables reauthentication globally. Default: disabled
brcdDot1xAuthGlobalConfigMacSessionMaxAge brcdIp.1.1.3.38.1.11 Syntax: Unsigned32	Read-write	The maximum age of the 802.1x MAC session. A value from 0 through 65535.
brcdDot1xAuthGlobalConfigNoAgingDeniedSessions brcdIp.1.1.3.38.1.12 Syntax: EnabledStatus	Read-write	Enables or disables **mac-session-no aging** for denied sessions. Default: disabled
brcdDot1xAuthGlobalConfigNoAgingPermittedSessions brcdIp.1.1.3.38.1.13 Syntax: EnabledStatus	Read-write	Enables or disables **mac-session-no aging** for permitted sessions. Default: disabled
brcdDot1xAuthGlobalConfigAuthFailAction brcdIp.1.1.3.38.1.14 Syntax: Integer	Read-write	Configures the action to take when the authentication fails: • blockTraffic(1) • restrictedVlan(2)

802.1X port statistics table

The following table contains Extensible Authentication Protocol (EAP) information specific to interfaces. EAP is an authentication framework that provides common functions and negotiation of authentication methods called EAP methods (for example, EAP-MD5, EAP-TLS, and EAP-GTC). The statistics provided in this table are equivalent to those provided in the output of the following commands:

- **show dot1x statistics ethernet** *port*
- **show dot1x statistics all**

Name, OID, and syntax	Access	Description
brcdDot1xAuthPortStatRxEAPFrames brcdIp.1.1.3.38.2.1.1.1 Syntax: Counter32	Read-only	The total number of EAP over LAN (EAPOL) frames received on the port. The frames received include EAP frames.
brcdDot1xAuthPortStatTxEAPFrames brcdIp.1.1.3.38.2.1.1.2 Syntax: Counter32	Read-only	The number of EAPOL frames transmitted on the port.
brcdDot1xAuthPortStatRxEAPStartFrames brcdIp.1.1.3.38.2.1.1.3 Syntax: Counter32	Read-only	The number of EAPOL-Start frames received on the port.
brcdDot1xAuthPortStatRxEAPLogOffFrames brcdIp.1.1.3.38.2.1.1.4 Syntax: Counter32	Read-only	The number of EAPOL-Logoff frames received on the port.
brcdDot1xAuthPortStatRxEAPRespIdFrames brcdIp.1.1.3.38.2.1.1.5 Syntax: Counter32	Read-only	The number of EAP frames other than response or identity frames received on the port.
brcdDot1xAuthPortStatTxEAPReqIdFrames brcdIp.1.1.3.38.2.1.1.6 Syntax: Counter32	Read-only	The number of EAP-request or -identity frames transmitted on the port.
brcdDot1xAuthPortStatRxEAPInvalidFrames brcdIp.1.1.3.38.2.1.1.7 Syntax: Counter32	Read-only	The number of invalid EAPOL frames received on the port.
brcdDot1xAuthPortStatEAPLastFrameVersionRx brcdIp.1.1.3.38.2.1.1.8 Syntax: Unsigned32	Read-only	The version of the last EAP frame received.
brcdDot1xAuthPortStatRxEAPRespOrIdFrames brcdIp.1.1.3.38.2.1.1.9 Syntax: Counter32	Read-only	The number of received EAP response or identity frames on the port.
brcdDot1xAuthPortStatRxLengthErrorFrame brcdIp.1.1.3.38.2.1.1.10 Syntax: Integer32	Read-only	The length of the EAP error frame received.
brcdDot1xAuthPortStatTxRequestFrames brcdIp.1.1.3.38.2.1.1.11 Syntax: Counter32	Read-only	The number of transmitted EAP request frames on the port.
brcdDot1xAuthPortStatLastEAPFrameSource brcdIp.1.1.3.38.2.1.1.12 Syntax: MacAddress	Read-only	The MAC address of the source from which the last EAP frame was received.

802.1X port configuration table

The following table contains configuration parameters specific to interfaces. The information in this table is equivalent to the output of the following CLI commands:

- **show dot1x port-control auto**
- **show dot1x port-control force-authorized**
- **show dot1x port-control force-unauthorized**

- **show dot1x configuration ethernet** *port*

Name, OID, and syntax	Access	Description
brcdDot1xAuthPortConfigPortControl brcdIp.1.1.3.38.3.1.1.1 Syntax: Integer	Read-write	The control type configured for the interface: • forceUnauthorized(1) - The controlled port is placed. unconditionally in the unauthorized state. • controlauto(2) - The controlled port is unauthorized until authentication takes place between the client and the RADIUS server. • forceAuthorized(3) - The controlled port is placed unconditionally in the authorized state.
brcdDot1xAuthPortConfigFilterStrictSec brcdIp.1.1.3.38.3.1.1.2 Syntax: EnabledStatus	Read-write	Enables or disables filter strict security on the interface: • enabled(1) • disabled(2)
brcdDot1xAuthPortConfigDot1xOnPort brcdIp.1.1.3.38.3.1.1.3 Syntax: EnabledStatus	Read-write	Enables or disables 802.1x on an interface.

802.1x port state table

The following table contains the port-specific parameters indicating the dynamic state that the interface is in. The information in this table is equivalent to the information in the output of the **show dot1x configuration***port* command.

Name, OID, and syntax	Access	Description
brcdDot1xAuthPortStateMacSessions brcdIp.1.1.3.38.4.1.1.1 Syntax: Unsigned32	Read-only	Number of 802.1x MAC sessions per port.
brcdDot1xAuthPortStateAuthMacSessions brcdIp.1.1.3.38.4.1.1.2 Syntax: Unsigned32	Read-only	Number of authorized MAC sessions per port.
brcdDot1xAuthPortStateOriginalPVID brcdIp.1.1.3.38.4.1.1.3 Syntax: Unsigned32	Read-only	The PVID (port's default VLAN ID) that was originally configured on the port (not dynamically assigned).
brcdDot1xAuthPortStatePVIDMacTotal brcdIp.1.1.3.38.4.1.1.4 Syntax: Unsigned32	Read-only	The number of devices transmitting untagged traffic on the port's PVID.

802.1X MAC sessions table

The following table contains information about the 802.1X MAC sessions. The information in this table is equivalent to the information in the output of the following CLI commands:

- **show dot1x mac-sessions**
- **show dot1x mac-sessions ip-address**

Name, OID, and syntax	Access	Description
brcdDot1xAuthMacSessionAuthMac brcdIp.1.1.3.38.5.1.1.1 Syntax: MacAddress	NA	MAC address of the client, which represents the user name used for RADIUS authentication.
brcdDot1xAuthMacSessionUserName brcdIp.1.1.3.38.5.1.1.2 Syntax: SnmpAdminString	Read-only	User name of the 802.1x MAC session.
brcdDot1xAuthMacSessionIncomingVlanId brcdIp.1.1.3.38.5.1.1.3 Syntax: VlanId	Read-only	Incoming VLAN ID.
brcdDot1xAuthMacSessionCurrentVlanId brcdIp.1.1.3.38.5.1.1.4 Syntax: VlanId	Read-only	The VLAN to which the port is currently assigned.
brcdDot1xAuthMacSessionAccessStatus brcdIp.1.1.3.38.5.1.1.5 Syntax: Integer	Read-only	Authentication state of the 802.1X MAC session: • permit(1) • blocked(2) • restrict(3) • init(4)
brcdDot1xAuthMacSessionMaxAge brcdIp.1.1.3.38.5.1.1.6 Syntax: Unsigned32	Read-only	Maximum age of the MAC session in which the MAC address is authenticated.
brcdDot1xAuthMacSessionAddrType brcdIp.1.1.3.38.5.1.1.7 Syntax: InetAddressType	Read-only	IP address type of the client (supplicant): • ipv4(1) • ipv6(2) Default: ipv4(1)
brcdDot1xAuthMacSessionIpAddr brcdIp.1.1.3.38.5.1.1.8 Syntax: InetAddress	Read-only	The IP address of the client.
brcdDot1xAuthMacSessionAging brcdIp.1.1.3.38.5.1.1.9 Syntax: Integer	Read-only	The type of aging being performed: • software(1) • hardware(2) • ena(3) - Aging has not started. • notapplicable(4) - Fake 802.1x MAC session.

802.1x authentication global administration

The following scalar object enables or disables 802.1X authentication globally.

Name, OID, and syntax	Access	Description
brcdDot1xAuthGlobalAdminConfigStatus brcdIp.1.1.3.38.6.1 Syntax: EnabledStatus	Read-write	Enables or disables 802.1x authentication globally. Default: disabled

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NTP MIB

Name, OID, and syntax	Access	Description
snNTP 1.3.6.1.4.1.1991.1.1.3.11		
snNTPGeneral 1.3.6.1.4.1.1991.1.1.3.11.1		

Name, OID, and syntax	Access	Description
snNTPTimeZone 1.3.6.1.4.1.1991.1.1.3.11.2 Syntax: Integer	Read-write	Time zone. The values are: alaska(0), aleutian(1), arizona(2), central(3), eastIndiana(4), eastern(5), hawaii(6), michigan(7), mountain(8), pacific(9), samoa(10), gmtPlus1200(11), gmtPlus1100(12), gmtPlus1000(13), gmtPlus0900(14), gmtPlus0800(15), gmtPlus0700(16), gmtPlus0600(17), gmtPlus0500(18), gmtPlus0400(19), gmtPlus0300(20), gmtPlus0200(21), gmtPlus0100(22), gmt(23), gmtMinus0100(24), gmtMinus0200(25), gmtMinus0300(26), gmtMinus0400(27), gmtMinus0500(28), gmtMinus0600(29),

Name, OID, and syntax	Access	Description
		gmtMinus0700(30), gmtMinus0800(31), gmtMinus0900(32), gmtMinus1000(33), gmtMinus1100(34), gmtMinus1200(35), gmtPlus1130(36), gmtPlus1030(37), gmtPlus0930(38), gmtPlus0630(39), gmtPlus0530(40), gmtPlus0430(41), gmtPlus0330(42), gmtMinus0330(43), gmtMinus0830(44), gmtMinus0930(45) The default value is 'gmt'.
snNTPSummerTimeEnable 1.3.6.1.4.1.1991.1.1.3.11.3 Syntax: Integer disabled(0), enabled (1)	Read-write	Enable or disable daylight saving time. This enables daylight saving time for time or date starting 02:00:00 of first Sunday in April and ending 02:00:00 of last Sunday in October every year. The default value is '0'.
snNTPSystemClock 1.3.6.1.4.1.1991.1.1.3.11.4 Syntax: Octet string (size (7))	Read-write	System clock, in the following format: octet 0: seconds after the minute [0-60] octet 1: minutes after the hour [0-59] octet 2: hours since midnight [0-23] octet 3: day of the month [1-31] octet 4: months since January [0-11] octet 5: years since 1900 octet 6: days since Sunday [0-6] Setting this object requires valid value in octets 0 to 5, and zero in octet 6. System clock can be disabled by setting zero to all octets.

MAC Filters

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MAC filters

MAC layer filtering enables you to build access lists based on MAC layer headers in the Ethernet or IEEE 802.3 frame. You can filter on the source and destination MAC addresses as well as other information, such as the EtherType, LLC1 DSAP or SSAP numbers, and a SNAP EtherType. The filters apply to incoming traffic only.

MAC filter table

The objects in the following table provide information on MAC filters.

Name, OID, and syntax	Access	Description
snMacFilterTable brcdIp.1.1.3.10.1	None	The MAC filter table.
snMacFilterIndex brcdIp.1.1.3.10.1.1.1 Syntax: Integer32	Read-only	The table index for a filter entry.
snMacFilterAction brcdIp.1.1.3.10.1.1.2 Syntax: Integer	Read-write	Indicates what action is to be taken if the MAC packet matches this filter: • deny(0) • permit(1)
snMacFilterSourceMac brcdIp.1.1.3.10.1.1.3 Syntax: MAC address	Read-write	Shows the source MAC address.
snMacFilterSourceMask brcdIp.1.1.3.10.1.1.4 Syntax: MAC address	Read-write	Shows the source MAC subnet mask.
snMacFilterDestMac brcdIp.1.1.3.10.1.1.5 Syntax: MAC address	Read-write	Shows the destination MAC address.
snMacFilterDestMask brcdIp.1.1.3.10.1.1.6 Syntax: MAC address	Read-write	Shows the destination MAC subnet mask.
snMacFilterOperator brcdIp.1.1.3.10.1.1.7 Syntax: Integer	Read-write	Indicates the type of comparison to perform: • equal(0) • notEqual(1) • less(2) • greater(3)

Name, OID, and syntax	Access	Description
snMacFilterFrameType brcdIp.1.1.3.10.1.1.8 Syntax: Integer	Read-write	Indicates the frame type: • notUsed(0) • ethernet(1) • LLC(2) • snap(3)
snMacFilterFrameTypeNum brcdIp.1.1.3.10.1.1.9 Syntax: Integer	Read-write	Shows the frame type number. Valid values: 0 - 65535 0 means that this object is not applicable.
snMacFilterRowStatus brcdIp.1.1.3.10.1.1.10 Syntax: Integer	Read-write	Controls the management of the table rows. The following values can be written: • delete(3) - Delete the row. • create(4) - Create a new row. • modify(5) - Modify an existing row. If the row exists, then a SET with a value of create(4) returns a "bad value" error. Deleted rows are removed from the table immediately. The following values can be returned on reads: • noSuch(0) - No such row. • invalid(1) - Row is inoperative. • valid(2) - Row exists and is valid.

MAC filter port access table

The following table shows information about the MAC filter port access.

NOTE
The snMacFilterPortAccessTable is deprecated.

Name, OID, and syntax	Access	Description
snMacFilterPortAccessTable brcdIp.1.1.3.10.2	None	MAC filter port access table.
snMacFilterPortAccessPortIndex brcdIp.1.1.3.10.2.1.1 Syntax: Integer	Read-only	The port index. The port index value is from 1 through 42. For virtual router interfaces: • 15 - Slot number • 1 through 60 - Virtual router port, which is the port number.
snMacFilterPortAccessFilters brcdIp.1.1.3.10.2.1.2 Syntax: Octet String	Read-write	Shows the filter numbers of the ports. The first octet corresponds to the first filter number, the second octet to the second filter number, and so on.

Name, OID, and syntax	Access	Description
snMacFilterPortAccessRowStatus brcdIp.1.1.3.10.2.1.3 Syntax: Integer	Read-write	Controls the management of the table rows. The following values can be written: • delete(3) - Delete the row. • create(4) - Create a new row. • modify(5) - Modify an existing row. If the row exists, then a SET with a value of create(4) returns a "bad value" error. Deleted rows are removed from the table immediately. The following values can be returned on reads: • noSuch(0) - No such row. • invalid(1) - Row is inoperative. • valid(2) - Row exists and is valid.

Port MAC Security

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Port MAC security table

The following table shows the same information as the **show port security mac** command.

Name, OID, and syntax	Access	Description
snPortMacSecurityTable brcdIp.1.1.3.24.1.1.1	None	The port MAC security table.
snPortMacSecurityIfIndex brcdIp.1.1.3.24.1.1.1.1.1 Syntax: Unsigned32	Read-only	The ifIndex value (ID) of the Ethernet interface on which Port MAC security is enabled.
snPortMacSecurityResource brcdIp.1.1.3.24.1.1.1.1.2 Syntax: Integer	Read-only	Indicates how the MAC addresses on an interface are secured: • local(1) - Local resource was used. The interface secures at least one secure MAC address entry. Each interface can store up to 64 local resources. • shared(2) - Shared resource was used. When an interface has secured enough MAC addresses to reach its limit for local resources, it can secure additional MAC addresses by using global or shared resources.
snPortMacSecurityQueryIndex brcdIp.1.1.3.24.1.1.1.1.3 Syntax: Unsigned32	Read-only	An index for a MAC address entry that was secured for this interface.
snPortMacSecurityMAC brcdIp.1.1.3.24.1.1.1.1.4 Syntax: Integer	Read-only	The secured MAC address.
snPortMacSecurityAgeLeft brcdIp.1.1.3.24.1.1.1.1.5 Syntax: Unsigned32	Read-only	The number of minutes the MAC address will remain secure. A value of 0 indicates no aging is in effect.
snPortMacSecurityShutdownStatus brcdIp.1.1.3.24.1.1.1.1.6 Syntax: Integer	Read-only	Indicates if the interface has been shut down due to a security violation: • up(1) - The port is up. • down(2) - The port has been shut down.

Name, OID, and syntax	Access	Description
snPortMacSecurityShutdownTimeLeft brcdIp.1.1.3.24.1.1.1.1.7 Syntax: Unsigned32	Read-only	If the value of Port MAC security table is down(2), this object shows the number of seconds before it is enabled again. If the value is up(1), this object shows 0.
snPortMacSecurityVlanId brcdIp.1.1.3.24.1.1.1.1.8 Syntax: Unsigned32	Read-only	Shows the VLAN membership of this interface. This object shows a value from 1 through 65535.

Port MAC security module statistics table

The following table shows the same information as the **show port security statistics** *module* command.

Name, OID, and syntax	Access	Description
snPortMacSecurityModuleStatTable brcdIp.1.1.3.24.1.1.2	None	The port MAC security module statistics table that shows the port MAC security statistics for each module.
snPortMacSecurityModuleStatSlotNum brcdIp.1.1.3.24.1.1.2.1.1 Syntax: Integer	Read-only	The slot number of the port MAC security module.
snPortMacSecurityModuleStatTotalSecurityPorts brcdIp.1.1.3.24.1.1.2.1.2 Syntax: Unsigned32	Read-only	The total number of Ethernet interfaces on which MAC security is configured in this module.
snPortMacSecurityModuleStatTotalMACs brcdIp.1.1.3.24.1.1.2.1.3 Syntax: Unsigned32	Read-only	The total number of secure MAC addresses learned or configured in this module.
snPortMacSecurityModuleStatViolationCounts brcdIp.1.1.3.24.1.1.2.1.4 Syntax: Unsigned32	Read-only	The number of security violations that occurred in this module.
snPortMacSecurityModuleStatTotalShutdownPorts brcdIp.1.1.3.24.1.1.2.1.5 Syntax: Unsigned32	Read-only	The number of Ethernet interfaces in this module that were shut down due to security violations.

Port MAC security interface table

The following table shows the same information as the **show port security ethernet** *slot/port* command.

Name, OID, and syntax	Access	Description
snPortMacSecurityIntfContentTable brcdIp.1.1.3.24.1.1.3	None	The port MAC security interface table that shows the port MAC security statistics for an Ethernet interface.
snPortMacSecurityIntfContentIfIndex brcdIp.1.1.3.24.1.1.3.1.1 Syntax: InterfaceIndex	None	Shows the ifIndex value of the local interface.

Name, OID, and syntax	Access	Description
snPortMacSecurityIntfContentSecurity brcdIp.1.1.3.24.1.1.3.1.2 Syntax: Integer	Read- write	Indicates whether MAC port security is enabled or disabled on this interface: • disabled(0) • enabled(1)
snPortMacSecurityIntfContentViolationType brcdIp.1.1.3.24.1.1.3.1.3 Syntax: Integer	Read-write	The port security violation type for this interface: • shutdown(0) • restricted(1)
snPortMacSecurityIntfContentShutdownTime brcdIp.1.1.3.24.1.1.3.1.4 Syntax: Unsigned32	Read-write	If snPortMacSecurityIntfContentViolationType is 0 (shutdown), this value indicates the number of seconds the interface shuts down when the violation occurs. If snPortMacSecurityIntfContentViolationType is 1 (restrict), this value will always be 0.
snPortMacSecurityIntfContentShutdownTimeLeft brcdIp.1.1.3.24.1.1.3.1.5 Syntax: Unsigned32	Read-only	If snPortMacSecurityIntfContentViolationType is 0 (shutdown), this value indicates the number of seconds before this interface will be re-enabled. If snPortMacSecurityIntfContentViolationType is 1 (restrict), this value will always be 0.
snPortMacSecurityIntfContentAgeOutTime brcdIp.1.1.3.24.1.1.3.1.6 Syntax: Unsigned32	Read-write	The amount of time, in minutes, the MAC addresses learned on this interface will remain secure. A value of 0 indicates no aging is in effect.
snPortMacSecurityIntfContentMaxLockedMacAllowed brcdIp.1.1.3.24.1.1.3.1.7 Syntax: Unsigned32	Read-write	The maximum number of secure MAC addresses that can be locked to this interface.
snPortMacSecurityIntfContentTotalMACs brcdIp.1.1.3.24.1.1.3.1.8 Syntax: Unsigned32	Read-only	The total number of secure MAC addresses that are locked to this interface.
snPortMacSecurityIntfContentViolationCounts brcdIp.1.1.3.24.1.1.3.1.9 Syntax: Unsigned32	Read-only	The total number of security violations that occurred on this interface.

Port MAC security interface MAC table

The following table shows the same information as the **show port security mac ethernet** *slot/port* command.

Name, OID, and syntax	Access	Description
snPortMacSecurityIntfMacTable brcdIp.1.1.3.24.1.1.4	None	The port MAC security interface MAC table that shows the port MAC security status for each Ethernet interface.
snPortMacSecurityIntfMacIfIndex brcdIp.1.1.3.24.1.1.4.1.1 Syntax: Integer	Read-only	Shows the ifIndex value of the local interface.

Name, OID, and syntax	Access	Description
snPortMacSecurityIntfMacAddress brcdIp.1.1.3.24.1.1.4.1.2 Syntax: MAC Address	Read-only	The secure MAC addresses for this local Ethernet interface on which the secure MAC address is configured and learned. The maximum number of the secure MAC addresses is restricted by the object snPortMacSecurityIntfContentMaxLockedMacAllowed.
snPortMacSecurityIntfMacVlanId brcdIp.1.1.3.24.1.1.4.1.3 Syntax: Unsigned32	Read-write	The VLAN membership of this interface. A value of zero indicates it is not applicable.
snPortMacSecurityIntfMacRowStatus brcdIp.1.1.3.24.1.1.4.1.4 Syntax: Integer	Read-write	Controls the management of the table rows. The following values can be written: • delete(3) - Delete the row. • create(4) - Create a new row. If the row exists, then a SET with a value of create(4) returns a "bad value" error. Deleted rows are removed from the table immediately. The following values can be returned on reads: • noSuch(0) - No such row. • invalid(1) - Row is inoperative. • valid(2) - Row exists and is valid.

Port MAC security autosave MAC table

The following table shows the same information as the **show port security autosave** command.

Name, OID, and syntax	Access	Description
snPortMacSecurityAutosaveMacTable brcdIp.1.1.3.24.1.1.5	None	The port MAC security autosave MAC table that shows the secure MAC addresses that were saved automatically.
snPortMacSecurityAutosaveMacIfIndex brcdIp.1.1.3.24.1.1.5.1.1 Syntax: Integer32	Read-only	Shows the ifIndex value of the local interface.
snPortMacSecurityAutosaveMacResource brcdIp.1.1.3.24.1.1.5.1.2 Syntax: Integer32	Read-only	Indicates the resource used to autosave secure MAC addresses: • 1 - Local • 2 - Shared
snPortMacSecurityAutosaveMacQueryIndex brcdIp.1.1.3.24.1.1.5.1.3 Syntax: Unsigned32	Read-only	The index entry within the given resource of the local interface on which MAC port security is autosaved.
snPortMacSecurityAutosaveMacAddress brcdIp.1.1.3.24.1.1.5.1.4 Syntax: MAC Address	Read-only	The secure MAC addresses for this local Ethernet interface on which the secure MAC address is autosaved.

Port MAC security global MIB group

The following table shows the global MIBs for MAC port security.

Name, OID, and syntax	Access	Description
snPortMacGlobalSecurityFeature brcdIp.1.1.3.24.1.2.1 Syntax: Integer	Read-write	Indicates whether port security for this device is disabled or enabled: • 0 - Disabled • 1 - Enabled
snPortMacGlobalSecurityAgeOutTime brcdIp.1.1.3.24.1.2.2 Syntax: Unsigned32	Read-write	The amount of time, in minutes, the MAC addresses learned on this device will remain secure. A value of 0 indicates no aging is in effect.
snPortMacGlobalSecurityAutosave brcdIp.1.1.3.24.1.2.3 Syntax: Unsigned32	Read-write	The port security autosave value for this device.

Port monitor table

The following table shows the status of port monitoring on an interface.

Name, OID, and syntax	Access	Description
snPortMonitorTable brcdIp.1.1.3.25.1	None	The port monitor table.
snPortMonitorIfIndex brcdIp.1.1.3.25.1.1.1	None	Shows the ifIndex value of the local interface.
snPortMonitorMirrorList brcdIp.1.1.3.25.1.1.2 Syntax: DisplayString	Read-write	Lists the monitoring status of each port. The values in this object are space delimited. They consist of a sequence of a port's ifIndex followed by the port's monitoring mode. Port monitoring mode can be one of the following: • 0 - Monitoring is off. • 1 - The port will monitor input traffic. • 2 - The port will monitor output traffic. • 3 - The port will monitor both input and output traffic. For example, you may see the following values: 65 2 66 1 "65" may represent port 2/1 and "66" port 2/2. The entry means that port 2/1 is monitoring output traffic. Port 2/2 is monitoring input traffic.

MAC Authentication MIB Definition

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Multi-device port authentication

Multi-device port authentication is also known as MAC authentication. The following tables describe the multi-device port authentication MIB objects.

The following global objects are available for multi-device port authentication.

Name, OID, and syntax	Access	Description
snMacAuthClearGlobalCmd brcdIp.1.1.3.28.1.1 Syntax: Integer	Read-write	Clears MAC authentication on a global level: • valid(0) - An SNMP-GET of this MIB shows that it is a valid command. • clear(1) - Represents a clear MAC authentication table for all ports.
snMacAuthGlobalConfigState brcdIp.1.1.3.28.1.2 Syntax: Integer	Read-write	Enables or disables MAC authentication on a global level.

MAC clear interface multi-device port authentication objects

The following clear interface objects are available for multi-device port authentication.

Name, OID, and syntax	Access	Description
snMacAuthClearIFCmdTable brcdIp.1.1.3.28.2	None	The status of clearing a MAC authentication entry for an interface.
snMacAuthClearIfCmdIndex brcdIp.1.1.3.28.2.1.1 Syntax: InterfaceIndex	None	The ifIndex value of the local interface on which a clear command is issued and monitored.
snMacAuthClearIfCmdAction brcdIp.1.1.3.28.2.1.2 Syntax: InterfaceIndex	Read-write	The action value of the local interface: • valid(0) - An SNMP-GET of this command shows that it is valid. • clear(1) - Represents clearing a MAC authentication entry for an interface.

Multi-device port authentication objects

The following objects are available for multi-device port authentication.

Name, OID, and syntax	Access	Description
snMacAuthTable brcdIp.1.1.3.28.3	None	Displays the MAC authentication table.
snMacAuthIfIndex brcdIp.1.1.3.28.3.1.1 Syntax: InterfaceIndex	None	In order to identify a particular interface, this object identifies the instance of the ifIndex object, defined in RFC 2863.
snMacAuthVlanId brcdIp.1.1.3.28.3.1.2 Syntax: Integer	None	The ID of a VLAN of which the port is a member. The port must be untagged. For a tagged port that belongs to multiple VLANs, this object returns 0, which is an invalid VLAN ID value.
snMacAuthMac brcdIp.1.1.3.28.3.1.3 Syntax: MacAddress	None	MAC address to be authenticated.
snMacAuthState brcdIp.1.1.3.28.3.1.4 Syntax: Integer	Read-only	The state of MAC authentication.
snMacAuthTimeStamp brcdIp.1.1.3.28.3.1.5 Syntax:Object-Type	Read-only	Time stamp at which the MAC address was authenticated or failed to be authenticated.
snMacAuthAge brcdIp.1.1.3.28.3.1.6 Syntax: Integer	Read-only	Age of the MAC session in which the MAC address is authenticated.
snMacAuthDot1x brcdIp.1.1.3.28.3.1.7 Syntax: Integer	Read-only	Indicates whether dot1x is enabled or not.

Multi-device port authentication clear sessions

The following clear sessions objects are available for multi-device port authentication.

Name, OID, and syntax	Access	Description
snMacAuthClearMacSessionTable brcdIp.1.1.3.28.4	None	The status of clearing a MAC session entry indexed by a MAC address.
snMacAuthClearMacSessionEntry brcdIp.1.1.3.28.4.1	None	An entry of clearing a MAC session entry indexed by a MAC address.
snMacAuthClearMacSessionIfIndex brcdIp.1.1.3.28.4.1.1 Syntax: InterfaceIndex	None	The ifIndex value of the local interface on which a clear command is issued and monitored.
snMacAuthClearMacSessionMac brcdIp.1.1.3.28.4.1.2 Syntax: MacAddress	None	A MAC session entry indexed by a MAC address.
snMacAuthClearMacSessionAction brcdIp.1.1.3.28.4.1.3 Syntax: Integer	Read-write	The action value of the clear MAC session: • valid(0) - An SNMP-GET of this MIB shows that it is a valid command. • clear(1) - Represents clearing a MAC session entry indexed by a MAC address.

DHCP Snooping MIB Definition

- DHCP Snooping global scalar object....241
- DHCP Snooping VLAN configuration table....241
- DHCP Snooping interface configuration table....241
- DHCP Snooping binding database table....242

DHCP Snooping global scalar object

One scalar object can clear all entries in the DHCP binding database.

Name, OID, and syntax	Access	Description
fdryDhcpSnoopGlobalClearOper.0 1.3.6.1.4.1.1991.1.1.3.36.1.1 Syntax: ClearAction	Read-write	Determines if all entries in the DHCP database are cleared: • valid(0) - This value is always returned when the variable is read. • clear(1) - Clears all entries in the DHCP binding database.

DHCP Snooping VLAN configuration table

The following table controls DHCP snooping per-VLAN configuration.

Name, OID, and syntax	Access	Description
fdryDhcpSnoopVlanConfigTable 1.3.6.1.4.1.1991.1.1.3.36.2.1	Not-accessible	A table controls DHCP Snooping per VLAN. When a VLAN is created in a device supporting this table, a corresponding entry of this table is added.
fdryDhcpSnoopVlanVLanId 1.3.6.1.4.1.1991.1.1.3.36.2.1.1.1 Syntax: VlanIndex	Not-accessible	This object indicates the VLAN number on which DHCP Snooping is configured.
fdryDhcpSnoopVlanDhcpSnoopEnable 1.3.6.1.4.1.1991.1.1.3.36.2.1.1.2 Syntax: TruthValue	Read-write	This object indicates whether DHCP Snooping is enabled in this VLAN. If set to 1, DHCP snooping is enabled. If set to 2 it is disabled.

DHCP Snooping interface configuration table

The following objects is used to configure interface level DHCP Snooping.

Name, OID, and syntax	Access	Description
fdryDhcpSnoopIfConfigTable 1.3.6.1.4.1.1991.1.1.3.36.3.1	Not-accessible	This table allows you to configure the trust state for DHCP Snooping at each physical interface.

Name, OID, and syntax	Access	Description
fdryDhcpSnoopIfTrustValue 1.3.6.1.4.1.1991.1.1.3.36.3.1.1.1 Syntax: TruthValue	Read-write	DHCP Packets received on this interface will be subjected to DHCP checks. This object indicates whether the interface is trusted for DHCP Snooping. If this object is set to 1, the interface is trusted. DHCP packets coming to this interface will be forwarded without checking. If this object is set to 2, the interface is not trusted.

DHCP Snooping binding database table

The following table displays DHCP Snooping entries.

Name, OID, and syntax	Access	Description
fdryDhcpSnoopBindTable 1.3.6.1.4.1.1991.1.1.3.36.4.1	Not-accessible	This table provides the information about the DHCP Snooping binding database learned by the device.
fdryDhcpSnoopBindIpAddr 1.3.6.1.4.1.1991.1.1.3.36.4.1.1.1 Syntax: IpAddress	Not-accessible	The device IP address.
fdryDhcpSnoopBindMacAddr 1.3.6.1.4.1.1991.1.1.3.36.4.1.1.2 Syntax: MacAddress	Not-accessible	The device MAC address.
fdryDhcpSnoopBindType 1.3.6.1.4.1.1991.1.1.3.36.4.1.1.3 Syntax: ArpType	Not-accessible	The type of the ARP entry: • other(1) • static(2) • dynamic(3) • inspect(4) • dhcp(5) • dynamicDhcp(6) • staticDhcp(7) • host(8)
fdryDhcpSnoopBindState 1.3.6.1.4.1.1991.1.1.3.36.4.1.1.4 Syntax: ArpState	Not-accessible	The state of the ARP entry: • other(1) • valid(2) • pending(3)
fdryDhcpSnoopBindPort 1.3.6.1.4.1.1991.1.1.3.36.4.1.1.5 Syntax: DisplayString	Not-accessible	The port of the ARP entry.
fdryDhcpSnoopBindVlanId 1.3.6.1.4.1.1991.1.1.3.36.4.1.1.6 Syntax: VlanIndex	Not-accessible	This object indicates the VLAN number on which DHCP Snooping is configured.
fdryDhcpSnoopBindClearOper 1.3.6.1.4.1.1991.1.1.3.36.4.1.1.7 Syntax: ClearAction	Not-accessible	This object allows you to clear the entry from the DHCP binding database: • valid(0) - Always returned when the variable is read. • clear(1) - Clears this entry in the DHCP binding database.

IP Source Guard MIB Definition

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- IP source guard per port per VLAN configuration table..... 243
- IP source guard binding table..... 243

IP source guard interface configuration table

The following objects are used to configure IP source guard on each interface.

Name, OID, and syntax	Access	Description
fdryIpSrcGuardIfConfigTable 1.3.6.1.4.1.1991.1.1.3.37.1.1	Not-accessible	A table provides the mechanism to configure enabling or disabling IP Source Guard purpose at each physical interface.
fdryIpSrcGuardIfEnable 1.3.6.1.4.1.1991.1.1.3.37.1.1.1.1 Syntax: TruthValue	Read-write	This object indicates whether IP source guard is enabled on this interface. If this object is set to "true", IP source guard is enabled. Traffic coming to this interface will be forwarding the traffic from the list of IP addresses obtained from DHCP Snooping. Otherwise, it is denied. If this object is set to “false”, IP source guard is disabled.

IP source guard per port per VLAN configuration table

The following objects are used to configure IP source guard on per port per VLAN.

Name, OID, and syntax	Access	Description
fdryIpSrcGuardPortVlanConfigTable 1.3.6.1.4.1.1991.1.1.3.37.2.1	Not-accessible	A table provides the mechanism to configure enabling or disabling IP Source Guard purpose per port per VLAN.
fdryIpSrcGuardPortVlanPortId 1.3.6.1.4.1.1991.1.1.3.37.2.1.1.1 Syntax: InterfaceIndex	Not-accessible	The ifIndex of the port for IP Source Guard purpose per port per VLAN.
fdryIpSrcGuardPortVlanVlanId 1.3.6.1.4.1.1991.1.1.3.37.2.1.1.2 Syntax: VlanIndex	Not-accessible	The number of VLAN for IP Source Guard purpose per port per VLAN.
fdryIpSrcGuardPortVlanEnable 1.3.6.1.4.1.1991.1.1.3.37.2.1.1.3 Syntax: TruthValue	Read-write	This object indicates whether IP source guard is enabled at this interface and this VLAN number. If this object is set to “true”, IP source guard per port per VLAN is enabled. If this object is set to “false”, IP source guard per port per VLAN is disabled.

IP source guard binding table

The following table is used to configure IP source entries.

IP Source Guard MIB Definition

IP source guard binding table

Name, OID, and syntax	Access	Description
fdryIpSrcGuardBindTable 1.3.6.1.4.1.1991.1.1.3.37.3.1	Not-accessible	A table provides the information of IP addresses used IP Source Guard purpose at each physical interface with or without specific VLAN memberships.
fdryIpSrcGuardBindIpAddr 1.3.6.1.4.1.1991.1.1.3.37.3.1.1.1 Syntax: IpAddress	Not-accessible	The device IP address.
fdryIpSrcGuardBindVlanId 1.3.6.1.4.1.1991.1.1.3.37.3.1.1.2 Syntax: Unsigned 32	Read-create	This object indicates the specific VLAN memberships on this interface. The VLAN number is optional. If you configure a VLAN number, the binding applies only to that VLAN. If you do not configure a VLAN number, the static applies to all VLANs associated with the port. In this case, the VLAN number will be displayed as “0”.
fdryIpSrcGuardBindRowStatus 1.3.6.1.4.1.1991.1.1.3.37.3.1.1.3 Syntax: RowStatus	Read-create	This variable is used to create, or delete a row in this table. When a row in this table is in active(1) state, no objects in that row can be modified except this object. To create a new static entry use integer 4 and to delete an existing entry use integer 6 along with fdryIpSrcGuardBindVlanId.
fdryIpSrcGuardBindMode 1.3.6.1.4.1.1991.1.1.3.37.3.1.1.4 Syntax: BindMode	Read-only	The mode of the IP source guard entry: • other(1) • active(2) • inactive(3)
fdryIpSrcGuardBindType 1.3.6.1.4.1.1991.1.1.3.37.3.1.1.5 Syntax: BindType	Read-only	The type of the IP source guard entry: • other(1) • ip(2)

DAI MIB Definition

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- DAI interface configuration table..... 245
- DAI entry table..... 245

DAI VLAN configuration table

The following objects are used to configure Dynamic ARP Inspection (DAI) VLAN.

Name, OID, and syntax	Access	Description
fdryDaiVlanConfigTable 1.3.6.1.4.1.1991.1.1.3.35.1.1	Not-accessible	This table provides the mechanism to control DAI per VLAN.
fdryDaiVlanVLanId 1.3.6.1.4.1.1991.1.1.3.35.1.1.1.1 Syntax: VlanIndex	Not-accessible	This object indicates the VLAN number on which DAI is configured.
fdryDaiVlanDynArpInspEnable 1.3.6.1.4.1.1991.1.1.3.35.1.1.1.2 Syntax: TruthValue	Not-accessible	This object indicates whether DAI is enabled in this VLAN. If this object is set to 1, DAI is enabled. If this object is set to 2, DAI is disabled.

DAI interface configuration table

The following objects are used to configure DAI on each interface.

Name, OID, and syntax	Access	Description
fdryDaiIfConfigTable 1.3.6.1.4.1.1991.1.1.3.35.2.1	Not-accessible	This table allows you to configure the trust state for DAI purposes on each physical interface.
fdryDaiIfTrustValue 1.3.6.1.4.1.1991.1.1.3.35.2.1.1.1 Syntax: TruthValue	Read-write	This object indicates whether the interface is trusted for DAI. If this object is set to 1, the interface is trusted. ARP packets coming to this interface will be forwarded without being checked. If this object is set to 2, the interface is not trusted. ARP packets received on this interface will be subjected to ARP inspection.

DAI entry table

The following table is used to display the DAI entries.

DAI MIB Definition
DAI entry table

Name, OID, and syntax	Access	Description
fdryDaiArpInspectTable 1.3.6.1.4.1.1991.1.1.3.35.3.1	Not-accessible	This table controls DAI entries. When an IP address to MAC address mapping entry is created on a device supporting this table, a corresponding entry of this table will be added.
fdryDaiArpInspectIpAddr 1.3.6.1.4.1.1991.1.1.3.35.3.1.1.1 Syntax: IpAddress	Not-accessible	The IP address of the device.
fdryDaiArpInspectMacAddr 1.3.6.1.4.1.1991.1.1.3.35.3.1.1.2 Syntax: MacAddress	Read-create	The MAC address of the device.
fdryDaiArpInspectRowStatus 1.3.6.1.4.1.1991.1.1.3.35.3.1.1.3 Syntax: RowStatus	Read-create	This variable is used to create or delete a row in this table. When a row in this table is in active(1) state, no objects in that row can be modified except this object.
fdryDaiArpInspectType 1.3.6.1.4.1.1991.1.1.3.35.3.1.1.4 Syntax: ArpType	Read-only	The type of the ARP entry: • other(1) • static(2) • dynamic(3) • inspect(4) • dhcp(5) • dynamicDhcp(6) • staticDhcp(7) • host(8)
fdryDaiArpInspectState 1.3.6.1.4.1.1991.1.1.3.35.3.1.1.5 Syntax: ArpState	Read-only	The state of the ARP entry: • other(1) • valid(2) • pending(3)
fdryDaiArpInspectAge 1.3.6.1.4.1.1991.1.1.3.35.3.1.1.6 Syntax: Unsigned32	Read-only	The timer of the ARP entry.
fdryDaiArpInspectPort 1.3.6.1.4.1.1991.1.1.3.35.3.1.1.7 Syntax: DisplayString	Read-only	The port of the ARP entry.

IPv4 ACL MIB Definition

- ACL global MIB objects 247
- IPv4 ACL table 247
- ACL bind to port table 252

ACL global MIB objects

The following table lists the global MIB objects of the ACL table.

Name, OID, and syntax	Access	Description
snAgAclGlobal brcdIp.1.2.2.15.1	None	
snAgAclGblCurRowIndex brcdIp.1.2.2.15.1.1 Syntax: Integer	Read-only	The current row index of the ACL table entry.

IPv4 ACL table

The IPv4 ACL table contains the access control lists (ACLs) defined for the device. The snAgAclGblCurRowIndex object determines the number of ACLs that can be added to this table.

Use the following table to create IPv6 ACLs on FastIron IPv6 devices. Apply the ACLs to interfaces using snAgAclBindToPortTable.

Name, OID, and syntax	Access	Description
snAgAclTable brcdIp.1.2.2.15.2	None	Access control list table.
snAgAclIndex brcdIp.1.2.2.15.2.1.1 Syntax: Integer32	Read-only	Shows the index for an ACL entry that is associated with this ACL. This number must be unique among all the entries, even though the value of other objects for an entry may be the same as those of another entry.
snAgAclNumber brcdIp.1.2.2.15.2.1.2 Syntax: AclNumber	Read-write	The access control list number for an entry: • 1 to 99 - Standard access list • 100 to 199 - Extended access list
snAgAclName brcdIp.1.2.2.15.2.1.3 Syntax: DisplayString	Read-write	Shows the ACL name.

IPv4 ACL MIB Definition
IPv4 ACL table

Name, OID, and syntax	Access	Description
snAgAclAction brcdIp.1.2.2.15.2.1.4 Syntax: Integer	Read-write	Indicates if IP packets that matched this access control list are permitted or denied: • deny(0) • permit(1) The default action when no ACLs are configured on a device is to permit all traffic. However, once you configure an ACL and apply it to a port, the default action for that port is to deny all traffic that is not explicitly permitted on the port. • If you want to tightly control access, configure ACLs consisting of permit entries for the access you want to permit. The ACLs implicitly deny all other access. • If you want to secure access in environments with many users, you may want to configure ACLs that consist of explicit deny entries, and then add an entry to permit all access to the end of each ACL. The software permits packets that are not denied by the deny entries.
snAgAclProtocol brcdIp.1.2.2.15.2.1.5 Syntax: IPProtocol	Read-write	Indicates the protocol denied or permitted by the extended ACL. The protocol can be one of the following well-known names or any protocol number from 0 through 255: • Internet Control Message Protocol (ICMP) • Internet Group Management Protocol (IGMP) • Internet Gateway Routing Protocol (IGRP) • Internet Protocol (IP) • Open Shortest Path First (OSPF) • Transmission Control Protocol (TCP) • User Datagram Protocol (UDP) Entering “0” indicates any protocol.
snAgAclSourceIp brcdIp.1.2.2.15.2.1.6 Syntax: IpAddress	Read-write	Applies only to extended ACLs. Identifies the source IP address of the packet that will either be permitted or denied.
snAgAclSourceMask brcdIp.1.2.2.15.2.1.7 Syntax: IpAddress	Read-write	Applies only to extended ACLs. Identifies the source IP subnet mask of the packet that will either be permitted or denied.

Name, OID, and syntax	Access	Description
snAgAclSourceOperator brcdIp.1.2.2.15.2.1.8 Syntax: Operator	Read-write	Applies only to TCP or UDP ports in extended ACLs. Indicates how the policy will be compared to the ports specified in the IPv4 ACL table objects: • eq(0) - The policy applies only to packets whose source port number matches the port number specified in the objects. • neq(1) - The policy applies only to packets whose source port numbers are not included in the specified range. • lt(2) - The policy applies only to packets whose source port numbers are less than those in the specified range. • gt(3) - The policy applies only to packets whose source port numbers are greater than those in the specified range. • range(4) - The policy applies to packets whose source port numbers fall within the specified range. • undefined(7)
snAgAclSourceOperand1 brcdIp.1.2.2.15.2.1.9 Syntax: Integer	Read-write	Applies only to TCP or UDP ports in extended ACLs. Shows the source port number to be matched. If used with the IPv4 ACL table object, it defines the start of the range of source port numbers to be matched. Valid values: 0 - 65535. A value of 0 means that this object is not applicable.
snAgAclSourceOperand2 brcdIp.1.2.2.15.2.1.10 Syntax: Integer	Read-write	Applies only to TCP or UDP ports in extended ACLs. Used with the IPv4 ACL table object, it defines the end of the range of source port numbers to be matched. Valid values: 0 - 65535. A value of 0 means that this object is not applicable.
snAgAclDestinationIp brcdIp.1.2.2.15.2.1.11 Syntax: IpAddress	Read-write	Applies only to extended ACLs. Identifies the destination IP address of the packet that can either be permitted or denied.
snAgAclDestinationMask brcdIp.1.2.2.15.2.1.12 Syntax: IpAddress	Read-write	Applies only to extended ACLs. Identifies the destination subnet mask of the packet that can either be permitted or denied.

IPv4 ACL MIB Definition
IPv4 ACL table

Name, OID, and syntax	Access	Description
snAgAclDestinationOperator brcdIp.1.2.2.15.2.1.13 Syntax: Operator	Read-write	Applies only to TCP or UDP ports in extended ACLs. Indicates how the policy will be compared to the ports specified in the IPv4 ACL table objects: • eq(0) - The policy applies only to packets whose destination port number matches the port number specified in the objects. • neq(1) - The policy applies only to packets whose destination port numbers are not included in the specified range. • lt(2) - The policy applies only to packets whose destination port numbers are less than those in the specified range. • gt(3) - The policy applies only to packets whose destination port numbers are greater than those in the specified range. • range(4) - The policy applies to packets whose destination port numbers fall within the specified range. • undefined(7)
snAgAclDestinationOperand1 brcdIp.1.2.2.15.2.1.14 Syntax: Integer	Read-write	Applies only to TCP or UDP ports in extended ACLs. Shows the destination port number to be matched. If used with the IPv4 ACL table object, it defines the start of the range of destination port numbers to be matched. Valid values: 0 - 65535. A value of 0 means that this object is not applicable.
snAgAclDestinationOperand2 brcdIp.1.2.2.15.2.1.15 Syntax: Integer	Read-write	Applies only to TCP or UDP ports in extended ACLs. Used with the IPv4 ACL table object, it defines the end of the range of destination port numbers to be matched. Valid values: 0 - 65535. A value of 0 means that this object is not applicable.
snAgAclPrecedence brcdIp.1.2.2.15.2.1.16 Syntax: PrecedenceValue	Read-write	Applies only to extended ACLs. Indicates the IP precedence value that a packet must have to be permitted or denied: • routine(0) • priority(1) • immediate(2) • flash(3) • flash-override(4) • critical(5) • internet(6) • network(7) The following priorities specify a hardware-forwarding queue: routine(0), priority(1), immediate(2), and flash(3).

Name, OID, and syntax	Access	Description
snAgAclTos brcdIp.1.2.2.15.2.1.17 Syntax: TosValue	Read-write	Applies only to extended ACLs. Indicates the type of service a packet must have to be denied or permitted: • normal(0) - The ACL matches packets that have the normal TOS. If TOS is not defined, packets are matched to this value. • minMonetaryCost(1) - The ACL matches packets that have the minimum monetary cost TOS. • maxReliability(2) - The ACL matches packets that have the maximum reliability TOS. • maxThroughput(4) - The ACL matches packets that have the maximum throughput TOS. • minDelay(8) - The ACL matches packets that have the minimum delay TOS.
snAgAclEstablished brcdIp.1.2.2.15.2.1.18 Syntax: Integer	Read-write	Applies only to extended ACLs. Enables or disables the filtering of established TCP packets that have the ACK or RESET flag turned on. This additional filter only applies to TCP transport protocol: • disabled(0) • enabled(1)
snAgAclLogOption brcdIp.1.2.2.15.2.1.19 Syntax: TruthVal	Read-write	Determines if ACL matches are logged: • false(0) - Do not log ACL matches. • true(1) - Log ACL matches.
snAgAclStandardFlag brcdIp.1.2.2.15.2.1.20 Syntax: TruthVal	Read-write	Indicates if this is a standard ACL: • false(0) - The ACL is an extended ACL. • true(1) - The ACL is a standard ACL.
snAgAclRowStatus brcdIp.1.2.2.15.2.1.21 Syntax: SnRowStatus	Read-write	Creates or deletes an ACL entry: • other(1) • valid(2) • delete(3) • create(4)
snAgAclFlowCounter brcdIp.1.2.2.15.2.1.22 Syntax: Counter64	Read-only	Shows an approximate count of flows that match the individual ACL entry.
snAgAclPacketCounter brcdIp.1.2.2.15.2.1.23 Syntax: Counter64	Read-only	Shows the number of packets that matched the ACL entry.
snAgAclComments brcdIp.1.2.2.15.2.1.24 Syntax: DisplayString	Read-write	Indicates the description of an individual ACL entry.
snAgACLSeqNumber brcdIp.1.2.2.15.2.1.32 Syntax: INTEGER (1..65000)	Read-only	The sequence number for this ACL.

ACL bind to port table

The ACL bind to port table contains ACL port bindings for a Layer 3 Switch. Port numbers and bind direction are used to index entries.

Name, OID, and syntax	Access	Description
snAgAclIfBindTable brcdIp.1.2.2.15.4	None	The ACL bind to port table.
snAgAclIfBindIndex brcdIp.1.2.2.15.4.1.1 Syntax: InterfaceIndex	Read-only	The number of the virtual or physical interface to which this ACL is bound.
snAgAclIfBindDirection brcdIp.1.2.2.15.4.1.2 Syntax: Direction	Read-only	Shows the traffic direction to which the ACL will be applied: • inbound(0) • outbound(1)
snAgAclIfBindNum brcdIp.1.2.2.15.4.1.3 Syntax: Integer	Read-create	Shows the defined IPv4 ACL number that will be bound to the port.
snAgAclIfBindName brcdIp.1.2.2.15.4.1.4 Syntax: DisplayString	Read-create	The name of the IPv4 ACL name bound to the Interface. Maximum 255 characters are allowed.
snAgAclIfBindVifPortList brcdIp.1.2.2.15.4.1.5 Syntax: Octet string	Read-create	Contains a list of ports for binding a virtual interface. Each port index is an ifIndex. If there are four or more consecutive ifIndexes, then they will be encoded. THe Encoding and decoding scheme is range-based. Each range prefix with 0000 (2 octets) where 0000 is not a valid ifIndex. The next 2 octets indicates the lower range ifIndex, followed by 2 octets of higher range ifIndex. The individual (non- range) ones will be displayed as is. For example: Port list: 0001..0005 0015 0032..0047 Port list in PDU: 0000 0001 0005 000f 0000 0020 002f
snAgAclIfRowStatus brcdIp.1.2.2.15.4.1.6 Syntax: SnRowStatus	Read-create	Controls the management of the table rows. The following values can be written: • delete(3) - Delete the row. • create(4) - Create a new row. • modify(5) - Modify an existing row. If the row exists, then a SET with a value of create(4) returns a "bad value" error. Deleted rows are removed from the table immediately. The following values can be returned on reads: • noSuch(0) - No such row. • invalid(1) - Row is inoperative. • valid(2) - Row exists and is valid.

IPv6 ACL MIB Definition

- IPv6 ACL table..... 253

IPv6 ACL table

The following table contains the IPv6 ACLs for IPv6 devices.

Name, OID, and syntax	Access	Description
fdryIpv6AclTable brcdIp.1.2.16.1.1.1	None	The IPv6 access control list filters.
fdryIpv6AclIndex brcdIp.1.2.16.1.1.1.1.1 Syntax: Unsigned32	None	The index number for an ACL entry. This is a unique number even though the name is not unique for a given ACL with the same or different source address, prefix length, destination address, destination prefix length, protocol type, action (permit or deny) type, and operator (neq, eq, gt, and lt).
fdryIpv6AclName brcdIp.1.2.16.1.1.1.1.2 Syntax: DisplayString	Read-create	The ACL name for an entry.
fdryIpv6AclAction brcdIp.1.2.16.1.1.1.1.3 Syntax: Action	Read-create	The action to take if the IP packet matches this ACL.
fdryIpv6AclProtocol brcdIp.1.2.16.1.1.1.1.4 Syntax: IpProtocol	Read-create	The transport protocols. 0 means any protocol.
fdryIpv6AclSourceIp brcdIp.1.2.16.1.1.1.1.5 Syntax: Ipv6Address	Read-create	The source IPv6 address.
fdryIpv6AclSourcePrefixLen brcdIp.1.2.16.1.1.1.1.6 Syntax: Unsigned32	Read-create	The source IPv6 address prefix length.
fdryIpv6AclSourceOperator brcdIp.1.2.16.1.1.1.1.7 Syntax: Operator	Read-create	The type of comparison to perform. This applies only to TCP or UDP.
fdryIpv6AclSourceOperand1 brcdIp.1.2.16.1.1.1.1.8 Syntax: Unsigned32	Read-create	This object refers to the source transport protocol port number of the operand 1.
fdryIpv6AclSourceOperand2 brcdIp.1.2.16.1.1.1.1.9 Syntax: Unsigned32	Read-create	This object refers to the source transport protocol port number of the operand 2.
fdryIpv6AclDestinationIp brcdIp.1.2.16.1.1.1.1.10 Syntax: Ipv6Address	Read-create	The destination IPv6 address.

IPv6 ACL MIB Definition
IPv6 ACL table

Name, OID, and syntax	Access	Description
fdryIpv6AclDestinationPrefixLen brcdIp.1.2.16.1.1.1.1.11 Syntax: Unsigned32	Read-create	The destination IPv6 address prefix length.
fdryIpv6AclDestinationOperator brcdIp.1.2.16.1.1.1.1.12 Syntax: Operator	Read-create	The type of comparison to perform. This applies only to TCP or UDP.
fdryIpv6AclDestinationOperand1 brcdIp.1.2.16.1.1.1.1.13 Syntax: Unsigned32	Read-create	This object refers to the destination transport protocol port number of the operand 1.
fdryIpv6AclDestinationOperand2 brcdIp.1.2.16.1.1.1.1.14 Syntax: Unsigned32	Read-create	This object refers to the destination transport protocol port number of the operand 2.
fdryIpv6AclEstablished brcdIp.1.2.16.1.1.1.1.15 Syntax: RtrStatus	Read-create	Enables or disables the filtering of established TCP packets for which the ACK or RESET flag is on. This filter applies only to the TCP transport protocol.
fdryIpv6AclLogOption brcdIp.1.2.16.1.1.1.1.16 Syntax: TruthValue	Read-create	The log flag. This should be set to one, which enables logging.
fdryIpv6AclComments brcdIp.1.2.16.1.1.1.1.17 Syntax: DisplayString	Read-create	A description of the individual ACL entry.
fdryIpv6AclRowStatus brcdIp.1.2.16.1.1.1.1.18 Syntax: RowStatus	Read-create	Creates or deletes an ACL entry.

IP VRRP MIB Definition

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VRRP and VRRP-Extended MIBs

The following table contains the global objects that apply to Virtual Router Redundancy Protocol (VRRP), Virtual Router Redundancy Protocol Extended (VRRP-E), and Virtual Switch Redundancy Protocol (VSRP).

Name, OID, and syntax	Access	Description
snVrrpIfStateChangeTrap brcdIp.1.2.12.1.2 Syntax: Integer	Read-write	Indicates if the SNMP agent process has been enabled to generate VRRP interface state change traps: • disabled(0) • enabled(1) Default: enabled(1) **NOTE** The standard MIB "vrrpNotificationCntl" will work exactly the same as the Proprietary MIB "snVrrpIfStateChangeTrap".
snVrrpIfMaxNumVridPerIntf brcdIp.1.2.12.1.3 Syntax: Integer	Read-only	Indicates the maximum number of VRID per interface.
snVrrpIfMaxNumVridPerSystem brcdIp.1.2.12.1.4 Syntax: Integer	Read-only	Indicates the maximum number of VRID per system.
snVrrpClearVrrpStat brcdIp.1.2.12.1.5 Syntax: Integer	Read-write	Clear VRRP statistics command.
snVrrpGroupOperModeVrrpextended brcdIp.1.2.12.1.6 Syntax: Integer		The VRRP_extended is configured on this system is either enabled or disabled. The default is disabled mode. • disabled(0) • enabled(1)

VRRP interface table

The objects in the following table apply to VRRP, VRRP-E, and VSRP, depending on which protocol is enabled in the device.

NOTE
This table is deprecated and has been replaced by the VRRP and VRRP-E interface table on page 256 table, which is presented in VRRP and VRRP-E interface table on page 256, an ifIndex based table.

Name, OID, and syntax	Access	Description
snVrrpIfTable brcdIp.1.2.12.2.1	None	The VRRP interface table.
snVrrpIfPort brcdIp.1.2.12.2.1.1.1 Syntax: Integer	Read-only	Shows the IP port of this VRRP interface.
snVrrpIfAuthType brcdIp.1.2.12.2.1.1.2 Syntax: Integer	Read-write	Indicates the authentication type of this interface: • noAuth(0) • simpleTextPasswd(1) • ipAuthHeader(2)
snVrrpIfRxHeaderErrCnts brcdIp.1.2.12.2.1.1.4 Syntax: Counter32	Read-only	Shows the number of VRRP or VRRP-E packets received by the interface that had a header error.
snVrrpIfRxAuthTypeErrCnts brcdIp.1.2.12.2.1.1.5 Syntax: Counter32	Read-only	Shows the number of VRRP or VRRP-E packets received by the interface that had an authentication error.
snVrrpIfRxAuthPwdMismatchErrCnts brcdIp.1.2.12.2.1.1.6 Syntax: Counter32	Read-only	Shows the number of VRRP or VRRP-E packets received by the interface that had a password value that does not match the password used by the interface for authentication.
snVrrpIfRxVridErrCnts brcdIp.1.2.12.2.1.1.7 Syntax: Counter32	Read-only	Shows the number of VRRP or VRRP-E packets received by the interface that contained a VRID that is not configured on this interface.

VRRP and VRRP-E interface table

The following table replaces the VRRP interface table on page 255 (presented in the VRRP interface table on page 255 section), which uses the slot or port number to index an entry. This table uses the ifindex to present the configuration and statistics of VRRP and VRRP-E interfaces. Each entry in the table describes one VRRP or VRRP-E interface.

Name, OID, and syntax	Access	Description
snVrrpIf2Table brcdIp.1.2.12.4.1	None	The VRRP and VRRP-E table for interfaces, using the ifindex.
snVrrpIf2AuthType brcdIp.1.2.12.4.1.1.1 Syntax: Integer	Read-write	The authentication type of the interface: • noAuth(0) • simpleTextPasswd(1) • ipAuthHeader(2)
snVrrpIf2RxHeaderErrCnts brcdIp.1.2.12.4.1.1.3 Syntax: Counter32	Read-only	The number of packets received by the interface that had a header error.
snVrrpIf2RxAuthTypeErrCnts brcdIp.1.2.12.4.1.1.4 Syntax: Counter32	Read-only	The number of packets received by the interface that had an authentication error.

Name, OID, and syntax	Access	Description
snVrrpIf2RxAuthPwdMismatchErrCnts brcdIp.1.2.12.4.1.1.5 Syntax: Counter32	Read-only	The number of packets received by the interface that had a password value that does not match the password used by the interface for authentication.
snVrrpIf2RxVridErrCnts brcdIp.1.2.12.4.1.1.6 Syntax: Counter32	Read-only	The number of packets received by the interface that contained a VRID that is not configured on this interface.

VRRP virtual router table

The following table has been replaced by the VRRP and VRRP-E virtual router configuration table on page 262. The new table is presented in the section VRRP and VRRP-E virtual router configuration table on page 262.

Name, OID, and syntax	Access	Description
snVrrpVirRtrTable brcdIp.1.2.12.3.1	None	The VRRP virtual router table.
snVrrpVirRtrPort brcdIp.1.2.12.3.1.1.1 Syntax: Integer32	Read-only	Shows the port number of this VRRP interface.
snVrrpVirRtrId brcdIp.1.2.12.3.1.1.2 Syntax: Integer	Read-only	Shows the VRID that has been configured on this interface. If multiple VRIDs are configured, there is an entry for each VRID.
snVrrpVirRtrOwnership brcdIp.1.2.12.3.1.1.3 Syntax: Integer	Read-write	Indicates the owner of the router interface. The owner or master router owns the IP addresses associated with the VRID: • incomplete(0) - No IP address has been assigned to this VRRP router interface. • owner(1) - The owner or the master router is the owner of the VRRP router interface. • backup(2) - The backup router is the owner of the interface.
snVrrpVirRtrCfgPriority brcdIp.1.2.12.3.1.1.4 Syntax: Integer	Read-write	Applies only if the VRRP virtual router table object is set to backup(2). It indicates the backup router's preferability to becoming the active router for the interface. The higher the number, the higher the priority. If two or more devices are tied with the highest priority, the backup interface with the highest IP address becomes the active router for the VRID. Valid values: 3 - 254 Default: 100

Name, OID, and syntax	Access	Description
snVrrpVirRtrTrackPriority brcdIp.1.2.12.3.1.1.5 Syntax: Integer	Read-write	Applies to interfaces that are configured with track ports. It indicates the priority of the track ports. A higher number indicates a higher priority. Track port priority is always lower than the VRRP virtual router table priority. This object is adjusted dynamically with the VRRP virtual router table object when the track port state first changes from up to down. Valid values: 1 - 254
snVrrpVirRtrCurrPriority brcdIp.1.2.12.3.1.1.6 Syntax: Integer	Read-only	The current VRRP priority of this Layer 3 Switch for the VRID. The current priority can differ from the configured priority for the following reasons: • The VRID is still in the initialization stage and has not yet become a master or backup. In this case, the current priority is 0. • The VRID is configured with track ports and the link on a tracked interface has gone down. A higher number indicates a higher priority. This object is adjusted dynamically with the VRRP virtual router table object. Valid values: 1 - 254
snVrrpVirRtrHelloInt brcdIp.1.2.12.3.1.1.7 Syntax: Integer	Read-write	Shows the number of seconds between hello messages that are sent between the master and the backup. Valid values: 1 - 84 seconds Default: 1 second
snVrrpVirRtrDeadInt brcdIp.1.2.12.3.1.1.8 Syntax: Integer	Read-write	Applies only to VRRP backups. It shows the configured value for the dead interval. The dead interval is the number of seconds that a backup router waits for a hello message from the VRID master before determining that the master is no longer active. If the master does not send a hello message before the dead interval expires, the backups negotiate (compare priorities) to select a new master for the VRID. Valid values: 0 - 84 seconds. A value of 0 means that this object has not been configured. Default: 0 seconds

Name, OID, and syntax	Access	Description
snVrrpVirRtrPreemptMode brcdIp.1.2.12.3.1.1.9 Syntax: Integer	Read-write	Indicates if the backup preempt mode is enabled. The backup preempt mode prevents a backup router with a higher VRRP priority from taking control of the VRID from another backup router that has a lower priority, but has already assumed control of the VRID: • disabled(0) - Prohibit preemption. • enabled(1) - Allow preemption. Default: enabled(1)
snVrrpVirRtrState brcdIp.1.2.12.3.1.1.10 Syntax: Integer	Read-only	Specifies the state of the VRRP router's interface: • init(0) - Initialization state. • master(1) - Master state. • backup(2) - Backup state.
snVrrpVirRtrActivate brcdIp.1.2.12.3.1.1.11 Syntax: Integer	Read-write	Indicates if the VRRP router feature is enabled. • disabled(0) - The VRRP Router is deactivated. • enabled(1) - The VRRP Router has been activated.
snVrrpVirRtrIpAddrMask brcdIp.1.2.12.3.1.1.12 Syntax: Octet String	Read-write	The number of IP addresses of this virtual router of this interface.
snVrrpVirRtrTrackPortMask brcdIp.1.2.12.3.1.1.13 Syntax: Octet String	Read-write	This object was obsoleted and replaced by VRRP virtual router table. It specifies the identity of the physical port whose state is to be monitored. Each bit represents a port on a device. There can be up to 64 octets in this object: • Chassis devices can have up to 32 octets. • Stackable devices can have up to 4 octets. Default: 0 octets If this object is configured on an interface, then the preference level for the interface will be adjusted dynamically, depending on the state of the track port: • When the track port states first changes from up to down, the interface's preference level is reduced by the value of the Preference Level parameter. • The next time the track port state changes from down to up, the interface's preference level is increased by the amount specified by the preference level.

Name, OID, and syntax	Access	Description
snVrrpVirRtrTrackVifMask brcdIp.1.2.12.3.1.1.14 Syntax: Octet String	Read-write	This object was obsoleted and replaced by VRRP virtual router table. It specifies the identity of the virtual interface whose state is to be monitored. Each bit represents a port on a device. Valid values: • Chassis devices can have up to 32 octets. • Stackable devices can have up to 4 octets. Default: 0 octets If this object is configured on an interface, then the preference level for the interface will be adjusted dynamically, depending on the state of the track port: • When the track port states first changes from up to down, the interface's preference level is reduced by the value of the preference level parameter. • The next time the track port state changes from down to up, the interface's preference level is increased by the amount specified by the preference level.
snVrrpVirRtrRowStatus brcdIp.1.2.12.3.1.1.15 Syntax: Integer	Read-write	Controls the management of the table rows. The following values can be written: • delete(3) - Delete the row. • create(4) - Create a new row. • modify(5) - Modify an existing row. If the row exists, then a SET with a value of create(4) returns a "bad value" error. Deleted rows are removed from the table immediately. The following values can be returned on reads: • noSuch(0) - No such row. • invalid(1) - Row is inoperative. • valid(2) - Row exists and is valid.
snVrrpVirRtrRxArpPktDropCnts brcdIp.1.2.12.3.1.1.16 Syntax: Counter32	Read-only	Shows the number of ARP packets addressed to the interface that were dropped.
snVrrpVirRtrRxIpPktDropCnts brcdIp.1.2.12.3.1.1.17 Syntax: Counter32	Read-only	Shows the number of IP packets addressed to the interface that were dropped.
snVrrpVirRtrRxPortMismatchCnts brcdIp.1.2.12.3.1.1.18 Syntax: Counter32	Read-only	Shows the number of packets received that did not match the configuration for the receiving interface.
snVrrpVirRtrRxNumOfIpMismatchCnts brcdIp.1.2.12.3.1.1.19 Syntax: Counter32	Read-only	Shows the number of packets received that did not match the configured IP addresses.
snVrrpVirRtrRxIpMismatchCnts brcdIp.1.2.12.3.1.1.20 Syntax: Counter32	Read-only	Shows the number of receive VRRP IP addresses that did not match the configured VRRP addresses.

Name, OID, and syntax	Access	Description
snVrrpVirRtrRxHelloIntMismatchCnts brcdIp.1.2.12.3.1.1.21 Syntax: Counter32	Read-only	Shows the number of packets received that did not match the configured hello interval.
snVrrpVirRtrRxPriorityZeroFromMasterCnts brcdIp.1.2.12.3.1.1.22 Syntax: Counter32	Read-only	Shows the counts of the virtual router interface with priority zero from the master.
snVrrpVirRtrRxHigherPriorityCnts brcdIp.1.2.12.3.1.1.23 Syntax: Counter32	Read-only	Shows the number of VRRP packets received by the interface that had a higher backup priority for the VRID than what this interface's backup priority is.
snVrrpVirRtrTransToMasterStateCnts brcdIp.1.2.12.3.1.1.24 Syntax: Counter32	Read-only	Shows the number of times this interface has changed from the backup state to the master state for the VRID.
snVrrpVirRtrTransToBackupStateCnts brcdIp.1.2.12.3.1.1.25 Syntax: Counter32	Read-only	Shows the number of times this interface has changed from the master state to the backup state for the VRID.
snVrrpVirRtrCurrDeadInt brcdIp.1.2.12.3.1.1.26 Syntax: Integer32	Read-only	Shows the number of seconds a backup waits for a hello message from the master before determining that the master is no longer active. If the master does not send a hello message before the dead interval expires, the backups negotiate (compare priorities) to select a new master.
snVrrpVirRtrTrackPortList brcdIp.1.2.12.3.1.1.27 Syntax: Octet String	Read-write	This object specifies the identity of the physical port whose state is to be monitored. Each port index is a 16-bit integer in big-endian order. The first 8 bits are the slot number; the next 8 bits are the port number. Default value is 0 length octet string. If this object is configured on an interface, then the preference level for the interface will be adjusted dynamically, depending on the state of the track port: • When the track port state first changes from up to down, the interface's preference level is reduced by the value of the preference level parameter. • The next time the track port state changes from down to up, the interface's preference level is increased by the amount specified by the preference level.
snVrrpVirRtrTrackVifPortList brcdIp.1.2.12.3.1.1.28 Syntax: Octet String	Read-write	This object specifies the identity of the virtual interface whose state is to be monitored. Each port index is a 16-bit integer in big-endian order. The first 8 bits are the slot number; the next 8 bits are the port number. Default value is 0 length octet string. If this object is configured on an interface, then the preference level for the interface will be adjusted dynamically, depending on the state of the track port:

Name, OID, and syntax	Access	Description
snVrrpVirRtrTrackVifPortList (Continued)		• When the track port states first changes from up to down, the interface's preference level is reduced by the value of the preference level parameter. • The next time the track port state changes from down to up, the interface's preference level is increased by the amount specified by the preference level.

VRRP and VRRP-E virtual router configuration table

The following table replaces the VRRP virtual router table on page 257, which uses a slot or port number to index entries. This new table uses the ifindex method to present the configuration and statistics for VRRP and VRRP-E. Each entry in the table describes one VRRP or VRRP-E router.

Name, OID, and syntax	Access	Description
snVrrpVirRtr2Table brcdIp.1.2.12.5.1	None	The VRRP virtual router 2 table.
snVrrpVirRtr2Id brcdIp.1.2.12.5.1.1.1 Syntax: Integer	Read-only	Shows one of the VRIDs configured on this interface. If multiple VRIDs are configured on the interface, there is an entry for each VRID.
snVrrpVirRtr2Ownership brcdIp.1.2.12.5.1.1.2 Syntax: Integer	Read-write	Indicates the owner of the VRRP router interface. The owner or master router owns the IP addresses associated with the VRID: • incomplete(0) - No IP address has been assigned to this VRRP or VRRP-E interface. • owner(1) - The owner or the master router is the owner of the VRRP router interface. This applies only to VRRP. • backup(2) - The backup router (VRRP or VRRP-E) is the owner of the interface. This is the only value that can be assigned to a VRRP-E router interface.
snVrrpVirRtr2CfgPriority brcdIp.1.2.12.5.1.1.3 Syntax: Integer	Read-write	Indicates the preferability of a router for becoming the active router for the interface. A higher number indicates a higher priority. If two or more devices are tied with the highest priority, the backup interface with the highest IP address becomes the active router for the VRID. Valid values: 0 - 255, where: • 0 - The master no longer participates in the VRRP and a backup router should transition to be the new master. • 255 - The router is the owner. Default: 100.

Name, OID, and syntax	Access	Description
snVrrpVirRtr2TrackPriority brcdIp.1.2.12.5.1.1.4 Syntax: Integer	Read-write	Applies to interfaces that are configured with track ports. It indicates the priority of the track ports. The higher the number, the higher the priority. Track port priority is always lower than the "snVrrpVirRtrCfgPriority" priority. This object dynamically adjusts the value of the VRRP and VRRP-E virtual router configuration table object when the track port state first changes from up to down. Valid values: 1 - 254
snVrrpVirRtr2CurrPriority brcdIp.1.2.12.5.1.1.5 Syntax: Integer	Read-only	The current VRRP or VRRP-E priority of this Layer 3 Switch for the VRID. The current priority can differ from the configured priority for the following reasons: • The VRID is still in the initialization stage and has not become a master or backup yet. In this case, the current priority is 0. • The VRID is configured with track ports and the link on a tracked interface has gone down. A higher number indicates a higher priority. This object is adjusted dynamically when the tracked port first changes from up to down. Valid values: 1 - 254
snVrrpVirRtr2HelloInt brcdIp.1.2.12.5.1.1.6 Syntax: Integer	Read-write	Shows the number of seconds between hello advertisements from the master and the backup. Valid values: 1 - 84 Default: 1 second.
snVrrpVirRtr2DeadInt brcdIp.1.2.12.5.1.1.7 Syntax: Integer	Read-write	Applies only to VRRP or VRRP-E backups. It shows the configured value for the dead interval. The dead interval is the number of seconds that a backup router waits for a hello message from the VRID master before determining that the master is no longer active. If the Master does not send a hello message before the dead interval expires, the backups negotiate (compare priorities) to select a new master for the VRID. Valid values: 1 - 84 Default: 0, which means that this object has not been configured.

IP VRRP MIB Definition
VRRP and VRRP-E virtual router configuration table

Name, OID, and syntax	Access	Description
snVrrpVirRtr2PreemptMode brcdIp.1.2.12.5.1.1.8 Syntax: Integer	Read-write	Indicates if the backup preempt mode is enabled: • disabled(0) - Prohibit preemption. • enabled(1) - Allow preemption. Default: enabled(1) The backup preempt mode prevents a backup router with a higher VRRP priority from taking control of the VRID from another backup router that has a lower priority, but has already assumed control of the VRID.
snVrrpVirRtr2State brcdIp.1.2.12.5.1.1.9 Syntax: Integer	Read-only	Specifies the VRRP or VRRP-E router's interface state: • init(0) - Initialization state • master(1) - Master state • backup(2) - Backup state
snVrrpVirRtr2IpAddrMask brcdIp.1.2.12.5.1.1.10 Syntax: Octet String	Read-write	The number of IP addresses of this virtual router of this interface.
snVrrpVirRtr2Activate brcdIp.1.2.12.5.1.1.11 Syntax: Integer	Read-write	Indicates if VRRP or VRRP-E router is enabled: • disabled(0) - The router is deactivated. • enabled(1) - The router has been activated.
snVrrpVirRtr2BackupInt brcdIp.1.2.12.5.1.1.12 Syntax: Integer	Read-write	Time interval between backup routers hello message advertisements in seconds. The default is 60 seconds.
snVrrpVirRtr2RowStatus brcdIp.1.2.12.5.1.1.13 Syntax: Integer	Read-write	Controls the management of the table rows. The following values can be written: • delete(3) - Delete the row. • create(4) - Create a new row. • modify(5) - Modify an existing row. If the row exists, then a SET with a value of create(4) returns a "bad value" error. Deleted rows are removed from the table immediately. The following values can be returned on reads: • noSuch(0) - No such row. • invalid(1) - Row is inoperative. • valid(2) - Row exists and is valid.
snVrrpVirRtr2RxArpPktDropCnts brcdIp.1.2.12.5.1.1.14 Syntax: Counter32	Read-only	The received VRRP and VRRP-E ARP packet drop counts.
snVrrpVirRtr2RxIpPktDropCnts brcdIp.1.2.12.5.1.1.15 Syntax: Counter32	Read-only	Shows the number of IP packets addressed to the interface that were dropped.
snVrrpVirRtr2RxPortMismatchCnts brcdIp.1.2.12.5.1.1.16 Syntax: Counter32	Read-only	Shows the number of packets received that did not match the configuration for the receiving interface.

Name, OID, and syntax	Access	Description
snVrrpVirRtr2RxNumOfIpMismatchCnts brcdIp.1.2.12.5.1.1.17 Syntax: Counter32	Read-only	Shows the number of packets received that did not match the configured IP addresses.
snVrrpVirRtr2RxIpMismatchCnts brcdIp.1.2.12.5.1.1.18 Syntax: Counter32	Read-only	Shows the number of VRRP IP addresses received that did not match the VRRP or VRRP-E addresses.
snVrrpVirRtr2RxHelloIntMismatchCnts brcdIp.1.2.12.5.1.1.19 Syntax: Counter32	Read-only	Shows the number of packets received that did not match the configured hello interval.
snVrrpVirRtr2RxPriorityZeroFromMasterCnts brcdIp.1.2.12.5.1.1.20 Syntax: Counter32	Read-only	Shows the count of the virtual router interfaces that received priority zero from the master.
snVrrpVirRtr2RxHigherPriorityCnts brcdIp.1.2.12.5.1.1.21 Syntax: Counter32	Read-only	Shows the number of packets received by the interface that had a higher backup priority for the VRID than this interface's backup priority for the VRID.
snVrrpVirRtr2TransToMasterStateCnts brcdIp.1.2.12.5.1.1.22 Syntax: Counter32	Read-only	Shows the number of times this interface has changed from the master state to the backup state for the VRID.
snVrrpVirRtr2TransToBackupStateCnts brcdIp.1.2.12.5.1.1.23 Syntax: Counter32	Read-only	Shows the number of times this interface has changed from the master state to the backup state.
snVrrpVirRtr2CurrDeadInt brcdIp.1.2.12.5.1.1.24 Syntax: Integer32	Read-only	Shows the current dead interval in increments of 100 milliseconds for the virtual router. This is the time period that a backup waits for a hello message from the master before determining that the master is no longer active. If the master does not send a hello message before the dead interval expires, the backups negotiate (compare priorities) to select a new master for the VRID.

IP VRRP MIB Definition
VRRP and VRRP-E virtual router configuration table

Name, OID, and syntax	Access	Description
snVrrpVirRtr2TrackPortList brcdIp.1.2.12.5.1.1.25 Syntax: Octet String	Read-write	Specifies the router's physical track port membership. The membership includes physical ports and virtual ports whose state is to be monitored. Each port index is an ifIndex. If there are four or more consecutive ifIndexes, then the encoding and decoding scheme is range-based, as follows: • Each range prefix with 0000 (2 octets) is not a valid ifIndex. • The first two octets in a set of four octets indicate the beginning of the range. The next two octets show the end of the range. • IfIndexes that are not in a range are displayed as they are. For example, you may see the following lists: • Port list: 0001..0005 0015 0032..0047 0001..0005 and 0032..0047 show ranges of ifindexes; whereas, 0015 is one ifindex • Port list in PDU: 0000 0001 0005 000f 0000 0020 002f The list contains ifindexes not in a range. If this object is configured, then the preference level of this interface will be adjusted dynamically depending on the state of the track port. The interface's preference level is reduced by the value of preference level parameter when the track port states first changes from up to down. When the track port returns to the up state, the interface's preference level is increased by the amount specified by the preference level.
snVrrpVirRtr2AdvertiseBackup brcdIp.1.2.12.5.1.1.26 Syntax: Integer	Read-write	Indicates if the ability for this backup to advertise itself to the current master is enabled: • disabled(0) • enabled(1) Default: disabled(0}
snVrrpVirRtr2MasterIpAddr brcdIp.1.2.12.5.1.1.27 Syntax: IpAddress	Read-only	Shows the master's real or virtual (primary) IP address. This IP address is listed as the source in VRRP and VRRP-E advertisement that was last received by this virtual router.
snVrrpVirRtr2IpAddrCount brcdIp.1.2.12.5.1.1.28 Syntax: Integer	Read-only	Shows the number of IP addresses that are associated with this virtual router. This number is equal to the number of rows in the vrrpAssoIpAddrTable of the standard MIB that corresponds to a given ifindex and VRID pair.
snVrrpVirRtr2VirtualMacAddr brcdIp.1.2.12.5.1.1.29 Syntax: MAC address	Read-only	Shows the virtual MAC address of the virtual router.

VSRP MIB Definition

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Global VSRP objects

The following table contains the global VSRP objects. Use the **router vsrp** and **snmp-server enable traps vsrp** CLI commands for information on global VSRP objects.

NOTE

Only one of the virtual router protocols can be enabled at any one time.

Name, OID, and syntax	Access	Description
snVsrpGroupOperModeVsrp brcdIp.1.1.3.21.1.1 Syntax: Integer	Read-write	Indicates if VSRP is enabled or disabled on this system: • disabled(0) • enabled(1) Default: enabled(1)
snVsrpIfStateChangeTrap brcdIp.1.1.3.21.1.2 Syntax: Integer	Read-write	Indicates whether the SNMP agent process is permitted to generate VSRP interface state change traps: • disabled(0) • enabled(1) Default: enabled(1)
snVsrpIfMaxNumVridPerIntf brcdIp.1.1.3.21.1.3 Syntax: Integer32	Read-only	Indicates the maximum number of VRIDs that an interface can have.
snVsrpIfMaxNumVridPerSystem brcdIp.1.1.3.21.1.4 Syntax: Integer32	Read-only	Indicates the maximum number of VRIDs that a system can have.
snVsrpClearVrrpStat brcdIp.1.1.3.21.1.5 Syntax: Integer	Read-write	Clears the VSRP statistics: • normal(0) • clear(1)

VSRP interface table

The following table contains objects used to configure VSRP interfaces. The following objects are equivalent to the **vsrp auth-type** CLI command.

NOTE
Make sure that Global VSRP objects on page 267 is set to enable(1).

Name, OID, and syntax	Access	Description
snVsrpIfTable brcdIp.1.1.3.21.2.1	None	The VSRP interface table.
snVsrpIfVlanId brcdIp.1.1.3.21.2.1.1.1 Syntax: Integer32	Read-only	VLAN ID used to index the entries in this table.
snVsrpIfAuthType brcdIp.1.1.3.21.2.1.1.2 Syntax: Integer	Read-write	Indicates the authorization type used to verify access to the interface: • noAuth(0) • simpleTextPasswd(1) • ipAuthHeader(2)
snVsrpIfAuthPassword brcdIp.1.1.3.21.2.1.1.3 Syntax: Octet String	Read-write	The simple text password is allowed only if the VSRP interface table is simpleTextPasswd(1) and the size should be greater than zero. This object can contain 0 to 8 octets and if the value is noAuth then zero length string is returned.

VSRP virtual router table

The VSRP virtual router table describes the configuration of the VSRP virtual router. The following objects are equivalent to the **vsrp vrid** and **show vsrp** CLI commands.

Name, OID, and syntax	Access	Description
snVsrpVirRtrTable brcdIp.1.1.3.21.3.1	None	The VSRP virtual router table.
snVsrpVirRtrVlanId brcdIp.1.1.3.21.3.1.1.1 Syntax: Integer32	Read-only	VLAN index of the VSRP router.
snVsrpVirRtrId brcdIp.1.1.3.21.3.1.1.2 Syntax: Integer	Read-only	Shows a virtual router ID for the interface.
snVsrpVirRtrOwnership brcdIp.1.1.3.21.3.1.1.3 Syntax: Integer	Read-write	Indicates the owner of the VSRP router interface. The owner or master router owns the IP addresses associated with the VRID: • incomplete(0) - No IP address has been assigned to this interface. • owner(1) - This does not apply to VSRP. • backup(2) - The backup router is the owner of the interface. This is the only value that can be assigned to a VSRP router interface.

Name, OID, and syntax	Access	Description
snVsrpVirRtrCfgPriority brcdIp.1.1.3.21.3.1.1.4 Syntax: Integer	Read-write	Indicates the preferability of a router for becoming the active router for the interface. A higher number indicates a higher priority. If two or more devices are tied with the highest priority, the backup interface with the highest IP address becomes the active router for the VRID. This object can be set only if VSRP virtual router table is set to backup(2). Valid values: 8 - 255 Default: 100
snVsrpVirRtrTrackPriority brcdIp.1.1.3.21.3.1.1.5 Syntax: Integer	Read-write	Indicates the amount by which the default track priority is reduced when a tracked interface goes down. The higher the number, the higher the priority. After this object is configured, the VSRP virtual router table object of this interface will be adjusted dynamically with this track priority the first time the track port states changes from up to down. Valid values: 1 - 254
snVsrpVirRtrCurrPriority brcdIp.1.1.3.21.3.1.1.6 Syntax: Integer	Read-only	The current VSRP priority of this Layer 3 Switch for the VRID. The current priority can differ from the configured priority for the following reasons: • The VRID is still in the initialization stage and has not become a master or backup. In this case, the current priority is 0. • The VRID is configured with track ports and the link on a tracked interface has gone down. A higher number indicates a higher priority. This object is adjusted dynamically when the tracked port first changes from up to down. Valid values: 1 - 254
snVsrpVirRtrHelloInt brcdIp.1.1.3.21.3.1.1.7 Syntax: Integer	Read-write	Shows the number of seconds between hello advertisements sent from the master and the backup. Valid values: 1 - 84 Default: 1 second **NOTE** This object cannot be combined with either the snVsrpVirRtrDeadInt or snVsrpVirRtrHoldDownInt objects in one SNMP set request.

VSRP MIB Definition
VSRP virtual router table

Name, OID, and syntax	Access	Description
snVsrpVirRtrDeadInt brcdIp.1.1.3.21.3.1.1.8 Syntax: Integer	Read-write	Shows the number of seconds a Backup waits for a hello message from the master for the VRID before determining that the master is no longer active. If the master does not send a hello messages before the dead interval expires and the backups negotiate (compare priorities) to select a new master . Valid values: 1 - 84 Default: 3 seconds **NOTE** This object cannot be combined with the snVsrpVirRtrHelloInt object in one SNMP set request.
snVsrpVirRtrPreemptMode brcdIp.1.1.3.21.3.1.1.9 Syntax: Integer	Read-write	Enables or disables preemption. When preemption is enabled, a higher priority backup router preempts a lower priority master. • disabled(0) • enabled(1) Default: enabled(1)
snVsrpVirRtrState brcdIp.1.1.3.21.3.1.1.10 Syntax: Integer	Read-only	Specifies the virtual router's interface state: • init(0) - Initialization state • master(1) - Master state • backup(2) - Backup state
snVsrpVirRtrIpAddrMask brcdIp.1.1.3.21.3.1.1.11 Syntax: Octet String	Read-write	The numbers of IP addresses for this virtual router of this interface. This object is for Layer 3 VSRP. Valid values: Up to 64 octets
snVsrpVirRtrActivate brcdIp.1.1.3.21.3.1.1.12 Syntax: Integer	Read-write	Indicates if a VRRP or VRRP-E router has been activated. • disabled(0) - The router has not been activated. • enabled(1) - The router has been activated.

Name, OID, and syntax	Access	Description
snVsrpVirRtrTrackPortList brcdIp.1.1.3.21.3.1.1.13 Syntax: Octet String	Read-write	Specifies the router's physical track port membership. The membership includes physical port s and virtual ports whose state is to be monitored. Each port index is an ifIndex. If there are four or more consecutive ifIndexes, then the encoding and decoding scheme is range-based, as follows: • Each range prefix with 0000 (2 octets) is not a valid ifIndex. • The first two octets in a set of four octets indicate the beginning of the range. The next two octets show the end of the range. • Ifindexes that are not in a range are displayed as individual indexes. For example, you may see the following lists: • Port list: 0001..0005 0015 0032..0047 0001..0005 and 0032..0047 show ranges of ifindexes; whereas, 0015 is one ifindex • Port list in PDU: 0000 0001 0005 000f 0000 0020 002f The list contains ifindexes not in a range. If this object is configured, then the preference level of this interface will be adjusted dynamically depending on the state of the track port. The interface's preference level is reduced by the value of preference level parameter when the track port states first changes from up to down. When the track port returns to the up state, the interface's preference level is increased by the amount specified by the preference level.
snVsrpVirRtrAdvertiseBackup brcdIp.1.1.3.21.3.1.1.14 Syntax: Integer	Read-write	Indicates if the ability for this backup to advertise itself to the current master is enabled: • disabled(0) • enabled(1) Default: disabled(0)
snVsrpVirRtrHoldDownInt brcdIp.1.1.3.21.3.1.1.15 Syntax: Integer	Read-write	The amount of time a backup that has sent a hello packet announcing its intent to become master waits before beginning to forward traffic for the VRID. The hold-down interval prevents Layer 2 loops from occurring during rapid failover of VSRP. The interval can be from 1 through 84 seconds. Default: 2 seconds **NOTE** This object cannot be combined with the snVsrpVirRtrHelloInt object in one SNMP set request.

VSRP MIB Definition
VSRP virtual router table

Name, OID, and syntax	Access	Description
snVsrpVirRtrInitTtl brcdIp.1.1.3.21.3.1.1.16 Syntax: Integer	Read-write	Indicates the time-to-live (TTL) value in the hello packets. TTL is the maximum number of hops a VSRP hello packet can traverse before being dropped. TTL in a packet helps regulate the distance that a hello packet can travel. It prevents the flooding of VSRP hello packets in the network. Valid values: 1 - 255 seconds Default: 1 second
snVsrpVirRtrIncPortList brcdIp.1.1.3.21.3.1.1.17 Syntax: Octet String	Read-write	Groups all free ports of a VLAN into their control ports.
snVsrpVirRtrSave brcdIp.1.1.3.21.3.1.1.18 Syntax: Integer	Read-write	Sets VSRP to save current parameters value: • disabled(0) • enabled(1) Default: disabled(0)
snVrrpVirRtrBackupInt brcdIp.1.1.3.21.3.1.1.19 Syntax: Integer	Read-write	Indicates the time interval when backup routers send hello message advertisements. Valid values: 60 - 3600 seconds Default: 60 seconds
snVsrpVirRtrRowStatus brcdIp.1.1.3.21.3.1.1.20 Syntax: Integer	Read-write	Controls the management of the table rows. The following values can be written: • delete(3) - Delete the row. • create(4) - Create a new row. • modify(5) - Modify an existing row. If the row exists, then a SET with a value of create(4) returns a "bad value" error. Deleted rows are removed from the table immediately. The following values can be returned on reads: • noSuch(0) - No such row. • invalid(1) - Row is inoperative. • valid(2) - Row exists and is valid.
snVsrpVirRtrRxArpPktDropCnts brcdIp.1.1.3.21.3.1.1.21 Syntax: Counter32	Read-only	The received VSRP ARP packet drop counts.
snVsrpVirRtrRxIpPktDropCnts brcdIp.1.1.3.21.3.1.1.22 Syntax: Counter32	Read-only	The received VSRP IP packet drop counts.
snVsrpVirRtrRxPortMismatchCnts brcdIp.1.1.3.21.3.1.1.23 Syntax: Counter32	Read-only	The received VSRP port mismatching counts.
snVsrpVirRtrRxNumOfIpMismatchCnts brcdIp.1.1.3.21.3.1.1.24 Syntax: Counter32	Read-only	Shows the received number of mismatched IP addresses for VSRP.
snVsrpVirRtrRxIpMismatchCnts brcdIp.1.1.3.21.3.1.1.25 Syntax: Counter32	Read-only	Shows the number of received VSRP IP addresses that are mismatched.

Name, OID, and syntax	Access	Description
snVsrpVirRtrRxHelloIntMismatchCnts brcdIp.1.1.3.21.3.1.1.26 Syntax: Counter32	Read-only	Shows the number of the virtual router interfaces with hello intervals that are mismatched.
snVsrpVirRtrRxPriorityZeroFromMasterCnts brcdIp.1.1.3.21.3.1.1.27 Syntax: Counter32	Read-only	Shows the number of advertisements with priority of zero received from the master.
snVsrpVirRtrRxHigherPriorityCnts brcdIp.1.1.3.21.3.1.1.28 Syntax: Counter32	Read-only	The counts of the virtual router interfaces with higher priority.
snVsrpVirRtrTransToMasterStateCnts brcdIp.1.1.3.21.3.1.1.29 Syntax: Counter32	Read-only	Shows the number of times this interface has changed from the master state to the backup state for the VRID.
snVsrpVirRtrTransToBackupStateCnts brcdIp.1.1.3.21.3.1.1.30 Syntax: Counter32	Read-only	Shows the number of times this interface has changed from the master state to the backup state.
snVsrpVirRtrCurrDeadInt brcdIp.1.1.3.21.3.1.1.31 Syntax: Integer32	Read-only	Shows the current dead intervals in increments of 100 milliseconds for the virtual router. This is the time period that a backup waits for a hello message from the master before determining that the master is no longer active. If the master does not send a hello message before the dead interval expires and the backups negotiate (compare priorities) to select a new master.
snVsrpVirRtrCurHelloInt brcdIp.1.1.3.21.3.1.1.32 Syntax: Integer	Read-only	Shows the current backup router hello interval.
snVsrpVirRtrCurHoldDownInt brcdIp.1.1.3.21.3.1.1.33 Syntax: Integer	Read-only	Shows the current value of the hold-down interval. Valid values: 1 - 84
snVsrpVirRtrCurInitTtl brcdIp.1.1.3.21.3.1.1.34 Syntax: Integer	Read-only	Shows the current TTL value. Valid values: 1 - 255
snVsrpVirRtrHelloMacAddress brcdIp.1.1.3.21.3.1.1.35 Syntax: MAC address	Read-only	Shows the hello MAC address.
snVsrpVirRtrMasterIpAddress brcdIp.1.1.3.21.3.1.1.36 Syntax: IpAddress	Read-only	Shows the master router's real or virtual (primary) IP address. This is the IP address listed as the source in VSRP advertisement, which is last received by this virtual router.

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IP general group

The following table contains the general objects for the IP group.

Name, OID, and syntax	Access	Description
snRtClearArpCache brcdIp.1.2.2.1.1 Syntax: ClearStatus	Read-write	Clears learned Address Resolution Protocol (ARP) entries but does not remove any static ARP entries: • normal(0) - Do not clear learned entries. • clear(1) - Clear learned entries.
snRtClearIpCache brcdIp.1.2.2.1.2 Syntax: ClearStatus	Read-write	Clears the entries in the IP forwarding cache table: • normal(0) - Do not clear entries. • clear(1) - Clear entries.
snRtClearIpRoute brcdIp.1.2.2.1.3 Syntax: ClearStatus	Read-write	Clears the IP route tables: • normal(0) - Do not clear entries. • clear(1) - Clear entries.
snRtBootpServer brcdIp.1.2.2.1.4 Syntax: IpAddress	Read-write	Shows the IP address of the bootp server to which bootp packets must be relayed.
snRtBootpRelayMax brcdIp.1.2.2.1.5 Syntax: Integer	Read-write	Specifies the maximum number of hops the bootp packet should travel. Valid values: Up to 15 hops
snRtArpAge brcdIp.1.2.2.1.6 Syntax: Integer	Read-write	Specifies the number of minutes that an ARP entry can be valid without having it to be relearned. Valid values: Up to 240 minutes. A value of zero (0) means that the entry will not age out.
snRtIpIrdpEnable brcdIp.1.2.2.1.7 Syntax: Integer	Read-write	Indicates if router advertisement is enabled on this device: • disabled(0) • enabled(1)
snRtIpLoadShare brcdIp.1.2.2.1.8 Syntax: Integer	Read-write	Indicates if more than one route is enabled to share the loads: • disabled(0) • enabled(1)
snRtIpProxyArp brcdIp.1.2.2.1.9 Syntax: Integer	Read-write	Indicates if the proxy ARP function is enabled: • disabled(0) • enabled(1)
snRtIpRarp brcdIp.1.2.2.1.10 Syntax: Integer	Read-write	Indicates if the RARP server is enabled: • disabled(0) • enabled(1)

Name, OID, and syntax	Access	Description
snRtIpTtl brcdIp.1.2.2.1.11 Syntax: Integer	Read-write	Indicates the time-to-live (TTL) value that will be used in the IP header of an IP packet that was generated by this device. Valid values: 1 - 255
snRtIpSetAllPortConfig brcdIp.1.2.2.1.12 Syntax: Integer32	Read-write	Shows the index number of a row. All the writeable data from that row will be copied to all appropriate rows in all IPinterface port configuration table. **NOTE** Prior to setting this object, make sure that the row identified in this object contains a value for all its objects; otherwise, the current data of the row will be used to set the entire IP interface configuration table.
snRtIpFwdCacheMaxEntries brcdIp.1.2.2.1.13 Syntax: Integer32	Read-only	Shows the maximum number of entries in the IP forwarding cache table.
snRtIpFwdCacheCurEntries brcdIp.1.2.2.1.14 Syntax: Integer32	Read-only	Shows the current number of entries in the IP forwarding cache table.
snRtIpMaxStaticRouteEntries brcdIp.1.2.2.1.15 Syntax: Integer	Read-only	Shows the maximum number of entries in the IP static route table.
snRtIpDirBcastFwd brcdIp.1.2.2.1.16 Syntax: Integer	Read-write	Indicates if the directed broadcast forwarding feature is enabled: • disabled(0) • enabled(1)
snRtIpLoadShareNumOfPaths brcdIp.1.2.2.1.17 Syntax: Integer32	Read-write	Specifies the number of routes to be used to share the load.
snRtIpLoadShareMaxPaths brcdIp.1.2.2.1.18 Syntax: Integer32	Read-only	Indicates the maximum number of routes that can be configured to share the load.
snRtIpLoadShareMinPaths brcdIp.1.2.2.1.19 Syntax: Integer32	Read-only	Indicates the minimum number of routes that can be configured to share the load.
snRtIpProtocolRouterId brcdIp.1.2.2.1.20 Syntax: IpAddress	Read-write	Shows the router ID for all Internet Protocols.
snRtIpSourceRoute brcdIp.1.2.2.1.21 Syntax: Integer	Read-write	Indicates if strict source routing is enabled to drop source routed packets: • disabled(0) • enabled(1)

IP static route table

The IP static route table contains a list of static routes. These routes can be one of the following types:

- Standard: The static route consists of the destination network address and network mask, plus the IP address of the next-hop gateway.
- Interface-based: The static route consists of the destination network address and network mask, plus the Layer 3 Switch interface through which you want the Layer 3 switch to send traffic for the route. Typically, this type of static route is directly attached to the destination networks.
- Null: The static route consists of the destination network address and network mask, plus the “null0” parameter. Typically, the null route is configured as a backup route for discarding traffic if the primary route is unavailable.

The IP static route table also serves as the default route table.

NOTE
SNMP support for the IP static route MIB table is limited only to IPv4 and not supported on IPv6. Operations such as SNMP GET, SNMP WALK, and SNMP SET are supported.

NOTE
The following MIB table OIDs support only the default VRF, and non-default VRF is not supported.

NOTE
The snRtIpStaticRouteIndex OID is not supported on the ICX devices.

Name, OID, and syntax	Access	Description
snRtIpStaticRouteTable brcdIp.1.2.2.2	None	IP static route table.
snRtIpStaticRouteDest brcdIp.1.2.2.2.1.1 Syntax: IpAddress	Read-write	Shows the destination IP address of the default route. The address 0.0.0.0 is the IP address of the default router. **NOTE** The OID value of snRtIpStaticRouteDest must be the same as the snRtIpStaticRouteDest index value used to create the row. The index and index value must be the same. The SNMP SET value must be a valid IP address.
snRtIpStaticRouteMask brcdIp.1.2.2.2.1.2 Syntax: IpAddress	Read-write	Shows the subnet mask of the default router destination IP address. The subnet mask of the default router is 0.0.0.0. The OID value of snRtIpStaticRouteMask must be the same as the snRtIpStaticRouteMask index value used to create the row. The index and index value must be the same. The SNMP SET value must be a valid IP address
snRtIpStaticRouteNextHop brcdIp.1.2.2.2.1.3 Syntax: IpAddress	Read-write	Shows the IP address of the next-hop router (gateway) for the route. The SNMP SET value must be a valid IP address.
snRtIpStaticRouteMetric brcdIp.1.2.2.2.1.4 Syntax: Integer32	Read-write	Shows the metrics to the next-hop router.

Name, OID, and syntax	Access	Description
snRtIpStaticRouteRowStatus brcdIp.1.2.2.2.1.5 Syntax: Integer	Read-write	Controls the management of the table rows. The following values can be written: • delete(3) - Delete the row. • create(4) - Create a new row.
snRtIpStaticRouteDistance brcdIp.1.2.2.2.1.6 Syntax: Integer	Read-write	Specifies the administrative distance of the route. When comparing equal routes to a destination, the Layer 3 switch prefers lower administrative distances over higher ones.

IP filter table

An IP filter is an access policy that determines whether the device forwards or drops IP packets. A filter consists of source and destination IP information and the action to take when a packet matches the values in the filter.

The following objects define IP filters.

Name, OID, and syntax	Access	Description
snRtIpFilterTable brcdIp.1.2.2.3	None	The IP filter table.
snRtIpFilterIndex brcdIp.1.2.2.3.1.1 Syntax: Integer32	Read-only	Shows the index for an entry in the IP filter table.
snRtIpFilterAction brcdIp.1.2.2.3.1.2 Syntax: Integer	Read-write	Determines the action to be taken if the IP packet matches this filter: • deny(0) • permit(1) • qosEnabled(2) When you configure an IP access policy, the device denies all IP packets by default unless you explicitly permit them. Thus, if you want the device to permit all IP packets except the ones that you filter out, you must configure the last IP access policy to permit all IP packets.
snRtIpFilterProtocol brcdIp.1.2.2.3.1.3 Syntax: Integer	Read-write	Specifies the transport protocol that you can filter. Only the traffic for the transport protocol selected will be allowed: • all(0) - All traffic of the following transport protocols listed is permitted. • ICMP(1) • IGMP(2) • IGRP(88) • OSPF(89) • TCP(6) • UDP(17) In addition, if you filter TCP or UDP, you can also specify a particular application port (such as “HTTP” or “80”) or a logical expression consisting of an operator and port names or numbers.

Name, OID, and syntax	Access	Description
snRtIpFilterSourceIp brcdIp.1.2.2.3.1.4 Syntax: IpAddress	Read-write	Shows the source IP address. The policy will be applied to packets that come from this IP address.
snRtIpFilterSourceMask brcdIp.1.2.2.3.1.5 Syntax: IpAddress	Read-write	Shows the source IP subnet mask. The policy will be applied to packets that come from this subnet mask.
snRtIpFilterDestIp brcdIp.1.2.2.3.1.6 Syntax: IpAddress	Read-write	Shows the destination IP address. The IP access policy will be applied to packets that are going to this IP address.
snRtIpFilterDestMask brcdIp.1.2.2.3.1.7 Syntax: IpAddress	Read-write	Shows the destination IP subnet mask. The IP access policy will be applied to packets that are going to this subnet mask.
snRtIpFilterOperator brcdIp.1.2.2.3.1.8 Syntax: Integer	Read-write	Applies only if the value of the IP filter table object is TCP or UDP. It specifies the type of comparison to be performed to TCP and UDP packets: • greater(1) - The policy applies to TCP or UDP port numbers that are greater than the value of the IP filter table object. • equal(2) - The policy applies to TCP or UDP port numbers that are equal to the value of the IP filter table object. • less(3) - The policy applies to TCP or UDP port numbers that are less than the value of the IP filter table object. • notEqual(4) - The policy applies to all TCP or UDP port numbers except to those that are equal to the value of the IP filter table object.
snRtIpFilterOperand brcdIp.1.2.2.3.1.9 Syntax: Integer	Read-write	Applies only if the value of the IP filter table object is TCP or UDP. Specifies the TCP or UDP port number that will be used in this filter. Valid values: 0 - 65535. 0 means that this object is not applicable.
snRtIpFilterRowStatus brcdIp.1.2.2.3.1.10 Syntax: Integer	Read-write	Controls the management of the table rows. The following values can be written: • delete(3) - Delete the row. • create(4) - Create a new row. • modify(5) - Modify an existing row. If the row exists, then a SET with a value of create(4) returns a "bad value" error. Deleted rows are removed from the table immediately. The following values can be returned on reads: • noSuch(0) - No such row. • invalid(1) - Row is inoperative. • valid(2) - Row exists and is valid.

IP MIB Definition
IP filter table

Name, OID, and syntax	Access	Description
snRtIpFilterEstablished brcdIp.1.2.2.3.1.11 Syntax: Integer	Read-write	Applies only to TCP packets. Indicates if the filtering of established TCP packets is enabled for packets that have the ACK or RESET flag on: • disabled(0) • enabled(1)
snRtIpFilterQosPriority brcdIp.1.2.2.3.1.12 Syntax: Integer	Read-write	The router Layer 4 QoS Priority values are: • low(0) - lower priority • high(1) - higher priority The Priority values are: • level0(0) - Lower priority • level1(1) • level2(2) • level3(3), • level4(4) • level5(5) • level6(6) • level7(7) - Higher priority

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ECMP MIB objects

The SNMP Equal-Cost Multi-Path (ECMP) MIB object is used to configure ECMP for IPv6 using SNMP. ECMP enables the router to balance traffic to a specific destination across multiple equal-cost paths.

To use these objects, perform the following steps.

1. Enable IPv6 load sharing using the fdryIpv6LoadShare MIB object.

   IPv6 load sharing is enabled by default. If it needs to be enabled, set fdryIpv6LoadShare to 1.

2. Configure the maximum number of load sharing paths for IPv6 using the fdryIpv6LoadShareNumOfPaths MIB object.

Name, OID, and syntax	Access	Description
fdryIpv6LoadShare brcdIp.1.2.17.1.1.1 Syntax: RtrStatus	Read-write	This object directs the IPv6 traffic to distribute the traffic load to IPv6 routes if more than one IPv6 route is available: • 0 — Disables IPv6 load sharing. • 1 — Enables IPv6 load sharing.
fdryIpv6LoadShareNumOfPaths brcdIp.1.2.17.1.1.2 Syntax: Unsigned32	Read-write	Enter the number of IPv6 routes to be used to share a load. Enter a value from 2 through .8

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- BGP4 neighbor summary table....283

BGP4 general variables

The BGP4 implementation complies with RFC 4273. The BGP4 implementation also supports the following RFCs:

- RFC 1745 (OSPF Interactions)
- RFC 1965 (BGP4 Confederations)
- RFC 1997 (BGP Communities Attributes)
- RFC 2385 (TCP MD5 Signature Option)
- RFC 2439 (Route Flap Dampening)
- RFC 2796 (Route Reflection)
- RFC 2842 (Capability Advertisement)

The BGP4 objects apply globally to a device's BGP4 process.

Name, OID, and syntax	Access	Description
snBgp4Gen brcdIp.1.2.11.1 Syntax: Integer	None	
snBgp4GenAdminStat brcdIp.1.2.11.1.13	Read-write	The administrative status of BGP4 in the router. The value 'enabled' denotes that the BGP4 routing is active in this router; and 'disabled' disables BGP4 routing on this router. • disabled(0) • enabled(1)
snBgp4GenLocalAs brcdIp.1.2.11.1.28 Syntax: Integer	Read-write	BGP4 local autonomous system number.

BGP4 neighbor summary table

The BGP4 neighbor summary table shows statistics for the router's BGP4 neighbors.

Name, OID, and syntax	Access	Description
snBgp4NeighborSummaryTable brcdIp.1.2.11.17.1	None	The BGP4 neighbor summary table.
snBgp4NeighborSummaryEntry brcdIp.1.2.11.17.1.1	None	An entry in the Bgp4 Operational Status table.
snBgp4NeighborSummaryIndex brcdIp.1.2.11.17.1.1.1 Syntax: Integer32	Read-only	The index for a route entry.

BGP4 MIB Definition
BGP4 neighbor summary table

Name, OID, and syntax	Access	Description
snBgp4NeighborSummaryIp brcdIp.1.2.11.17.1.1.2 Syntax: IpAddress	Read-only	Shows the IP address of the neighbor.
snBgp4NeighborSummaryState brcdIp.1.2.11.17.1.1.3 Syntax: Integer	Read-only	Shows the state of the BGP4 process during the current session with the neighbor: • noState(0) • idle(1) - The BGP4 process is waiting to be started. Usually, enabling BGP4 or establishing a neighbor session starts the BGP4 process. A minus sign (-) indicates that the session has gone down and the software is clearing or removing routes. • connect(2) - Waiting for the connection process for the TCP neighbor session to be completed. • active(3) - BGP4 is waiting for a TCP connection from the neighbor. • openSent(4) - BGP4 is waiting for an OPEN message from the neighbor. • openConfirm(5) - BGP4 has received an OPEN message from the neighbor and is now waiting for either a KEEPALIVE or NOTIFICATION message. If the router receives a KEEPALIVE message from the neighbor, the state changes to established(6). If the message is a NOTIFICATION, the state changes to idle(1). • established(6) - BGP4 is ready to exchange UPDATE messages with the neighbor. **NOTE** If there is more BGP data in the TCP receiver queue, a plus sign (+) is also displayed.
snBgp4NeighborSummaryStateChgTime brcdIp.1.2.11.17.1.1.4 Syntax: Integer32	Read-only	Shows the number of times the state of this neighbor has changed. If the state frequently changes between CONNECT and ACTIVE, there may be a problem with the TCP connection.
snBgp4NeighborSummaryRouteReceived brcdIp.1.2.11.17.1.1.5 Syntax: Integer32	Read-only	Shows the number of routes received from the neighbor during the current BGP4 session.
snBgp4NeighborSummaryRouteInstalled brcdIp.1.2.11.17.1.1.6 Syntax: Integer32	Read-only	Indicates how many of the received routes were accepted and installed in the BGP4 route table.

Broadcast Forwarding Group

- IP Helper Address Table..... 285

IP Helper Address Table

Name, OID, and syntax	Access	Description
snRtIpIfHelperTable 1.3.6.1.4.1.1991.1.2.2.9.3.3	None	IP helper address table.
snRtIpIfHelperIfIndex 1.3.6.1.4.1.1991.1.2.2.9.3.3.1.1 Syntax: InterfaceIndex	None	Indicates the interface index of the port for an IP helper address entry.
snRtIpIfHelperAddrIndex 1.3.6.1.4.1.1991.1.2.2.9.3.3.1.2 Syntax: Integer (1..16)	None	The helper address table index for an IP helper address entry.
snRtIpIfHelperAddr 1.3.6.1.4.1.1991.1.2.2.9.3.3.1.3 Syntax: IP address	Read-write	The IP helper address. This is the address that UDP packets will be forwarded. It can be a helper address or a subnet broadcast address. But it cannot be 255.255.255.255 or 0.0.0.0.
snRtIpIfHelperAddrType 1.3.6.1.4.1.1991.1.2.2.9.3.3.1.4 Syntax: Integer	Read-write	Type of helper address. It can be a unicast or subnet broadcast address. • unicast (1) • broadcast (2)
snRtIpIfHelperRowStatus 1.3.6.1.4.1.1991.1.2.2.9.3.3.1.5 Syntax: RowSts	Read-write	Creates or deletes an IP helper entry.

Router IP MIB Definition

- IP RIP general group..... 287
- IP RIP redistribution table.....287

IP RIP general group

The Routing Information Protocol (RIP) is an IP route exchange protocol that uses a distance vector (a number representing distance) to measure the cost of a given route. The cost is a distance vector because the cost often is equivalent to the number of hops between the Layer 3 Switch and the destination network.

A Layer 3 Switch can receive multiple paths to a destination. A RIP route can have a maximum cost of 15.

Name, OID, and syntax	Access	Description
snRtIpRipEnable brcdIp.1.2.3.1.1 Syntax: Integer	Read-write	Indicates if IP RIP routing is enabled: • disabled(0) • enabled(1) Default: disabled(0)
snRtIpRipUpdateTime brcdIp.1.2.3.1.2 Syntax: Integer	Read-write	Specifies the RIP update interval in seconds. Valid values: 1 - 21845 seconds
snRtIpRipRedisDefMetric brcdIp.1.2.3.1.4 Syntax: Integer	Read-write	Shows the default metric to be used when static routes are redistributed to RIP. Valid values: 1 - 15
snRtIpRipDistance brcdIp.1.2.3.1.8 Syntax: Integer	Read-write	Shows the administrative distance of this filter. Valid values: 1 - 255

IP RIP redistribution table

The IP RIP redistribution table contains routes where RIP routes are redistributed. RIP can redistribute routes from other routing protocols such as OSPF and BGP4 into RIP. A redistributed route means that a Layer 3 Switch learns through another protocol, and then distributes into RIP.

Name, OID, and syntax	Access	Description
snRtIpRipRedisTable brcdIp.1.2.3.3	None	The IP RIP redistribution table.
snRtIpRipRedisIndex brcdIp.1.2.3.3.1.1 Syntax: Integer	Read-only	The table index for a IP RIP redistribution entry. There can be up to 64 entries in this table.

Name, OID, and syntax	Access	Description
snRtIpRipRedisProtocol brcdIp.1.2.3.3.1.3 Syntax: Integer	Read-write	Indicates which protocol is to be distributed: • other(1) - Cannot be used for SNMP-SET. • all(2) • static(3) • ospf(4) • bgp(5) • isis(6)
snRtIpRipRedisSetMetric brcdIp.1.2.3.3.1.7 Syntax: Integer	Read-write	Specifies the new metric of the route to be advertised. Valid values: 0 - 15. A value of 0 indicates that the default metric will be used.
snRtIpRipRedisRowStatus brcdIp.1.2.3.3.1.8 Syntax: Integer	Read-write	Controls the management of the table rows. The following values can be written: • delete(3) - Deletes the row. • create(4) - Creates a new row. • modify(5) - Modifies an existing row. If the row exists, then a SET with a value of create(4) returns a "bad value" error. Deleted rows are removed from the table immediately. The following values can be returned on reads: • noSuch(0) - No such row. • invalid(1) - Row is inoperative. • valid(2) - Row exists and is valid.
snRtIpRipRedisRouteMapName brcdIp.1.2.3.3.1.9 Syntax: DisplayString	Read-write	Indicates the name of the route map used for this redistribution entry.

IPSec MIB Definition

- Global IPSec MIB objects..... 289

Global IPSec MIB objects

The following MIB objects display the objects supported for IPSec tunnels.

NOTE
The objects in the following table are supported only on the RUCKUS ICX 7450 devices.

Name, OID, and syntax	Access	Description
brcdIPSecSPIValue brcdIp.1.1.15.1.1.1 Syntax: Unsigned32	accessible-for-notify	Specifies a 4-byte field at the beginning of Encapsulating Security Payload Packet.
brcdIPSecSequenceNumber brcdIp.1.1.15.1.1.2 Syntax: Unsigned32	accessible-for-notify	Denotes the ESP sequence number used for anti-replay check for the IPSec packets. **NOTE** This object is not supported on the RUCKUS ICX 7450 device.
brcdIKEMessageType brcdIp.1.1.15.1.1.3 Syntax: Unsigned32	accessible-for-notify	Specifies the type of notification message. Only IKE_SA_INIT(34), IKE_AUTH(35), CREATE_CHILD_SA(36) and INFORMATIONAL(37) are currently supported as per RFC5996.
brcdIKEPayloadType brcdIp.1.1.15.1.1.4 Syntax: Unsigned32	accessible-for-notify	Specifies the type of IKE payload. As per RFC5996 current valid values are {0, 32 to 48}.
brcdIPSecSlotNumber brcdIp.1.1.15.1.1.5 Syntax: Unsigned32	accessible-for-notify	Indicates the Slot ID of the LP.
brcdIPSecUnitNumber brcdIp.1.1.15.1.1.6 Syntax: Unsigned32	accessible-for-notify	Indicates the unit number.
brcdIPSecVRFValue brcdIp.1.1.15.1.1.7 Syntax: Unsigned32	accessible-for-notify	Indicates the VRF value.
brcdIPSecSessionState brcdIp.1.1.15.1.1.8 Syntax: DisplayString	accessible-for-notify	Indicates the state of IPsec/IKE session.
brcdIPSecModuleState brcdIp.1.1.15.1.1.9 Syntax: DisplayString	accessible-for-notify	Indicates the state of IPsec module.

IPSec notifications

By default, IPSec (ESP) and IKEv2 notifications are enabled. To disable notification, issue the **no snmp-server enable traps ipsec** and **no snmp-server enable traps ikev2** commands at the device CLI.

The following traps are generated for the IPSec objects supported only on the RUCKUS ICX 7450 devices.

Trap name and number	Varbinds	Severity	Description and trap message
brcdIKEInvalidMsgTypeNotification brcdIp.1.1.15.1.0.8	spdIPSourceType, spdIPSourceAddress, spdIPDestinationType, spdIPDestinationAddress, brcdIPSecSPIValue, brcdIKEMessageType	Informational	The SNMP trap that is generated when an invalid IKE message Type is received. Sample format: RUCKUS trap: IKEv2: Invalid Message Type Received with Source <source-address> Destination <destination-address> SPI <SPI-ID> MessageType <x>. Where <x> is the value of unsupported message type in IKEv2 packet. It is UINT8 value. The value will not be one of the following (from RFC 5996): • IKE_SA_INIT - 34 • IKE_AUTH - 35 • CREATE_CHILD_SA - 36 • INFORMATIONAL - 37
brcdIKEInvalidPayloadNotification brcdIp.1.1.15.1.0.9	spdIPSourceType, spdIPSourceAddress, spdIPDestinationType, spdIPDestinationAddress, brcdIPSecSPIValue,brcdIKEPayloadType	Informational	The SNMP trap that is generated when an invalid IKE payload is received. Sample format: RUCKUS `trap: IKEv2: Invalid Payload Type Received with Source <source-address> Destination address type <type> Destination <destination-address> SPI <SPI-ID> PayloadType <x>.` Where <x> is the value of unsupported payload type in IKEv2 packet. It is UINT8 value. The value will not be 0, and 32 - 42 that are current valid payload type.
brcdIKEMaxPeerReachedNotification brcdIp.1.1.15.1.0.10	brcdIPSecSlotNumber	Warning	The SNMP trap that is generated when maximum IKE peer limit is reached a LP. Sample format: RUCKUS trap: IKEv2: Maximum IKE Peers Limit Reached on LP <n>. **NOTE** This notification is not supported on the RUCKUS ICX 7450 device.

Trap name and number	Varbinds	Severity	Description and trap message
brcdIKERecoveredMaxPeer LimitNotification brcdIp.1.1.15.1.0.11	brcdIPSecSlotNumber	Warning	The SNMP trap that is generated when the system recovers from the maximum IKE peer limit condition on a LP. Sample format: RUCKUS trap: IKEv2: Recovered from Maximum IKE Peers Limit Condition on LP <n>. **NOTE** This notification is not supported on the RUCKUS ICX 7450 device.
brcdIPSecSessionNotification brcdIp.1.1.15.1.0.12	brcdIPSecSessionState, spdIPSourceType, spdIPSourceAddress, spdIPDestinationType, spdIPDestinationAddress, brcdIPsecVRFValue, brcdIPSecSPIValue, spdPacketDirection	Informational	The SNMP trap that is generated when IPsec session state is changed.
brcdIKESessionNotification brcdIp.1.1.15.1.0.13	brcdIPSecSessionState, spdIPSourceType, spdIPSourceAddress, spdIPDestinationType, spdIPDestinationAddress, brcdIPsecVRFValue, brcdIPSecSPIValue	Informational	The SNMP trap that is generated when IKEv2 session state is changed. **NOTE** This notification is supported only on the RUCKUS ICX 7450 device.
brcdIPSecModuleNotification brcdIp.1.1.15.1.0.14	brcdIPSecSlotNumber, brcdIPSecUnitNumber, brcdIPSecModuleState	Informational	The SNMP trap that is generated when IPsec module state is changed. **NOTE** This notification is supported only on the RUCKUS ICX 7450 device.
brcdIKEMaxPeerReachedStacking Notification brcdIp.1.1.15.1.0.15		Warning	The SNMP trap that is generated when maximum IKE peer limit is reached. **NOTE** This notification is supported only on the RUCKUS ICX 7450 device.
brcdIKERecoveredMaxPeerLimit StackingNotification brcdIp.1.1.15.1.0.16		Warning	The SNMP trap that is generated when the system recovers from the maximum IKE peer limit condition. **NOTE** This notification is supported only on the RUCKUS ICX 7450 device.

Counters support for IPSec

The following table lists the MIB counters supported for IPSec.

Object name	Object identifier	Access/Description
ifInOctets	1.3.6.1.2.1.2.2.1.10	Read-only
ifInUcastPkts	1.3.6.1.2.1.2.2.1.11	Read-only
ifOutOctets	1.3.6.1.2.1.2.2.1.16	Read-only
ifOutUcastPkts	1.3.6.1.2.1.2.2.1.17	Read-only
ifHCInOctets	1.3.6.1.2.1.31.1.1.1.6	Read-only
ifHCInUcastPkts	1.3.6.1.2.1.31.1.1.1.7	Read-only
ifHCOutOctets	1.3.6.1.2.1.31.1.1.1.10	Read-only
ifHCOutUcastPkts	1.3.6.1.2.1.31.1.1.1.11	Read-only

The following MIB objects or tables are updated to extend support for IPSec.

Object name	Object Identifier	Description
tunnelIfSecurity	1.3.6.1.2.1.10.131.1.1.1.1.5	Read-only. Returns ipsec(2) value for IPSec tunnels.
Counters support for IPSec	1.3.6.1.2.1.153.1.2	This table maps policies (groupings) onto an endpoint (interface). A new row is added for ipsec tunnel policy to an endpoint mapping. The “spdEndGroupName” is formed by vrf_id, tunnel_id, dir, ip protocol name, spi value, authentication algorithm, and encryption algorithm. **show ipsec sa** and **show ipsec policy** commands can be used to see the corresponding entries from CLI.
Counters support for IPSec	1.3.6.1.2.1.153.1.3	This table contains a list of rules and/or subgroups contained within a given policy group. A new row is added to this table for each rule (or subgroup or a subgroup of rules) within a policy group for ipsec tunnel. The “spdGroupContComponentName” is formed by vrf_id, tunnel_id, dir, and priority. **show ipsec sa** and **show ipsec policy** commands can be used to see the corresponding entries from CLI.
Counters support for IPSec	1.3.6.1.2.1.153.1.4	This table defines a rule by associating a filter or a set of filters to an action to be executed. A new row is added to this table for each spdRuleDefName that is the administrative assigned name of the rule referred to by the spdGroupContComponentName. The “spdRuleDefDescription” is formed by vrf_id, tunnel_id, dir, and priority. **show ipsec sa** and **show ipsec policy** commands can be used to see the corresponding entries from CLI.

IPsec endpoint to group table

The IPsec endpoint table maps policies (groupings) onto an endpoint (interface). A policy group assigned to an endpoint is then used to control access to the network traffic passing through that endpoint.

Usage Guidelines

If an endpoint has been configured with a policy group and no rule within that policy group matches that packet, the default action is to drop the packet.

If no policy group has been assigned to an endpoint, then the policy group specified by spdIngressPolicyGroupName must be used on traffic inbound from the network through that endpoint, and the policy group specified by spdEgressPolicyGroupName must be used for traffic outbound to the network through that endpoint.

MIB objects

Name, OID, and Syntax	Access	Description
spdEndpointToGroupTable 1.3.6.1.2.1.153.1.2 Syntax: Sequence of SpdEndpointToGroupEntry	None	This table maps policies (groupings) onto an endpoint (interface). A policy group assigned to an endpoint is then used to control access to the network traffic passing through that endpoint.
spdEndGroupDirection 1.3.6.1.2.1.153.1.2.1.1 Syntax: IfDirection	None	This object indicates which direction of packets crossing the interface are associated with which spdEndGroupName object. Ingress packets, or packets into the device match, when this value is inbound(1). Egress packets, or packets out of the device, match when this value is outbound(2).
spdEndGroupInterface 1.3.6.1.2.1.153.1.2.1.2 Syntax: InterfaceIndex	None	This object can be used to uniquely identify an endpoint to which a set of policy groups is applied.
spdEndGroupName 1.3.6.1.2.1.153.1.2.1.3 Syntax: SnmpAdminString	Read-create	The policy group name to apply at this endpoint. **NOTE** Only the Read operation is supported.
spdEndGroupLastChanged 1.3.6.1.2.1.153.1.2.1.4 Syntax: TimeStamp	Read-only	The value of sysUpTime when this row was last modified or created either through SNMP SETs or by some other external means. If this row has not been modified since the last re-initialization of the network management subsystem, this object should have a zero value. This object value is 00:00:00.00.
spdEndGroupStorageType 1.3.6.1.2.1.153.1.2.1.5 Syntax: StorageType	Read-create	The storage type for this row. Rows in this table that were created through an external process may have a storage type of readOnly or permanent. **NOTE** Only the Read operation is supported. This object will always be nonvolatile(3).
spdEndGroupRowStatus 1.3.6.1.2.1.153.1.2.1.6 Syntax: RowStatus	Read-create	This object indicates the conceptual status of this row. **NOTE** Only the Read operation is supported. This object will always be Active(1).

History

Release version	History
08.0.70	This MIB was introduced.

IPsec global system policy group table

The IPsec global system policy group table indicates the global system policy group that is to be applied on ingress packets (that is, arriving at an interface from a network) when a given endpoint does not contain a policy definition in the spdEndpointToGroupTable.

Usage Guidelines

The IPsec global system policy group table values can be used as an index into the spdGroupContentsTable to retrieve a list of policies. A zero length string indicates that no system-wide policy exists and the default policy of "drop" should be executed for ingress packets until one is imposed by either this object or by the endpoint processing a given packet. This object must be persistent.

MIB objects

Name, OID, and Syntax	Access	Description
spdGroupContentsTable 1.3.6.1.2.1.153.1.3 Syntax: Sequence of SpdGroupContentsEntry	None	This table contains a list of rules and/or subgroups contained within a given policy group.
spdGroupContName 1.3.6.1.2.1.153.1.3.1.1 Syntax: SnmpAdminString	None	The administrative name of the group associated with this row. A"group" is formed by all the rows in this table that have the same value of this object.
spdGroupContPriority 1.3.6.1.2.1.153.1.3.1.2 Syntax: Integer32	None	The priority (sequence number) of the subcomponent in a group that this row represents. This value indicates the order in which each row of this table must be processed from low to high. For example, a row with a priority of 0 is processed before a row with a priority of 1, a 1 before a 2, and so on.
spdGroupContFilter 1.3.6.1.2.1.153.1.3.1.3 Syntax: VariablePointer	Read-create	Points to a filter that is evaluated to determine whether the spdGroupContComponentName within this row is exercised. Managers can use this object to classify groups of rules or subgroups together in order to achieve a greater degree of control and optimization over the execution order of the items within the group. If the filter evaluates to false, the rule or subgroup will be skipped and the next rule or subgroup will be evaluated instead. **NOTE** Only Read operation is supported.
spdGroupContComponentType 1.3.6.1.2.1.153.1.3.1.4 Syntax: INTEGER { group(1), rule(2) }	Read-create	Indicates whether the spdGroupContComponentName object is the name of another group defined within the spdGroupContentsTable or is the name of a rule defined within the spdRuleDefinitionTable. **NOTE** Only the Read operation is supported.
spdGroupContComponentName 1.3.6.1.2.1.153.1.3.1.5 Syntax: SnmpAdminString	Read-create	The name of the policy rule or subgroup contained within this row, as indicated by the spdGroupContComponentType object. **NOTE** Only the Read operation is supported.
spdGroupContLastChanged 1.3.6.1.2.1.153.1.3.1.6 Syntax: Timestamp	Read-only	The value of sysUpTime when this row was last modified or created either through SNMP SETs or by some other external means. This object value is 00:00:00.00.

Name, OID, and Syntax	Access	Description
spdGroupContStorageType 1.3.6.1.2.1.153.1.3.1.7 Syntax: StorageType	Read-create	The storage type for this row. Rows in this table that were created through an external process may have a storage type of readOnly or permanent.
spdGroupContRowStatus 1.3.6.1.2.1.153.1.3.1.8 Syntax: RowStatus	Read-create	This object indicates the conceptual status of this row. This object will always be Active(1). **NOTE** Only the Read operation is supported.

History

Release version	History
08.0.70	This MIB was introduced.

IPsec filter table

The IPsec filter table defines a rule by associating a filter or a set of filters to an action to be executed.

MIB objects

Objects and OID	Access	Description
spdRuleDefinitionTable 1.3.6.1.2.1.153.1.4 Syntax: Sequence of SpdRuleDefinitionEntry	None	This table defines a rule by associating a filter or a set of filters to an action to be executed.
spdRuleDefName 1.3.6.1.2.1.153.1.4.1.1 Syntax: SnmpAdminString	None	The administratively assigned name of the rule referred to by the spdGroupContComponentName object.
spdRuleDefDescription 1.3.6.1.2.1.153.1.4.1.2 Syntax: SnmpAdminString	Read-create	A user-defined string. This field may be used for administrative tracking purposes. **NOTE** Only Read operation is supported.
spdRuleDefFilter 1.3.6.1.2.1.153.1.4.1.3 Syntax: VariablePointer	Read-create	Points to a filter that is used to evaluate whether the action associated with this row is executed or not. The action will only execute if the filter referenced by this object evaluates to true after first applying any negation required by the spdRuleDefFilterNegated object. **NOTE** Only the Read operation is supported.
spdRuleDefFilterNegated 1.3.6.1.2.1.153.1.4.1.4 Syntax: TruthValue	Read-create	Specifies whether or not the results of the filter referenced by the spdRuleDefFilter object is negated. This value will be always false. **NOTE** Only the Read operation is supported.
spdRuleDefAction 1.3.6.1.2.1.153.1.4.1.5 Syntax: VariablePointer	Read-create	This column points to the action to be taken. **NOTE** Only the Read operation is supported.
spdRuleDefAdminStatus 1.3.6.1.2.1.153.1.4.1.6 Syntax: SpdAdminStatus	Read-create	Indicates whether the current rule definition is considered active. If the value is enabled, the rule must be evaluated when processing packets. If the value is disabled, the packet processing must continue as if this rule's filter had effectively failed. Admin status is always True. **NOTE** Only the Read operation is supported.
spdRuleDefLastChanged 1.3.6.1.2.1.153.1.4.1.7 Syntax: TimeStamp	Read-only	The value of sysUpTime when this row was last modified or created either through SNMP SETs or by some other external means. If this row has not been modified since the last re-initialization of the network management subsystem, this object should have a zero value. This object value is 00:00:00.00.
spdRuleDefStorageType 1.3.6.1.2.1.153.1.4.1.8 Syntax: StorageType	Read-create	The storage type for this row. Rows in this table that were created through an external process may have a storage type of readOnly or permanent. This object will always be nonvolatile(3). **NOTE** Only the Read operation is supported.

Objects and OID	Access	Description
spdRuleDefRowStatus 1.3.6.1.2.1.153.1.4.1.9 Syntax: RowStatus	Read-create	This object indicates the conceptual status of this row. This object will always be Active(1). **NOTE** Only the Read operation is supported.

History

Release version	History
08.0.70	This MIB was introduced.

spdStaticFiltersTable

The spdStaticFilters table is useful for adding as a default filter for a default action or a set of actions.

MIB objects

Name, OID, and Syntax	Access	Description
spdStaticFilters 1.3.6.1.2.1.153.1.7 Syntax: Integer32 (1)	Read-only	This scalar indicates a (automatic) true result for a filter.
spdTrueFilter 1.3.6.1.2.1.153.1.7.1 Syntax: Integer32 (1)	Read-only	This is a filter that is always true. The value is always 1.

History

Release version	History
08.0.70	This MIB was introduced.

spdStaticActions Table

These are static actions that can be pointed to by the spdRuleDefAction or the spdSubActSubActionName objects to drop, accept, or reject packets.

MIB objects

Name, OID, and Syntax	Access	Description
spdStaticActions 1.3.6.1.2.1.153.1.13 Syntax: Integer32 (1)	Read-only	This scalar indicates that a packet must be dropped and should not have action/packet logging.
spdDropAction 1.3.6.1.2.1.153.1.13.1 Syntax: Integer32 (1)	Read-only	This scalar indicates that a packet must be dropped and should not have action/packet logging. The value is always 1.
spdDropActionLog 1.3.6.1.2.1.153.1.13.2 Syntax: Integer32 (1)	Read-only	This scalar indicates that a packet must be dropped and should have action/packet logging. The value is always 1.
spdAcceptAction 1.3.6.1.2.1.153.1.13.3 Syntax: Integer32 (1)	Read-only	This scalar indicates that a packet must be accepted (pass-through) and should not have action/packet logging. The value is always 1.
spdAcceptActionLog 1.3.6.1.2.1.153.1.13.4 Syntax: Integer32 (1)	Read-only	This scalar indicates that a packet must be accepted (pass-through) and should have action/packet logging. The value is always 1.

History

Release version	History
08.0.70	This MIB was introduced.

Entity OID MIB Definition

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Entity MIBs

The following MIB objects are defined for assigning vendor type OIDs to various physical entities (Chassis, Power supply, Fan, sensor, various types of modules, port, and so on.). The following table objects are supported on the ICX devices.

Object groups	Object Identifier
brcdEntityOIDMIB	brcdIp.1.17
brcdEntityOIDMIBObjects	brcdIp.1.17.1
brcdEntityOIDOther	brcdIp.1.17.1.1
brcdEntityOIDUnknown	brcdIp.1.17.1.2

Chassis OID assignments

Object group	Object Identifier
brcdEntityOIDChassis	brcdIp.1.17.1.3
brcdEntityOIDChassisUnknown	brcdIp.1.17.1.3.1
brcdEntityOIDChassisICX7250Family	brcdIp.1.17.1.3.7
brcdEntityOIDChassisICX725024	brcdIp.1.17.1.3.7.1
brcdEntityOIDChassisICX725024HPOE	brcdIp.1.17.1.3.7.2
brcdEntityOIDChassisICX725024G	brcdIp.1.17.1.3.7.3
brcdEntityOIDChassisICX725048	brcdIp.1.17.1.3.7.4
brcdEntityOIDChassisICX725048HPOE	brcdIp.1.17.1.3.7.5
brcdEntityOIDChassisICX7450Family	brcdIp.1.17.1.3.8
brcdEntityOIDChassisICX745024	brcdIp.1.17.1.3.8.1
brcdEntityOIDChassisICX745024HPOE	brcdIp.1.17.1.3.8.2
brcdEntityOIDChassisICX745032ZP	brcdIp.1.17.1.3.8.3
brcdEntityOIDChassisICX745048	brcdIp.1.17.1.3.8.4
brcdEntityOIDChassisICX745048HPOE	brcdIp.1.17.1.3.8.5
brcdEntityOIDChassisICX745048F	brcdIp.1.17.1.3.8.6
brcdEntityOIDChassisICX7750Family	brcdIp.1.17.1.3.9
brcdEntityOIDChassisICX775048C	brcdIp.1.17.1.3.9.1
brcdEntityOIDChassisICX775048F	brcdIp.1.17.1.3.9.2
brcdEntityOIDChassisICX775026Q	brcdIp.1.17.1.3.9.3
brcdEntityOIDChassisICX7150Family	brcdIp.1.17.1.3.10
brcdEntityOIDChassisICX715024	brcdIp.1.17.1.3.10.1
brcdEntityOIDChassisICX715024POE	brcdIp.1.17.1.3.10.2
brcdEntityOIDChassisICX715048	brcdIp.1.17.1.3.10.3
brcdEntityOIDChassisICX715048POE	brcdIp.1.17.1.3.10.4
brcdEntityOIDChassisICX715048POEF	brcdIp.1.17.1.3.10.5
brcdEntityOIDChassisICX7150C12POE	brcdIp.1.17.1.3.10.6
brcdEntityOIDChassisICX715048ZP	brcdIp.1.17.1.3.10.7
brcdEntityOIDChassisICX7650Family	brcdIp.1.17.1.3.11

Object group	Object Identifier
brcdEntityOIDChassisICX765048F	brcdIp.1.17.1.3.11.1
brcdEntityOIDChassisICX765048P	brcdIp.1.17.1.3.11.2
brcdEntityOIDChassisICX765048ZP	brcdIp.1.17.1.3.11.3
brcdEntityOIDChassisICX7850Family	brcdIp.1.17.1.3.12
brcdEntityOIDChassisICX785032Q	brcdIp.1.17.1.3.12.1
brcdEntityOIDChassisICX785048F	brcdIp.1.17.1.3.12.2
brcdEntityOIDChassisICX785048FS	brcdIp.1.17.1.3.12.3
brcdEntityOIDBackplane	brcdIp.1.17.1.4
brcdEntityOIDBackplaneUnknown	brcdIp.1.17.1.4.1
brcdEntityOIDContainer	brcdIp.1.17.1.5
brcdEntityOIDContainerUnknown	brcdIp.1.17.1.5.1
brcdEntityOIDContainerPowerSupply	brcdIp.1.17.1.5.2
brcdEntityOIDContainerFanTray	brcdIp.1.17.1.5.3
brcdEntityOIDContainerMgmtModuleSlot	brcdIp.1.17.1.5.4
brcdEntityOIDContainerSwitchFabricModuleSlot	brcdIp.1.17.1.5.5
brcdEntityOIDContainerIntfModuleSlot	brcdIp.1.17.1.5.6
brcdEntityOIDPowerSupply	brcdIp.1.17.1.6
brcdEntityOIDPowerSupplyUnknown	brcdIp.1.17.1.6.1
brcdEntityOIDPowerSupplyAC500W	brcdIp.1.17.1.6.2
brcdEntityOIDPowerSupplyDC500W	brcdIp.1.17.1.6.3
brcdEntityOIDPowerSupplyAC1200W	brcdIp.1.17.1.6.4
brcdEntityOIDPowerSupplyDC1200W	brcdIp.1.17.1.6.5
brcdEntityOIDPowerSupplyAC1200WA	brcdIp.1.17.1.6.6
brcdEntityOIDPowerSupplyDC1200WA	brcdIp.1.17.1.6.7
brcdEntityOIDPowerSupplyAC1800W	brcdIp.1.17.1.6.8
brcdEntityOIDPowerSupplyDC1800W	brcdIp.1.17.1.6.9
brcdEntityOIDPowerSupplyAC2100W	brcdIp.1.17.1.6.10
brcdEntityOIDPowerSupplyDC2100W	brcdIp.1.17.1.6.11
brcdEntityOIDPowerSupplyAC2400W	brcdIp.1.17.1.6.12
brcdEntityOIDPowerSupplyDC2400W	brcdIp.1.17.1.6.13
brcdEntityOIDPowerSupplyAC3000W	brcdIp.1.17.1.6.14
brcdEntityOIDPowerSupplyDC3000W	brcdIp.1.17.1.6.15
brcdEntityOIDPowerSupplyACPOE	brcdIp.1.17.1.6.16
brcdEntityOIDPowerSupplyACRegular	brcdIp.1.17.1.6.17
brcdEntityOIDPowerSupplyDCPOE	brcdIp.1.17.1.6.18
brcdEntityOIDPowerSupplyDCRegular	brcdIp.1.17.1.6.19
brcdEntityOIDFan	brcdIp.1.17.1.7
brcdEntityOIDFanUnknown	brcdIp.1.17.1.7.1
brcdEntityOIDChassisFanTray	brcdIp.1.17.1.7.2
brcdEntityOIDChassisFan	brcdIp.1.17.1.7.3
brcdEntityOIDSensor	brcdIp.1.17.1.8

Object group	Object Identifier
brcdEntityOIDSensorUnknown	brcdIp.1.17.1.8.1
brcdEntityOIDSensorChipTemp	brcdIp.1.17.1.8.2
brcdEntityOIDSensorModuleTemp	brcdIp.1.17.1.8.3
brcdEntityOIDModule	brcdIp.1.17.1.9
brcdEntityOIDModuleUnknown	brcdIp.1.17.1.9.1
brcdEntityOIDModuleMgmt	brcdIp.1.17.1.9.2
brcdEntityOIDModuleMgmtUnknown	brcdIp.1.17.1.9.2.1
brcdEntityOIDModuleMgmtIcx7250Family	brcdIp.1.17.1.9.2.4
brcdEntityOIDModuleMgmtIcx7250624BaseModule	brcdIp.1.17.1.9.2.4.1
brcdEntityOIDModuleMgmtIcx7250648BaseModule	brcdIp.1.17.1.9.2.4.2
brcdEntityOIDModuleMgmtIcx7250624GBaseModule	brcdIp.1.17.1.9.2.4.3
brcdEntityOIDModuleMgmtIcx7250624PoeBaseModule	brcdIp.1.17.1.9.2.4.4
brcdEntityOIDModuleMgmtIcx7250648PoeBaseModule	brcdIp.1.17.1.9.2.4.5
brcdEntityOIDModuleMgmtIcx7450Family	brcdIp.1.17.1.9.2.5
brcdEntityOIDModuleMgmtIcx7450624BaseModule	brcdIp.1.17.1.9.2.5.1
brcdEntityOIDModuleMgmtIcx7450648BaseModule	brcdIp.1.17.1.9.2.5.2
brcdEntityOIDModuleMgmtIcx7450648FBaseModule	brcdIp.1.17.1.9.2.5.3
brcdEntityOIDModuleMgmtIcx7450624PoeBaseModule	brcdIp.1.17.1.9.2.5.4
brcdEntityOIDModuleMgmtIcx7450648PoeBaseModule	brcdIp.1.17.1.9.2.5.5
brcdEntityOIDModuleMgmtIcx7450632ZPBaseModule	brcdIp.1.17.1.9.2.5.6
brcdEntityOIDModuleMgmtIcx7750Family	brcdIp.1.17.1.9.2.6
brcdEntityOIDModuleMgmtIcx775048CBaseModule	brcdIp.1.17.1.9.2.6.1
brcdEntityOIDModuleMgmtIcx775048FBaseModule	brcdIp.1.17.1.9.2.6.2
brcdEntityOIDModuleMgmtIcx775026QBaseModule	brcdIp.1.17.1.9.2.6.3
brcdEntityOIDModuleMgmtIcx7150Family	brcdIp.1.17.1.9.2.7
brcdEntityOIDModuleMgmtIcx7150624BaseModule	brcdIp.1.17.1.9.2.7.1
brcdEntityOIDModuleMgmtIcx7150648BaseModule	brcdIp.1.17.1.9.2.7.2
brcdEntityOIDModuleMgmtIcx7150624PoeBaseModule	brcdIp.1.17.1.9.2.7.3
brcdEntityOIDModuleMgmtIcx7150648PoeBaseModule	brcdIp.1.17.1.9.2.7.4
brcdEntityOIDModuleMgmtIcx7150648PoeFBaseModule	brcdIp.1.17.1.9.2.7.5
brcdEntityOIDModuleMgmtIcx7150612CPoeBaseModule	brcdIp.1.17.1.9.2.7.6
brcdEntityOIDModuleMgmtIcx7150648ZPBaseModule	brcdIp.1.17.1.9.2.7.7
brcdEntityOIDModuleMgmtIcx7650Family	brcdIp.1.17.1.9.2.8
brcdEntityOIDModuleMgmtIcx7650648FBaseModule	brcdIp.1.17.1.9.2.8.1
brcdEntityOIDModuleMgmtIcx7650648PoeBaseModule	brcdIp.1.17.1.9.2.8.2
brcdEntityOIDModuleMgmtIcx7650648ZPBaseModule	brcdIp.1.17.1.9.2.8.3
brcdEntityOIDModuleMgmtIcx7850Family	brcdIp.1.17.1.9.2.9
brcdEntityOIDModuleMgmtIcx7850632QBaseModule	brcdIp.1.17.1.9.2.9.1
brcdEntityOIDModuleMgmtIcx7850648FBaseModule	brcdIp.1.17.1.9.2.9.2
brcdEntityOIDModuleMgmtIcx7850648FSBaseModule	brcdIp.1.17.1.9.2.9.3

Object group	Object Identifier
brcdEntityOIDModuleSfm	brcdIp.1.17.1.9.3
brcdEntityOIDModuleSfmUnknown	brcdIp.1.17.1.9.3.1
brcdEntityOIDModuleOptics	brcdIp.1.17.1.9.5
brcdEntityOIDModuleOpticsUnknown	brcdIp.1.17.1.9.5.1
brcdEntityOIDModuleOpticsSFP	brcdIp.1.17.1.9.5.2
brcdEntityOIDModuleOpticsSFPP	brcdIp.1.17.1.9.5.3
brcdEntityOIDModuleOpticsXFP	brcdIp.1.17.1.9.5.4
brcdEntityOIDModuleOpticsCFP	brcdIp.1.17.1.9.5.5
brcdEntityOIDModuleOpticsQSFPP	brcdIp.1.17.1.9.5.6
brcdEntityOIDModuleOpticsCFP2	brcdIp.1.17.1.9.5.7
brcdEntityOIDModuleOpticsGBIC	brcdIp.1.17.1.9.5.8
brcdEntityOIDModuleService	brcdIp.1.17.1.9.6
brcdEntityOIDModuleServiceUnknown	brcdIp.1.17.1.9.6.1
brcdEntityOIDModuleServiceIcx7250Family	brcdIp.1.17.1.9.6.2
brcdEntityOIDModuleServiceIcx7250sfpplus8Port80gModule	brcdIp.1.17.1.9.6.2.1
brcdEntityOIDModuleServiceIcx7250sfpplus4Port4gModule	brcdIp.1.17.1.9.6.2.2
brcdEntityOIDModuleServiceIcx7450Family	brcdIp.1.17.1.9.6.3
brcdEntityOIDModuleServiceIcx7400sfpplus4Port40gModule	brcdIp.1.17.1.9.6.3.1
brcdEntityOIDModuleServiceIcx7400copper4Port40gModule	brcdIp.1.17.1.9.6.3.2
brcdEntityOIDModuleServiceIcx7400sfp4Port4gModule	brcdIp.1.17.1.9.6.3.3
brcdEntityOIDModuleServiceIcx7400qsfpplus1Port40gModule	brcdIp.1.17.1.9.6.3.4
brcdEntityOIDModuleServiceIcx7400ServiceModule	brcdIp.1.17.1.9.6.3.5
brcdEntityOIDModuleServiceIcx7750Family	brcdIp.1.17.1.9.6.4
brcdEntityOIDModuleServiceIcx7750QSFP6port40gModule	brcdIp.1.17.1.9.6.4.1
brcdEntityOIDModuleServiceIcx77506Q6port40gModule	brcdIp.1.17.1.9.6.4.2
brcdEntityOIDModuleServiceIcx7150Family	brcdIp.1.17.1.9.6.5
brcdEntityOIDModuleServiceIcx7150sfpplus2Port20gModule	brcdIp.1.17.1.9.6.5.1
brcdEntityOIDModuleServiceIcx7150sfpplus4Port40gModule	brcdIp.1.17.1.9.6.5.2
brcdEntityOIDModuleServiceIcx7150gc2Port2gModule	brcdIp.1.17.1.9.6.5.3
brcdEntityOIDModuleServiceIcx7150sfpplus8Port80gModule	brcdIp.1.17.1.9.6.5.4
brcdEntityOIDModuleServiceIcx7650Family	brcdIp.1.17.1.9.6.6
brcdEntityOIDModuleServiceIcx7600xgf4Port40gModule	brcdIp.1.17.1.9.6.6.1
brcdEntityOIDModuleServiceIcx7600qsfp2port80gModule	brcdIp.1.17.1.9.6.6.2
brcdEntityOIDModuleServiceIcx7600100g1port100gModule	brcdIp.1.17.1.9.6.6.3
brcdEntityOIDModuleServiceIcx7650qsfp4port160gModule	brcdIp.1.17.1.9.6.6.4
brcdEntityOIDModuleServiceIcx7650100g2port200gModule	brcdIp.1.17.1.9.6.6.5
brcdEntityOIDModuleServiceIcx7650qsfp2port80gModule	brcdIp.1.17.1.9.6.6.6
brcdEntityOIDModuleServiceIcx7850Family	brcdIp.1.17.1.9.6.7
brcdEntityOIDModuleServiceIcx78008port800gModule	brcdIp.1.17.1.9.6.7.1
brcdEntityOIDModuleServiceIcx780012port1200gModule	brcdIp.1.17.1.9.6.7.2
brcdEntityOIDPort	brcdIp.1.17.1.10

Object group	Object Identifier
brcdEntityOIDPortUnknown	brcdIp.1.17.1.10.1
brcdEntityOIDPortMgmtSerial	brcdIp.1.17.1.10.2
brcdEntityOIDPortMgmtEth	brcdIp.1.17.1.10.3
brcdEntityOIDPort100BaseTx	brcdIp.1.17.1.10.4
brcdEntityOIDPort100BaseFx	brcdIp.1.17.1.10.5
brcdEntityOIDPortGigBaseTx	brcdIp.1.17.1.10.6
brcdEntityOIDPortGigBaseFx	brcdIp.1.17.1.10.7
brcdEntityOIDPort10GigBaseFx	brcdIp.1.17.1.10.8
brcdEntityOIDPort40GigBaseFx	brcdIp.1.17.1.10.9
brcdEntityOIDPort100GigBaseFx	brcdIp.1.17.1.10.10
brcdEntityOIDPort10GigBaseTx	brcdIp.1.17.1.10.11
brcdEntityOIDPort2.5GigBaseTx	brcdIp.1.17.1.10.12
brcdEntityOIDPort40GigBaseTx	brcdIp.1.17.1.10.13
brcdEntityOIDPort2500BaseTx	brcdIp.1.17.1.10.14
brcdEntityOIDPort5GigBaseTx	brcdIp.1.17.1.10.15
brcdEntityOIDStack	brcdIp.1.17.1.11
brcdEntityOIDStackUnknown	brcdIp.1.17.1.11.1
brcdEntityOIDStackICXStackFamily	brcdIp.1.17.1.11.2
brcdEntityOIDStackICXStackIcx7250	brcdIp.1.17.1.11.2.1
brcdEntityOIDStackICXStackIcx7450	brcdIp.1.17.1.11.2.2
brcdEntityOIDStackICXStackIcx7750	brcdIp.1.17.1.11.2.3
brcdEntityOIDStackICXStackIcx7150	brcdIp.1.17.1.11.2.4
brcdEntityOIDStackICXStackIcx7650	brcdIp.1.17.1.11.2.5
brcdEntityOIDStackICXStackIcx7850	brcdIp.1.17.1.11.2.6
brcdEntityOIDStackICXSPXFamily	brcdIp.1.17.1.11.3
brcdEntityOIDStackICXSPX	brcdIp.1.17.1.11.3.1
brcdEntityOIDCpu	brcdIp.1.17.1.12
brcdEntityOIDCpuUnknown	brcdIp.1.17.1.12.1
brcdEntityOIDCpuPPC7447A	brcdIp.1.17.1.12.2
brcdEntityOIDCpuPPC7448	brcdIp.1.17.1.12.3
brcdEntityOIDCpuPPC7451	brcdIp.1.17.1.12.4
brcdEntityOIDCpuPPC7455	brcdIp.1.17.1.12.5
brcdEntityOIDCpuPPC7457	brcdIp.1.17.1.12.6
brcdEntityOIDCpuPPC8541	brcdIp.1.17.1.12.7
brcdEntityOIDCpuPPC8541E	brcdIp.1.17.1.12.8
brcdEntityOIDCpuPPC8544	brcdIp.1.17.1.12.9
brcdEntityOIDCpuPPC8544E	brcdIp.1.17.1.12.10
brcdEntityOIDCpuPPC8572	brcdIp.1.17.1.12.11
brcdEntityOIDCpuPPC8572E	brcdIp.1.17.1.12.12

History

Release version	History
08.0.50	This MIB was introduced.
08.0.60	Introduced ICX 7150 Entity OIDs.
08.0.70	Introduced ICX 7650 Entity OIDs.
08.0.90	Introduced ICX 7850 Entity OIDs.

QoS Profile Group

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QoS profile table

The following table contains the configuration of QoS profile groups.

Name, OID, and syntax	Access	Description
snQosProfileTable brcdIp.1.1.3.14.1	None	The QoS profile table.
snQosProfileIndex brcdIp.1.1.3.14.1.1.1 Syntax: Integer	Read-only	The table index of the QoS Profile. There can be up to four profiles in this table.
snQosProfileName brcdIp.1.1.3.14.1.1.2 Syntax: DisplayString	Read-write	Shows the name of the QoS profile. Valid values: Up to 32 characters
snQosProfileRequestedBandwidth brcdIp.1.1.3.14.1.1.3 Syntax: Integer	Read-write	Shows the requested bandwidth for the QoS profile.
snQosProfileCalculatedBandwidth brcdIp.1.1.3.14.1.1.4 Syntax: Integer	Read-only	Shows the calculated bandwidth of the QoS profile.

QoS bind table

The following table binds 802.1p tags to the entries in the QoS profile table.

Name, OID, and syntax	Access	Description
snQosBindTable brcdIp.1.1.3.14.2	None	The QoS bind table.
snQosBindIndex brcdIp.1.1.3.14.2.1.1 Syntax: Integer	Read-only	The table index of the QoS Bind.
snQosBindPriority brcdIp.1.1.3.14.2.1.2 Syntax: Integer32	Read-only	Shows the QoS bind priority.
snQosBindProfileIndex brcdIp.1.1.3.14.2.1.3 Syntax: Integer	Read-write	An index that serves as a pointer to the index of the QoS profile table on page 309.

DOS attack statistics

The following objects provide denial of service (DOS) attack statistics through SNMP.

Name, OID, and syntax	Access	Description
snDosAttackICMPDropCount brcdIp.1.1.3.14.3.1.1 Syntax: Counter32	Read-only	Provides the contents of the ICMP drop counter.
snDosAttackICMPBlockCount brcdIp.1.1.3.14.3.1.2 Syntax: Counter32	Read-only	Provides the contents of the ICMP block counter.
snDosAttackSYNDropCount brcdIp.1.1.3.14.3.1.3 Syntax: Counter32	Read-only	Provides the contents of the SYN drop counter.
snDosAttackSYNBlockCount brcdIp.1.1.3.14.3.1.4 Syntax: Counter32	Read-only	Provides the contents of the SYN block counter.

The following table provide the port level denial of service (DOS) objects.

Name, OID, and syntax	Access	Description
snDosAttackPortICMPDropCount 1.3.6.1.4.1.1991.1.1.3.14.3.2.1.2 Syntax: Counter32	Read-only	Provides the contents of the ICMP drop counter at port level .
snDosAttackPortICMPBlockCount 1.3.6.1.4.1.1991.1.1.3.14.3.2.1.3 Syntax: Counter32	Read-only	Provides the contents of the ICMP block counter at port level.
snDosAttackPortSYNDropCount 1.3.6.1.4.1.1991.1.1.3.14.3.2.1.4 Syntax: Counter32	Read-only	Provides the contents of the SYN drop counter at port level.
snDosAttackPortSYNBlockCount 1.3.6.1.4.1.1991.1.1.3.14.3.2.1.5 Syntax: Counter32	Read-only	Provides the contents of the SYN block counter at port level.

Authentication, Authorization, and Accounting

The following objects are for authorization and accounting functions.

Name, OID, and syntax	Access	Description
snAuthenticationDot1x 1.3.6.1.4.1.1991.1.1.3.15.1.1 Syntax: OCTET STRING (SIZE(0..3))	Read-write	A sequence of authentication methods. Each octet represents a method to authorize the user command. Each octet has the following value: • radius(2) - authenticate by requesting radius server • none(6) - no authentication Setting a zero length octet string invalidates all previous authentication methods.
snAuthenticationEnable 1.3.6.1.4.1.1991.1.1.3.15.1.2 Syntax: OCTET STRING (SIZE(0..3))	Read-write	A sequence of authentication methods. Each octet represents a method to authorize the user command. Each octet has the following value: • enable(1) - Use enable password for authentication • radius(2) - authenticate by requesting radius server • local(3) - Use local user for authentication • line(4) - Use line (telnet) password for authentication • tacplus(5) - authenticate by requesting tacplus server • none(6) - no authentication • tacacs(7) - Use TACACS authentication Setting a zero length octet string invalidates all previous authentication methods.
snAuthenticationLogin 1.3.6.1.4.1.1991.1.1.3.15.1.3 Syntax: OCTET STRING (SIZE(0..3))	Read-write	A sequence of authentication methods. Each octet represents a method to authorize the user command. Each octet has the following value: • enable(1) - Use enable password for authentication • radius(2) - authenticate by requesting radius server • local(3) - Use local user for authentication • line(4) - Use line (telnet) password for authentication • tacplus(5) - authenticate by requesting tacplus server • none(6) - no authentication • tacacs(7) - Use TACACS authentication Setting a zero length octet string invalidates all previous authentication methods.
snAuthenticationSnmpserver 1.3.6.1.4.1.1991.1.1.3.15.1.4 Syntax: OCTET STRING (SIZE(0..3))	Read-write	A sequence of authentication methods. Each octet represents a method to authorize the user command. Each octet has the following value: • enable(1) - Use enable password for authentication • local(3) - Use local user for authentication • none(6) - no authentication Setting a zero length octet string invalidates all previous authentication methods.

Name, OID, and syntax	Access	Description
snAuthenticationWebserver 1.3.6.1.4.1.1991.1.1.3.15.1.5 Syntax: OCTET STRING (SIZE(0..3))	Read-write	A sequence of authentication methods. Each octet represents a method to authorize the user command. Each octet has the following value: • enable(1) - Use enable password for authentication • radius(2) - authenticate by requesting radius server • local(3) - Use local user for authentication • line(4) - Use line (telnet) password for authentication • tacplus(5) - authenticate by requesting tacplus server • none(6) - no authentication • tacacs(7) - Use TACACS authentication Setting a zero length octet string invalidates all previous authentication methods.
snAuthorizationCommand Methods brcdIp.1.1.3.15.2.1 Syntax: Octet String	Read-write	Specifies the sequence of authorization methods. This object can have zero to three octets. Each octet represents a method to authorize the user command. Each octet has the following value: • radius(2) - Authorize by the requesting RADIUS server • tacplus(5) - Authorize by the requesting TACACS+ server • none(6) - Skip authorization Setting a zero length octet string invalidates all previous authorization methods.
snAuthorizationCommandLevel brcdIp.1.1.3.15.2.2 Syntax: IpAddress	Read-write	Specifies the commands that must be authorized. Any command that is equal to or less than the selected level will be authorized: • level(0) - Privilege level 0 • level(4) - Privilege level 4 • level(5) - Privilege level 5
snAuthorizationExec brcdIp.1.1.3.15.2.3 Syntax: Octet String	Read-write	Shows the sequence of authorization methods for EXEC programs. This object can have zero to three octets. Each octet represents a method for Telnet or SSH login authorization. Each octet can have one of the following values: • radius(2) - Send EXEC authorization request to the RADIUS server . • tacplus(5) - Send EXEC authorization request to the TACACS+ server . • none(6) - No EXEC authorization method. Setting a zero length octet string invalidates all authorization methods.
snAuthorizationCoaEnable 1.3.6.1.4.1.1991.1.1.3.15.2.4 Syntax: Integer	Read-write	Enables or disables change of authorization (CoA). Possible values: • 1 - Enable CoA • 2 - Disable CoA

Name, OID, and syntax	Access	Description
snAuthorizationCoaIgnore 1.3.6.1.4.1.1991.1.1.3.15.2.5 Syntax: Octet string (size (0...5))	Read-write	For change of Authorization (COA) ignore COA commands. Possible enumeration values: • dm-request(1) - Disconnect message request • modify-acl(2) - Modify access control list • reauth-host(4) - Re-authenticate the host • disable-port(8) - Disable the port • flip-port(10) - Bounce the port."
snAccountingCommandMethods brcdIp.1.1.3.15.3.1 Syntax: Octet String	Read-write	Shows a sequence of accounting methods. This object can have zero to three octets. Each octet represents an accounting method. Each octet can have one of the following values: • radius(2) - Send accounting information to the RADIUS server. • tacplus(5) - Send accounting information to the TACACS+ server. • none(6) - No accounting method. Setting a zero length octet string invalidates all authorization methods.
snAccountingCommandLevel brcdIp.1.1.3.15.3.2 Syntax: Integer	Read-write	Specifies the commands that need to be accounted for. Any command that is equal to or less than the selected level will be accounted for: • level(0) - Privilege level 0 • level(4) - Privilege level 4 • level(5) - Privilege level 5
snAccountingExec brcdIp.1.1.3.15.3.3 Syntax: Octet String	Read-write	Shows the sequence of accounting methods for EXEC programs. This object can have zero to three octets. Each octet represents a method for Telnet or SSH login accounting. Each octet can have one of the following values: • radius(2) - Send accounting information to the RADIUS server. • tacplus(5) - Send accounting information to the TACACS+ server. • none(6) - No accounting method. Setting a zero length octet string invalidates all authorization methods.
snAccountingSystem brcdIp.1.1.3.15.3.4 Syntax: Octet String	Read-write	A sequence of accounting methods. This object can have zero to three octets. Each octet represents a method to account for the system-related events. Each octet has the following values: • radius(2) - Send accounting information to the RADIUS server. • tacplus(5) - Send accounting information to the TACACS+ server. • none(6) - No accounting method. Setting a zero length octet string invalidates all previous accounting methods.

CAR MIB Definition

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CAR port table

The Common Access Rate (CAR) port table shows the definitions of CAR objects. This table is indexed by the CAR port table, CAR port table, and CAR port table objects.

Name, OID, and syntax	Access	Description
snPortCARTable brcdIp.1.1.3.16.1.1	None	The CAR port table.
snPortCARifIndex brcdIp.1.1.3.16.1.1.1.1 Syntax: Integer	Read-only	Shows the ifIndex value for this rate limit entry.
snPortCARDirection brcdIp.1.1.3.16.1.1.1.2 Syntax: Integer	Read-only	Specifies the transmission direction of the rate-limit object: • input(0) - For inbound traffic. • output(1) - For outbound traffic.
snPortCARRowIndex brcdIp.1.1.3.16.1.1.1.3 Syntax: Integer	Read-only	Shows the table index for rate limit objects. Rows are numbered in sequential order. When a row is added, it is assigned the next sequential number. When a row is deleted, the row is skipped.
snPortCARType brcdIp.1.1.3.16.1.1.1.4 Syntax: RateLimitType	Read-only	Shows the type of traffic to which the rate limit is applied: • standardAcc(1) - Traffic matches standard access list. • quickAcc(2) - Traffic matches the rate-limit access list. • all(3) - All traffic.
snPortCARAccIdx brcdIp.1.1.3.16.1.1.1.5 Syntax: Integer32	Read-only	Indicates the index to the access list if the rate limit type is one of the following: • standardAcc(1) - Traffic matches standard access list. • quickAcc(2) - Traffic matches the rate-limit access list.
snPortCARRate brcdIp.1.1.3.16.1.1.1.6 Syntax: Integer32	Read-only	Shows the committed access rate for the long-term average transmission rate in bits per second. Traffic that falls under this rate always conforms to this rate.
snPortCARLimit brcdIp.1.1.3.16.1.1.1.7 Syntax: Integer32	Read-only	Shows the normal burst size in bytes. Normal burst size is the number of bytes that are guaranteed to be transported by the network at the average rate under normal conditions during the committed time interval.

Name, OID, and syntax	Access	Description
snPortCARExtLimit brcdIp.1.1.3.16.1.1.1.8 Syntax: Integer32	Read-only	Shows the extended burst limit in bytes. The extended burst limit determines how large traffic bursts can be before all the traffic exceeds the rate limit.
snPortCARConformAction brcdIp.1.1.3.16.1.1.1.9 Syntax: Integer	Read-only	Indicates what happens to packets when the traffic is within the rate limit: • continue(1) - Continue to evaluate the subsequent rate limits. • drop(2) - Drop the packet. • precedCont(3) - Rewrite the IP precedence and allow it after evaluated by subsequent rate limits. • precedXmit(4) - Rewrite the IP precedence and transmit the packet. • xmit(5) - Transmit the packet.
snPortCARExceedAction brcdIp.1.1.3.16.1.1.1.10 Syntax: Integer	Read-only	Indicates what happens to packets when the traffic exceeds the rate limit: • continue(1) - Continue to evaluate the subsequent rate limits. • drop(2) - Drop the packet. • precedCont(3) - Rewrite the IP precedence and allow it after evaluated by subsequent rate limits. • precedXmit(4) - Rewrite the IP precedence and transmit the packet. • xmit(5) - Transmit the packet.
snPortCARStatSwitchedPkts brcdIp.1.1.3.16.1.1.1.11 Syntax: Counter64	Read-only	Indicates the number of packets permitted by this rate limit.
snPortCARStatSwitchedBytes brcdIp.1.1.3.16.1.1.1.12 Syntax: Counter64	Read-only	Indicates the number of bytes permitted by this interface.
snPortCARStatFilteredPkts brcdIp.1.1.3.16.1.1.1.13 Syntax: Counter64	Read-only	Indicates the number of packets that exceeded this rate limit.
snPortCARStatFilteredBytes brcdIp.1.1.3.16.1.1.1.14 Syntax: Counter64	Read-only	Indicates the number of bytes that exceeded this rate limit.
snPortCARStatCurBurst brcdIp.1.1.3.16.1.1.1.15 Syntax: Gauge32	Read-only	Shows the current burst size of received packets.

VLAN CAR objects

The objects in the following table contain the rate limit configuration for VLANs.

Name, OID, and syntax	Access	Description
snVLanCARTable brcdIp.1.1.3.17.1.1	None	The VLAN rate limit table.
snVLanCARVLanId brcdIp.1.1.3.17.1.1.1.1 Syntax: Integer	Read-only	Shows the VLAN ID. VLAN ID is one of the indices of this table. Each VLAN ID can have a membership of multiple ports. Valid values: 1 - 4095
snVLanCARDirection brcdIp.1.1.3.17.1.1.1.2 Syntax: Integer	Read-only	Specifies the transmission direction of the rate-limit object: • input(0) - For inbound traffic. • output(1) - For outbound traffic.
snVLanCARRowIndex brcdIp.1.1.3.17.1.1.1.3 Syntax: Integer	Read-only	Shows the table index for rate limit objects for the VLAN. Rows are numbered in sequential order. When a row is added, it is assigned the next sequential number. When a row is deleted, the row is skipped.
snVLanCARType brcdIp.1.1.3.17.1.1.1.4 Syntax: Integer	Read-only	Shows the type of traffic to which the rate limit is applied: • standardAcc(1) - Traffic matches standard access list. • quickAcc(2) - Traffic matches the rate limit access list. • all(3) - All traffic.
snVLanCARAccIdx brcdIp.1.1.3.17.1.1.1.5 Syntax: Integer32	Read-only	Indicates the index to the access list if the rate limit type is one of the following: • standardAcc(1) - Traffic matches standard access list. • quickAcc(2) - Traffic matches the rate limit access list.
snVLanCARRate brcdIp.1.1.3.17.1.1.1.6 Syntax: Integer32	Read-only	Shows the committed access rate for long-term average transmission for this VLAN in bits per second. Traffic that falls under this rate always conforms to this rate.
snVLanCARLimit brcdIp.1.1.3.17.1.1.1.7 Syntax: Integer32	Read-only	Shows the normal burst size in bytes. Normal burst size is the number of bytes that are guaranteed to be transported by the network at the average rate under normal conditions during the committed time interval.
snVLanCARExtLimit brcdIp.1.1.3.17.1.1.1.8 Syntax: Integer32	Read-only	Shows the extended burst limit in bytes. The extended burst limit determines how large traffic bursts can be before all the traffic exceeds the rate limit.
snVLanCARConformAction brcdIp.1.1.3.17.1.1.1.9 Syntax: Integer	Read-only	Indicates what happens to packets when the traffic is within the rate limit: • continue(1) - Continue to evaluate the subsequent rate limits. • drop(2) - Drop the packet. • precedCont(3) - Rewrite the IP precedence and allow it after evaluated by subsequent rate limits. • precedXmit(4) - Rewrite the IP precedence and transmit the packet. • xmit(5) - Transmit the packet.

CAR MIB Definition
VLAN CAR objects

Name, OID, and syntax	Access	Description
snVLanCARExceedAction brcdIp.1.1.3.17.1.1.1.10 Syntax: Integer	Read-only	Indicates what happens to packets when the traffic exceeds the rate limit: • continue(1) - Continue to evaluate the subsequent rate limits. • drop(2) - Drop the packet. • precedCont(3) - Rewrite the IP precedence and allow it after evaluated by subsequent rate limits. • precedXmit(4) - Rewrite the IP precedence and transmit the packet. • xmit(5) - Transmit the packet.
snVLanCARStatSwitchedPkts brcdIp.1.1.3.17.1.1.1.11 Syntax: Counter64	Read-only	Indicates the number of packets permitted by this rate limit.
snVLanCARStatSwitchedBytes brcdIp.1.1.3.17.1.1.1.12 Syntax: Counter64	Read-only	Indicates the number of bytes permitted by this interface.
snVLanCARStatFilteredPkts brcdIp.1.1.3.17.1.1.1.13 Syntax: Counter64	Read-only	Indicates the number of packets that exceeded this rate limit.
snVLanCARStatFilteredBytes brcdIp.1.1.3.17.1.1.1.14 Syntax: Counter64	Read-only	Indicates the number of bytes that exceeded this rate limit.
snVLanCARStatCurBurst brcdIp.1.1.3.17.1.1.1.15 Syntax: Gauge32	Read-only	Shows the current burst size of received packets.

LAG MIB Definition

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LAG group table

The fdryLinkAggregationGroupTable object replaces the **snLinkAggregationGroupTable objects** .

NOTE
SNMPSET request for the table always return hashbased and ignores the trunktype parameter.

Name, OID, and syntax	Access	Description
fdryLinkAggregationGroupTable brcdIp.1.1.3.33.1.1	None	The Link Aggregation Group (LAG) table.
fdryLinkAggregationGroupName brcdIp.1.1.3.33.1.1.1.1 Syntax: DisplayString	None	Displays the name of a LAG.
fdryLinkAggregationGroupType brcdIp.1.1.3.33.1.1.1.2 Syntax: Integer	Read-create	Displays the LAG type.
fdryLinkAggregationGroupIfList brcdIp.1.1.3.33.1.1.1.4 Syntax: Octet String	Read-create	Displays a list of interface indices which are the port memberships of a trunk group. Each interface index is a 32-bit integer in big-endian order. **NOTE** This object accepts a 32-bit integer only.
fdryLinkAggregationGroupTrunkType brcdIp.1.1.3.33.1.1.1.6 Syntax: Integer	Read-create	Displays the trunk connection type, which specifies the scheme of load-sharing among the trunk ports.
fdryLinkAggregationGroupTrunkThreshold brcdIp.1.1.3.33.1.1.1.7 Syntax: Unsigned32	Read-create	Displays the number of up ports needed to keep the trunk up. **NOTE** This object is not applicable to keepalive LAGs.
fdryLinkAggregationGroupLacpTimeout brcdIp.1.1.3.33.1.1.1.8 Syntax: Integer	Read-create	Displays the LACP timeout value this LACP LAG will use. Applicable for dynamic and keepalive LAGs only.
fdryLinkAggregationGroupIfIndex brcdIp.1.1.3.29.2.1.1.9 Syntax: InterfaceIndex	Read-only	After a LAG is deployed, this object displays information for the LAG entry in the ifTable. Use the variabe to access the entry in the ifTable and ifXTable. Zero(0) is returned for LAGs that have not been deployed.
fdryLinkAggregationGroupPortCount brcdIp.1.1.3.33.1.1.1.10 Syntax: Unsigned32	Read-only	Displays the number of member ports that belong to this LAG.

Name, OID, and syntax	Access	Description
fdryLinkAggregationGroupRowStatus brcdIp.1.1.3.33.1.1.1.11 Syntax: RowStatus	Read-create	Displays the status of this conceptual row. createAndWait(5) is not supported. To create a row in this table, a manager must set this object to createAndGo(4) together with the setting of fdryLinkAggregationGroupType. After that, the row status becomes active(1) regardless of whether or not the LAG entry is deployed. To deploy the LAG entry, set the corresponding instance of fdryLinkAggregationGroupAdminStatus to deployActive or deployPassive.
fdryLinkAggregationGroupId brcdIp.1.1.3.33.1.1.1.12 Syntax: Unsigned 32	Read-write	The numeric identifier assigned to this LAG.
fdryLinkAggregationGroupLacpMode brcdIp.1.1.3.33.1.1.1.13 Syntax: Unsigned 32	Read-write	The LACP mode value that the specified LAG will use. This value is applicable to dynamic and keepalive LAGs only. • 0—LACP mode not supported. • 1—LACP mode is active. • 2—LACP mode is passive. **NOTE** The LACP mode value is 0 for static lag LACP mode.
fdryLinkAggregationGroupLagMac brcdIp.1.1.3.33.1.1.1.14 Syntax: MAC address	Read-write	Indicates the MAC address assigned to a LAG interface. The format of the MAC address is HHHH.HHHH.HHHH.

LAG LACP port table

The following table list the MIB objects of the LAG Link Aggregation Control Protocol (LACP) port table.

NOTE
The following table is supported only on the RUCKUS ICX devices.

Name, OID, and syntax	Access	Description
fdryLinkAggregationGroupLacpPortTable brcdIp.1.1.3.33.3.1	None	Table contains Link Aggregation control information about every LACP port associated with the device. A row is created in the table for each physical port.
fdryLinkAggregationGroupLacpPortAdminStatus brcdIp.1.1.3.33.3.1.1.1 Syntax: Integer	Read-only	The current admin state of the interface. The testing(3) state indicates that no operational packets can be passed. Valid values: • up(1) -- Ready to pass packets • down(2) • testing(3) -- In some test mode

Name, OID, and syntax	Access	Description
fdryLinkAggregationGroupLacpPortLinkStatus brcdIp.1.1.3.33.3.1.1.2 Syntax: Integer	Read-only	The current operational state of the interface. The testing(3) state indicates that no operational packets can be passed. Valid values: • up(1) -- Ready to pass packets • down(2) • testing(3) -- In some test mode
fdryLinkAggregationGroupLacpPortLacpStatus brcdIp.1.1.3.33.3.1.1.3 Syntax: Integer	Read-only	The current LACP state of the interface. Valid values: • operation(1) • down(2) • blocked(3) • inactive(4) • pexforceup(5)
fdryLinkAggregationGroupLacpPortLacpSysID brcdIp.1.1.3.33.3.1.1.4 Syntax: Physical address	Read-only	The LACP system ID of the LAG.
fdryLinkAggregationGroupLacpPortLacpKey brcdIp.1.1.3.33.3.1.1.5 Syntax: Integer	Read-only	The LACP key ID of the interface.
fdryLinkAggregationGroupLacpPortLacpRemoteSysID brcdIp.1.1.3.33.3.1.1.6 Syntax: Physical address	Read-only	The LACP remote system ID of the LAG.
fdryLinkAggregationGroupLacpPortLacpRemoteKey brcdIp.1.1.3.33.3.1.1.7 Syntax: Integer	Read-only	The LACP remote key ID of the interface.

Switch Port Extender MIB Definition

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SPX global scalar MIB objects

The following Switch Port Extender (SPX) global scalar objects are supported on the RUCKUS ICX 7150, RUCKUS ICX 7250, RUCKUS ICX 7450, RUCKUS ICX 7650 or RUCKUS ICX 7750 devices depending on the role of the CB or PR in an SPX system.

Name, OID, and syntax	Access	Description
brcdSPXGlobalConfigCBState brcdIp.1.1.3.40.1.1 Syntax: Integer	Read-write	Configures Control Bridge (CB) state for 802.1BR on the global level. The SET operation is allowed only on the CB device. • none - Reserved state • enable - 802.1BR is enabled on CB • disable - 802.1BR is disabled on CB
brcdSPXGlobalConfigPEState brcdIp.1.1.3.40.1.2 Syntax: Integer	Read-write	Configures Port Extender (PE) state for 802.1BR on the global level. The SET operation is allowed only on the PE standalone device. • none - Reserved state • enable - 802.1BR is enabled on PE • disable - 802.1BR is disabled on PE **NOTE** Enabling or disabling of the PE takes effect once the configuration is saved and the system is reloaded.
brcdSPXGlobalConfigZeroTouchEnable brcdIp.1.1.3.40.1.3 Syntax: Integer	Read-write	Configures CB Zero Touch for 802.1BR on the global level. Zero Touch discovers new PE-capable units, assigns them IDs, defines SPX ports or LAGs, and finally converts them to PE mode to join the SPX system. The SET operation is allowed only on the CB devices. • None - Reserved state; Zero touch is not enabled on CB. The default state is none. • enabled - Zero touch is enabled on CB.

Name, OID, and syntax	Access	Description
brcdSPXGlobalConfigZeroTouchDeny brcdIp.1.1.3.40.1.4 Syntax: Integer	Read-write	Configures CB Zero Touch for 802.1BR on the global level. Zero Touch discovers new PE-capable units, assigns them IDs, defines SPX ports or LAGs, and finally converts them to PE mode to join the SPX system. The SET operation is allowed on CB or PE-standalone devices. • none - Neutral; receives packets only. The default state is none. • deny - Zero Touch is disabled and the device will not be discovered byZero Touch and SPX secure-setup on other CB units.
brcdSPXGlobalConfigAllowPEMovement brcdIp.1.1.3.40.1.5 Syntax: Integer	Read-write	Configures CB allow PE movement for 802.1BR on the global level. It allows the user to move the PE unit without changing its unit ID. The SET operation is allowed only on the CB device or PE-standalone device. • none - Reserved state; PE movement state is disable. The default state is none. • enabled - PE movement state is enabled on a device.

SPX configuration unit table

The following MIB table objects display CB and PE units in an SPX system and configure SPX-related information for each PE unit. The following table objects are supported only on the RUCKUS ICX 7150, RUCKUS ICX 7250, RUCKUS ICX 7450, RUCKUS ICX 7650 and RUCKUS ICX 7750 devices.

Name, OID, and syntax	Access	Description
brcdSPXConfigUnitTable brcdIp.1.1.3.40.2.1	Not-accessible	802.1BR SPX configuration unit table.
brcdSPXConfigUnitIndex brcdIp.1.1.3.40.2.1.1.1 Syntax: Integer32	Not-accessible	The SPX unit ID. The CB unit ID is from 1 through 16 and the PE unit ID is from 17 through 56.
brcdSPXConfigUnitPEName brcdIp.1.1.3.40.2.1.1.2 Syntax: DisplayString	Read-write	A name description of the PE unit.
brcdSPXConfigUnitPESPXPort1 brcdIp.1.1.3.40.2.1.1.3 Syntax: InterfaceIndexOrZero	Read-write	The first PE SPX port on the PE unit. It returns 0 if the SPX port does not exist.
brcdSPXConfigUnitPESPXPort2 brcdIp.1.1.3.40.2.1.1.4 Syntax: InterfaceIndexOrZero	Read-write	The second PE SPX port on the PE unit. It returns 0 if the SPX port does not exist.

Name, OID, and syntax	Access	Description
brcdSPXConfigUnitPESPXLag1 brcdIp.1.1.3.40.2.1.1.5 Syntax: OctetString	Read-write	A list of interface indexes that are the port membership of an SPX LAG group on the PE. Each interface index is a 32-bit integer in a big-endian order. It returns NULL if the PE SPX LAG does not exist.
brcdSPXConfigUnitPESPXLag2 brcdIp.1.1.3.40.2.1.1.6 Syntax: OctetString	Read-write	A list of interface indexes that are the port membership of an SPX LAG group on the PE. Each interface index is a 32-bit integer in a big-endian order. It returns NULL if the PE SPX LAG does not exist.
brcdSPXConfigUnitRowStatus brcdIp.1.1.3.40.2.1.1.7 Syntax: Integer	Read-write	This object is used to delete rows in the table and controls if they are used. The following values can be written: • delete(3) - Deletes the row if the row exists, and then a SET request with a value of create(4) returns a 'wrongValue' error. Read-only mode returns the following values: • noSuchName - No such row • other(1) - Some other cases • valid(2) - The row exists and is valid
brcdSPXConfigUnitType brcdIp.1.1.3.40.2.1.1.8 Syntax: DisplayString	Read-only	A description of the configured or active system type for each unit.
brcdSPXConfigUnitState brcdIp.1.1.3.40.2.1.1.9 Syntax: Integer	Read-only	A state for each unit.

SPX operation unit table

The following MIB table objects display SPX-related information for each operational CB and PE unit. The following table objects are supported only on the RUCKUS ICX 7150, RUCKUS ICX 7250, RUCKUS ICX 7450, RUCKUS ICX 7650 and RUCKUS ICX 7750 devices.

Name, OID, and syntax	Access	Description
brcdSPXOperUnitTable brcdIp.1.1.3.40.2.2	Not-accessible	The 802.1BR SPX operation unit table.
brcdSPXOperUnitIndex brcdIp.1.1.3.40.2.2.1.1 Syntax: Integer32	Not-accessible	The SPX unit ID. The CB unit ID is from 1 through 16 and the PE unit ID is from 17 through 56.
brcdSPXOperUnitType brcdIp.1.1.3.40.2.2.1.2 Syntax: DisplayString	Read-only	The description of the configured or active system type for each unit.

Name, OID, and syntax	Access	Description
brcdSPXOperUnitRole brcdIp.1.1.3.40.2.2.1.3 Syntax: Integer	Read-only	The role for each unit. • other(1) • active(2) • standby(3) • member(4) • standalone(5) • spxPe (6)
brcdSPXOperUnitMac brcdIp.1.1.3.40.2.2.1.4 Syntax: MacAddress	Read-only	The MAC address for each unit.
brcdSPXOperUnitPriority brcdIp.1.1.3.40.2.2.1.5 Syntax: Integer32	Read-only	The priority in active or backup selection on CB units. The PE unit does not have priority, and 0 as the default value. Valid values: 0 through 255
brcdSPXOperUnitState brcdIp.1.1.3.40.2.2.1.6 Syntax: Integer	Read-only	The state for each unit. • local(1) • remote(2) • reserved(3) • empty(4)
brcdSPXOperUnitDescription brcdIp.1.1.3.40.2.2.1.7 Syntax: DisplayString	Read-only	Describes the CB stacking or PE joining state for each unit.
brcdSPXOperUnitImgVer brcdIp.1.1.3.40.2.2.1.8 Syntax: DisplayString	Read-only	The running software image version.
brcdSPXOperUnitBuildlVer brcdIp.1.1.3.40.2.2.1.9 Syntax: DisplayString	Read-only	The running software build version.

SPX configuration CB SPX port table

The following MIB objects configure CB SPX ports for CB units. The following table objects are supported only on the RUCKUS ICX 7150, RUCKUS ICX 7250, RUCKUS ICX 7450, RUCKUS ICX 7650 and RUCKUS ICX 7750 devices.

Name, OID, and syntax	Access	Description
brcdSPXCBSPXPortTable brcdIp.1.1.3.40.2.3	Not-accessible	The SPX configuration CB SPX port table.
brcdSPXCBSPXPortPort brcdIp.1.1.3.40.2.3.1.1 Syntax: Integer32	Not-accessible	The IfIndex for the configured CB SPX port. The CB unit can have multiple SPX ports per unit.

Name, OID, and syntax	Access	Description
brcdSPXCBSPXPortPEGroup brcdIp.1.1.3.40.2.3.1.2 Syntax: DisplayString	Read-write	The name of IfIndex for the configured CB SPX port. It is an optional field.
brcdSPXCBSPXPortRowStatus brcdIp.1.1.3.40.2.3.1.3 Syntax: Integer	Read-write	This object is used to delete row in the table and to control if they are used. The following values can be written: • delete(3) - Deletes the row • create(4) - Creates a new row If the row exists, then a SET with a value of create(4) returns a 'wrongValue' error. The following values can be returned on reads: • noSuchName - No such row • other(1) - Some other cases • valid(2) - The row exists and is valid

SPX configuration CB SPX LAG table

The following table displays MIB objects to configure CB SPX LAGs for CB units. The following table objects are supported only on the RUCKUS ICX 7150, RUCKUS ICX 7250, RUCKUS ICX 7450, RUCKUS ICX 7650 and RUCKUS ICX 7750 devices.

Name, OID, and syntax	Access	Description
brcdSPXCBSPXLagTable brcdIp.1.1.3.40.2.4	Not-accessible	The SPX configuration CB SPX LAG table.
b rcdSPXCBSPXLagPrimaryPort brcdIp.1.1.3.40.2.4.1.1 Syntax: InterfaceIndexOrZero	Not-accessible	The LAG primary port for the configured CB SPX LAG. This primary port is the smallest port in the CB SPX LAG group. The CB unit can have multiple SPX LAGs per unit.
brcdSPXCBSPXLagLagIflist brcdIp.1.1.3.40.2.4.1.2 Syntax: OctetString	Read-write	A list of interface indexes, which are the port membership of an SPX LAG group on the CB. Each interface index is a 32-bit integer in a big-endian order. It returns NULL if the CB SPX LAG does not exist.
brcdSPXCBSPXLagPEGroup brcdIp.1.1.3.40.2.4.1.3 Syntax: DisplayString	Read-write	The name of the SPX LAG for the configured CB SPX LAG. It is an optional field.
brcdSPXCBSPXLagRowStatus brcdIp.1.1.3.40.2.4.1.4 Syntax: Integer	Read-write	This object is used to delete rows in the table and to control if they are used. The following values can be written: • delete(3) - Deletes the row • create(4) - Creates a new row If the row exists, then a SET with a value of create(4) returns a 'wrongValue' error. The following values can be returned on reads: • noSuchName - No such row • other(1) - Some other cases • valid(2) - The row exists and is valid

SPX PE group table

The following MIB table objects display the CB SPX port and all PE units attached to the SPX port and an SPX port on other end if it is a ring topology. The following table objects are supported only on the RUCKUS ICX 7150, RUCKUS ICX 7250, RUCKUS ICX 7450, RUCKUS ICX 7650, and RUCKUS ICX 7750 devices.

Name, OID, and syntax	Access	Description
brcdSPXPEGroupTable brcdIp.1.1.3.40.2.5	Not-accessible	SPX CB SPX port and PE group table.
brcdSPXPEGroupCBSPXPort brcdIp.1.1.3.40.2.5.1.1 Syntax: InterfaceIndexOrZero	Not-accessible	The IfIndex for the CB SPX port, which is connected to a group of PE units.
brcdSPXPEGroupPEGroup brcdIp.1.1.3.40.2.5.1.2 Syntax: DisplayString	Read-only	The name of IfIndex for the configured CB SPX port. It is an optional field.
brcdSPXPEGroupPEIdList brcdIp.1.1.3.40.2.5.1.3 Syntax: OctetString	Read-only	A list of PE unit ID indexes, which are attached to a CB SPX port. Each PE ID is a 32-bit integer in a big-endian order.
brcdSPXPEGroupCBSPXEndPort brcdIp.1.1.3.40.2.5.1.4 Syntax: InterfaceIndexOrZero	Read-only	The IfIndex for the CB SPX port, which is connected to a group of PE units. This CB SPX port is at the other end if it is a ring topology. It returns 0 if it is a chain topology.

ISSU MIB Definition

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Stack ISSU Global Scalar Objects

Name, OID, and syntax	Access	Description
brcdStackISSUGlobalUpgradeOption brcdIp.1.1.3.41.1.1 Syntax: Integer	Read-write	Configures the system upgrade option to initiate stack upgrade process using primary or secondary image. The SET operation is allowed only on the active unit in stacking system or 802.1BR (SPX) system. • none - reserve state. The default is none state. • primary - system upgrade process using primary image • secondary - system upgrade process using secondary image • primaryOnErrorReloadPrimary - system upgrade process using primary image, reloads from primary if upgrade fails • primaryOnErrorReloadSecondary - system upgrade process using primary image, reloads from secondary if upgrade fails • secondaryOnErrorReloadPrimary - system upgrade process using secondary image, reloads from primary if upgrade fails • secondaryOnErrorReloadSecondary - system upgrade process using secondary image, reloads from secondary if upgrade fails • abort - aborts upgrade process. A reload is required to bring the stack back to the working condition after abort is issued.
brcdStackISSUGlobalUpgradeStatus brcdIp.1.1.3.41.1.2 Syntax: Integer	Read-only	The state of upgrade process for a stacking or SPX system. The default state is in notUpgrading state.
brcdStackISSUGlobalisSystemReady brcdIp.1.1.3.41.1.3 Syntax: Integer	Read-only	The per-upgrade state of a stacking or SPX system. The system must be in ready state before the upgrade process starts and the process validates the following aspects: • Topology is Ring - Yes • Standby Present - Yes • Standby ready for upgrade - Yes • Flash use in progress - No • Secure Setup in progress - No • ISSU in progress or aborted - No • Election pending - No • Election in progress - No • Reload pending - No • CPU utilization high - No • All units in ready state - Yes • Primary Image is upgrade compatible - Yes • Secondary Image is upgrade compatible - Yes • Startup config and Running Config Same - Yes • Boot option present in running config - No • User in Config mode - No If one of the above validation fails, then the system is not ready for stack upgrade.
brcdStackISSUGlobalUpgradeError brcdIp.1.1.3.41.1.4 Syntax: DisplayString	Read-only	The error message occurs during the system upgrade process on a stacking or SPX system. Before or after ISSU process, the OID will return the value as "System is not in Stack ISSU mode". During ISSU, the value is null string, which means system has no error or is in no-upgrade state.

History

Release version	History
8.0.50	This MIB was introduced.

Stack ISSU status unit table

The table is accessible only during ISSU in progress.

Name, OID, and syntax	Access	Description
brcdStackISSUStatusUnitTable brcdIp.1.1.3.41.2.1	Not-accessible	The Stack ISSU status unit table.
brcdStackISSUStatusUnitIndex brcdIp.1.1.3.41.2.1.1 Syntax: Integer32	Not-accessible	The unit ID. If it is a SPX system, CB unit ID is from 1 through 16 and the PE unit ID is from 17 through 56.
brcdStackISSUStatusUnitSequence brcdIp.1.1.3.41.2.1.2 Syntax: Integer32	Read-only	The sequence of stack upgrade in a stacking or SPX system. If unit is PE, the sequence number is the same as attached to the CB unit in a SPX system. The default is 0, which means system is in no-upgrade state.
brcdStackISSUStatusUnitType brcdIp.1.1.3.41.2.1.3 Syntax: DisplayString	Read-only	A description of the system type for each unit.
brcdStackISSUStatusUnitRole brcdIp.1.1.3.41.2.1.1.4 Syntax: Integer	Read-only	A role for each unit. other(1), active(2), standby(3), member(4), standalone(5), spxPe (6) }
brcdStackISSUStatusUnitStatus brcdIp.1.1.3.41.2.1.1.5 Syntax: Integer	Read-only	The status of upgrade for each unit. The default is in notUpgraded state. notUpgraded(0), upgrading (1), joined (2), versionSyncStart (3), versionSyncComplete (4), upgradeComplete (5), upgradeAbort(6), upgradePending (7)

History

Release version	History
8.0.50	This MIB was introduced.

Stack ISSU SNMP traps

Trap name and number	Varbinds	Severity	Description and trap message
snTrapStackISSUSystemCompleted brcdIp.0.215	snAgGblTrapMessage	Notifications	The SNMP trap is generated when system completed stack upgrade process.
snTrapStackISSUSystemFailed brcdIp.0.216	snTrapStackISSUSystemFailed	Alerts	The SNMP trap is generated when system failed stack upgrade process.
snTrapStackISSUUnitCompleted brcdIp.0.217	snChasUnitIndex, snAgGblTrapMessage	Notifications	The SNMP trap is generated when unit completed upgrade process.
snTrapStackISSUUnitFailed brcdIp.0.218	snChasUnitIndex, snAgGblTrapMessage	Alerts	The SNMP trap is generated when unit failed upgrade process.
snTrapStackISSUSystemStart brcdIp.0.219	snAgGblTrapMessage	Notifications	The SNMP trap is generated when system starts ISSU stack upgrade process.

History

Release version	History
8.0.50	This MIB was introduced.

DHCPv4 Server Global Objects

The table objects used to display global DHCP server information.

Name, OID, and syntax	Access	Description
snDhcpServer 1.3.6.1.4.1.1991.1.1.3.42		
snDhcpServerGlobalObjects 1.3.6.1.4.1.1991.1.1.3.42.1	Not accessible	DHCPv4 server global objects.
snDhcpServerGlobalConfigState 1.3.6.1.4.1.1991.1.1.3.42.1.1 Syntax: Integer	Read-write	Configures state for DHCPv4 server at the global level. • enabled (1): DHCPv4 server is enabled • disabled (0): DHCPv4 server is disabled Note: DHCPv4 client should be disabled when enabling the DHCPv4 server

DHCPv4 Server Pool Config Table

The table objects used to configure DHCPv4 server pools.

Name, OID, and syntax	Access	Description
snDhcpServerPoolConfigTable 1.3.6.1.4.1.1991.1.1.3.42.2.1	Not-accessible	A table containing the configurations of DHCP server global pools.
snDhcpServerPoolConfigEntry 1.3.6.1.4.1.1991.1.1.3.42.2.1.1	Not-accessible	An entry containing the objects for configuring the network ip or host ip etc. to global pools for DHCP server.
snDhcpServerPoolName 1.3.6.1.4.1.1991.1.1.3.42.2.1.1.1 Syntax: OCTET STRING (SIZE(0..255))	Not-accessible	DHCP server global pool name.
snDhcpServerPoolNetwork 1.3.6.1.4.1.1991.1.1.3.42.2.1.1.2 Syntax: IP Address	Read-write	Network IP address of a DHCP global pool.
snDhcpServerPoolNetworkMask 1.3.6.1.4.1.1991.1.1.3.42.2.1.1.3 Syntax: IP Address	Read-write	Network mask of a DHCP global pool (network).
snDhcpServerPoolStartAddr 1.3.6.1.4.1.1991.1.1.3.42.2.1.1.4 Syntax: IP Address	Read-write	Starting IP address of a DHCP global pool.
snDhcpServerPoolEndAddr 1.3.6.1.4.1.1991.1.1.3.42.2.1.1.5 Syntax: IP address	Read-write	Ending IP address of a DHCP global pool.
snDhcpServerPoolLeaseDay 1.3.6.1.4.1.1991.1.1.3.42.2.1.1.6 Syntax: Integer32 (0..365)	Read-write	Number of days of the DHCP server pool lease.
snDhcpServerPoolLeaseHour 1.3.6.1.4.1.1991.1.1.3.42.2.1.1.7 Syntax: Integer32 (0..23)	Read-write	Number of hours of the DHCP server pool lease.
snDhcpServerPoolLeaseMinute 1.3.6.1.4.1.1991.1.1.3.42.2.1.1.8 Syntax: Integer32 (0..59)	Read-write	Number of minutes of the DHCP server pool lease.
snDhcpServerPoolDeploy 1.3.6.1.4.1.1991.1.1.3.42.2.1.1.9 Syntax: Integer	Read-write	Flag of undo operation for DHCPSrvGlobalPoolConfigTable. • No deploy (0) • Deploy (1)

Name, OID, and syntax	Access	Description
snDhcpServerPoolRowStatus 1.3.6.1.4.1.1991.1.1.3.42.2.1.1.10	Read-write	This object is used to create and delete row in the table and control if they are used. The values that can be written are: delete(3) - deletes the row create(4) - creates a new row If the row exists, then a SET with value of create(4) returns error 'badValue'. Deleted rows go away immediately. The following values can be returned on reads: noSuch(0) - no such row other(1) - some other case valid(2) - the row exists and is valid

DHCPv4 Server Pool Option Table

The table objects used to configure DHCPv4 server pools.

Name, OID, and syntax	Access	Description
snDhcpServerPoolOptionConfigTable 1.3.6.1.4.1.1991.1.1.3.42.2.2.1	Not-accessible	A table for configuring DHCPv4 global pool options.
snDhcpServerPoolOptionCode 1.3.6.1.4.1.1991.1.1.3.42.2.2.1.1 Syntax: Integer32 (1..254)	Not-accessible	Option code.
snDhcpServerPoolOptionType 1.3.6.1.4.1.1991.1.1.3.42.2.2.1.2 Syntax: Integer	Read-write	Network IP address of a DHCP global pool. • ip (2) • hex (1) • ascii (0)
snDhcpServerPoolOptionAscii 1.3.6.1.4.1.1991.1.1.3.42.2.2.1.3 Syntax: OCTET STRING (SIZE(0..128))	Read-write	Ascii string of an option.
snDhcpServerPoolOptionHexString 1.3.6.1.4.1.1991.1.1.3.42.2.2.1.4 Syntax: OCTET STRING (SIZE(0..128))	Read-write	Hex string of an option. 1st to 16th hex strings, which are 2 bytes, 4 bytes, 6 bytes or 8 bytes, can be configured simultaneously. The format of each string must be '12', '1234', '123456' or '12345678'.
snDhcpServerPoolOptionIPString 1.3.6.1.4.1.1991.1.1.3.42.2.2.1.5 Syntax: OCTET STRING (SIZE(4..12))	Read-write	IP string of an option. Up to 3 IP addresses can be configured simultaneously.
snDhcpServerPoolOptionRowStatus 1.3.6.1.4.1.1991.1.1.3.42.2.2.1.6 Syntax: RowStatus	Read-create	RowStatus. Three actions are used: active createAndGo, destroy.

DHCPv4 Server Pool Excluded Address Tables

Below are the table objects used to configure a single address or a range of addresses to be excluded from a DHCPv4 server pool.

Name, OID, and syntax	Access	Description
snDhcpServerPoolExcludedSingleAddressTable 1.3.6.1.4.1.1991.1.1.3.42.2.3	Not-accessible	A table for configuring the exclusion of single addresses from DHCP server address pools.
snDhcpServerPoolExcludedSingleAddressEntry 1.3.6.1.4.1.1991.1.1.3.42.2.3.1	Not-accessible	An entry containing the objects for excluding single addresses from DHCP server address pools.
snDhcpServerPoolExcludedAddressIndex 1.3.6.1.4.1.1991.1.1.3.42.2.3.1.1 Syntax: Integer32 (1..128)	Not-accessible	Excluded address index.
snDhcpServerPoolExcludedSingleAddress 1.3.6.1.4.1.1991.1.1.3.42.2.3.1.2 Syntax: IP address	Read-write	Single IP address to be excluded from the address pool.
snDhcpServerPoolExcludedSingleAddressRowStatus 1.3.6.1.4.1.1991.1.1.3.42.2.3.1.3 Syntax: Row status	Read-write	Row status. The following states are supported: • Active • CreateandGo • Destroy

TABLE 5 DHCPv4 Server Pool Excluded Address Range Table

Name, OID, and syntax	Access	Description
snDhcpServerPoolExcludedAddressRangeTable 1.3.6.1.4.1.1991.1.1.3.42.2.4	Not-accessible	A table for configuring an excluded address range for DHCP server address pools.
snDhcpServerPoolExcludedAddressRangeEntry 1.3.6.1.4.1.1991.1.1.3.42.2.4.1	Not-accessible	An entry containing the objects for configuring an excluded address and excluded address range for DHCP server address pools.
snDhcpServerPoolExcludedAddressRangeIndex 1.3.6.1.4.1.1991.1.1.3.42.2.4.1.1 Syntax: Integer32 (1..85)	Not-accessible	Excluded address range index.
snDhcpServerPoolExcludedStartAddress 1.3.6.1.4.1.1991.1.1.3.42.2.4.1.2 Syntax: IP address	Read-write	Starting address of the range of addresses to be excluded from the address pool.
snDhcpServerPoolExcludedEndAddress 1.3.6.1.4.1.1991.1.1.3.42.2.4.1.3 Syntax: IP address	Read-write	Ending address of the range of addresses to be excluded from the address pool.
snDhcpServerPoolExcludedAddressRowStatus 1.3.6.1.4.1.1991.1.1.3.42.2.4.1.4 Syntax: Row status	Read-write	Row status. The following states are supported: • Active • CreateandGo • Destroy

Trap MIB Definition

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Objects to enable or disable standard traps

NOTE
By default, all the traps are enabled.

The following objects from RFC 1213 are the standard objects that are supported in the IP MIB. They are used to set SNMP traps.

Name, OID, and syntax	Access	Description
snmpInTraps 1.3.6.1.2.1.11.19	Read-only	Shows the total number of SNMP trap PDUs that have been accepted and processed by SNMP.
snmpOutTraps 1.3.6.1.2.1.11.29	Read-only	Shows the total number of SNMP trap PDUs that have been generated by SNMP.
snmpEnableAuthenTraps 1.3.6.1.2.1.11.30	Read-write	Indicates if the SNMP agent process is permitted to generate authentication failure traps. The value of this object overrides any configuration information. This objects provides a way to disable all authentication failure traps. **NOTE** It is strongly recommended that this object to be stored in the nonvolatile memory so that it remains constant between re-initializations of the network management system.
lldpRemTablesChange 1.0.8802.1.1.2.1.4.1	None	An lldpRemTablesChange notification is sent when the value of lldpStatsRemTableLastChangeTime changes. It can be used by an NMS to trigger LLDP remote systems table maintenance polls. **NOTE** Transmission of lldpRemTablesChange notifications is throttled by the agent, as specified by the lldpNotificationInterval object.

Trap MIB Definition
Objects to enable or disable standard traps

Name, OID, and syntax	Access	Description
lldpXMedTopologyChangeDetected 1.0.8802.1.1.2.1.5.4795.0.1	None	Allows a device to transfer information related to topology changes to management applications in an asynchronous manner. Specifically, this enables notification of the fact that a new remote device was connected to the local port of an LLDP-MED network connectivity device, or that a remote device was removed from the local port. The purpose of this notification is efficient, near-real-time transmission of information regarding moves and changes to the management applications. Information carried by the list of objects (varbind) contained in the notification allows the receiving management application to uniquely identify the local port where the topology change occurred, as well as the device capability of the remote endpoint device that was attached to or removed from the port.

The following table shows the OIDs that are associated with each CLI option that we can enable or disable on the switch. For example, If you enable the option authentication, all the OIDs associated with the authentication option gets enabled and vice versa.

CLI-option	OID and syntax	Description
authentication	authenticationFailure 1.3.6.1.6.3.1.1.5.5	Indicates that the sending protocol entity is the addressee of a protocol message that is not properly authenticated. While implementations of SNMP must be capable of generating this trap, they must also be capable of suppressing the emission of such traps through an implementation-specific mechanism.
	snTrapUserLogin 1.3.6.1.4.1.1991.0.75	A user logged in to a device.
	snTrapUserLogout 1.3.6.1.4.1.1991.0.76	A user logged out of a device.
mac-authentication	snTrapMacAuthEnable 1.3.6.1.4.1.1991.0.85	The SNMP trap that is generated when MAC-Authentication is enabled on an interface.
	snTrapMacAuthDisable 1.3.6.1.4.1.1991.0.86	The SNMP trap that is generated when MAC-Authentication is disabled on an interface.
	snTrapMacAuthMACAccepted 1.3.6.1.4.1.1991.0.87	The SNMP trap that is generated when MAC-Authentication is successful on an interface.
	snTrapMacAuthMACRejected 1.3.6.1.4.1.1991.0.88	The SNMP trap that is generated when MAC-Authentication is failed on an interface.
	snTrapMacAuthPortDisabled 1.3.6.1.4.1.1991.0.89	The SNMP trap that is generated when an interface is disabled due to MAC-Authentication detecting a DOS attack on that interface.
	snTrapMacAuthVlanIdChange 1.3.6.1.4.1.1991.0.138	VLAN ID of a port has changed.
	snTrapMacAuthRadiusTimeout 1.3.6.1.4.1.1991.0.143	The SNMP trap that is generated when a request from Mac- Auth to RADIUS has not been answered within the retry and time limit.
	snTrapMacBasedVlanEnabled 1.3.6.1.4.1.1991.0.147	MAC-based VLAN is enabled.
	snTrapMacBasedVlanDisabled 1.3.6.1.4.1.1991.0.148	MAC-based VLAN is disabled.

CLI-option	OID and syntax	Description
cold-start	coldStart 1.3.6.1.6.3.1.1.5.1	Indicates that the sending protocol entity is reinitializing itself; the agent's configuration or the protocol entity implementation may be altered.
	warmStart 1.3.6.1.6.3.1.1.5.2	Indicates that the sending protocol entity is reinitializing itself; however, the agent configuration or the protocol entity implementation is not altered.
fan-failure	snTrapChasFanFailed 1.3.6.1.4.1.1991.0.31	A fan in the device failed.
	snTrapChasFanOK 1.3.6.1.4.1.1991.0.1000	This trap is generated when a fan operational status changed from failure to normal or change in the fan speed due to temperature variations downwards.
	snTrapStackingChasFanNormal 1.3.6.1.4.1.1991.0.168	The SNMP trap that is generated when a fan operational status changed from failure to normal for a stacking system.
	snTrapStackingChasFanFailed 1.3.6.1.4.1.1991.0.169	The SNMP trap that is generated when a fan fails to operate normally for a stacking system.
Link down	linkDown 1.3.6.1.6.3.1.1.5.3	A linkDown trap signifies that the SNMP entity acting in an agent role, has detected that the ifOperStatus object for one of its communication links is about to enter the down state from some other state (but not from the notPresent state). This other state is indicated by the included value of ifOperStatus.
Link up	linkUp 1.3.6.1.6.3.1.1.5.4	A linkUp trap signifies that the SNMP entity acting in an agent role, has detected that the ifOperStatus object for one of its communication links left the down state and transitioned into some other state (but not into the notPresent state). This other state is indicated by the included value of ifOperStatus.
Module inserted	snTrapModuleInserted 1.3.6.1.4.1.1991.0.28	A module was inserted into the chassis while the system is running.
Module removed	snTrapModuleRemoved 1.3.6.1.4.1.1991.0.29	A module was removed from the chassis while the system is running.
new-root	newRoot 1.3.6.1.2.1.17.0.1	Indicates that the sending agent has become the new root of the Spanning Tree. The trap is sent by a bridge soon after its election as the new root, for example, upon expiration of the Topology Change Timer immediately subsequent to its election.
OSPF	snTrapospfIfStateChange 1.3.6.1.2.1.14.16.2.3	There has been a change in the state of a non-virtual OSPF interface. This trap should be generated when the interface state regresses (for example, goes from Dr to Down) or progresses to a terminal state (for example, Point-to-Point, DR Other, Dr, or Backup). **NOTE** You must configure the log adjacency command under the "router ospf" mode to see traps.
BGP	bgp4V2EstablishedNotification 1.3.6.1.4.1.1991.3.5.1.0.1	The Border Gateway Protocol (BGP) peer is up.
	bgp4V2BackwardTransitionNotification 1.3.6.1.4.1.1991.3.5.1.0.2	The Border Gateway Protocol (BGP) peer is down.

Trap MIB Definition
Objects to enable or disable standard traps

CLI-option	OID and syntax	Description
VRRP	snTrapVrrpeIfStateChange 1.3.6.1.4.1.1991.0.82	The SNMP trap that is generated when a VRRPE routing device switched between states master, backup, initialized or unknown.
	snTrapVrrpIfStateChange 1.3.6.1.4.1.1991.0.34	A VRRP routing device changedstate from master to backup or vice versa.
Power-supply-failure	snTrapChasPwrSupplyOK 1.3.6.1.4.1.1991.0.81	The SNMP trap that is generated when a power supply operational status changes from failure to normal.
	snTrapChasPwrSupplyFailed 1.3.6.1.4.1.1991.0.30	A power supply in the device failed.
redundant-module	snTrapMgmtModuleRedunStateChange 1.3.6.1.4.1.1991.0.35	The management module changed its redundancy state.
Temperature	snTrapTemperatureWarning 1.3.6.1.4.1.1991.0.36	The actual temperature reading is above the warning temperature threshold.
	snTrapStackingTemperatureWarning 1.3.6.1.4.1.1991.0.171	This trap is generated when the actual temperature reads above the warning temperature threshold in case of a stacking unit.
metro-ring	snTrapMrpStateChange 1.3.6.1.4.1.1991.0.79	An MRP state occurred.
	snTrapMrpCamError 1.3.6.1.4.1.1991.0.80	An MRP CAM error occurred.
VSRP	snTrapVsrpIfStateChange 1.3.6.1.4.1.1991.0.83	A VSRP switching and routing device changed its state.
UDLD	snTrapUDLDLinkUp 1.3.6.1.4.1.1991.0.146	The SNMP trap that is generated when the UDLD port link status has changed to up.
	snTrapUDLDLinkDown 1.3.6.1.4.1.1991.0.145	The SNMP trap that is generated when the UDLD port link status has changed to down.
link-oam	dot3OamNonThresholdEvent 1.3.6.1.2.1.158.0.2	This event is sent when a local or remote non-threshold crossing event is detected.
	snTrapLinkOAMLinkUp 1.3.6.1.4.1.1991.0.183	This trap is generated when Link-OAM port link status is changed to up.
	snTrapLinkOAMLinkDown 1.3.6.1.4.1.1991.0.182	This trap is generated when Link-OAM port link status is changed to down.
	snTrapLinkOAMLoopbackEntered 1.3.6.1.4.1.1991.0.185	This trap is generated when Link-OAM port has entered the loopback mode. The link is not useful for data transfer any more.
	snTrapLinkOAMLoopbackCleared 1.3.6.1.4.1.1991.0.186	This trap is generated when Link-OAM port has cleared the loopback mode.
mac-notification	snTrapMacNotification 1.3.6.1.4.1.1991.0.201	The SNMP notification is generated when MAC events are detected.
Syslog	syslogMsgNotification 1.3.6.1.2.1.192.0.1	This is generated when a new SYSLOG message is received.

CLI-option	OID and syntax	Description
ipsec	brcdIPSecModuleNotification brcdIp.1.1.15.1.0.14	The SNMP trap that is generated when IPsec module state is changed. **NOTE** This notification is supported only on the Ruckus ICX 7450 device.
	brcdIPSecSessionNotification brcdIp.1.1.15.1.0.12	The SNMP trap that is generated when IPsec session state is changed. **NOTE** This notification is supported only on the Ruckus ICX 7450 device.
	brcdIKEInvalidMsgTypeNotification brcdIp.1.1.15.1.0.8	The SNMP trap that is generated when an invalid IKE message Type is received. **NOTE** This notification is supported only on the Ruckus ICX 7450 device.
	brcdIKEInvalidPayloadNotification brcdIp.1.1.15.1.0.9	The SNMP trap that is generated when an invalid IKE payload is received. **NOTE** This notification is supported only on the Ruckus ICX 7450 device.
ikev2	brcdIKEMaxPeerReachedStackingNotification brcdIp.1.1.15.1.0.15	The SNMP trap that is generated when maximum IKE peer limit is reached. **NOTE** This notification is supported only on the Ruckus ICX 7450 device.
	brcdIKERecoveredMaxPeerLimit StackingNotification brcdIp.1.1.15.1.0.16	The SNMP trap that is generated when the system recovers from the maximum IKE peer limit condition. **NOTE** This notification is supported only on the Ruckus ICX 7450 device.
	brcdIKESessionNotification brcdIp.1.1.15.1.0.13	The SNMP trap that is generated when IKEv2 session state is changed. **NOTE** This notification is supported only on the Ruckus ICX 7450 device.
entity-cfg-change	entConfigChange 1.3.6.1.2.1.47.2.0.1	This notification is generated when the value of entLastChangeTime is changed, and occurs if the time interval is 5 minutes between the changes in the entLastChangeTime.

CLI-option	OID and syntax	Description
topology-change	newRoot 1.3.6.1.2.1.17.0.1	Indicates that the sending agent has become the new root of the Spanning Tree. The trap is sent by a bridge soon after its election as the new root, for example, upon expiration of the Topology Change Timer immediately subsequent to its election.
	topologyChange 1.3.6.1.2.1.17.0.2	Sent by a bridge when any of its configured ports transitions from the Learning state to the Forwarding state, or from the Forwarding state to the Blocking state. The trap is not sent if a newRoot trap is sent for the same transition.

Standard traps

This section describes the supported standard traps.

System status traps

RUCKUS supports the following traps from RFC 1215 and RFC 2863.

Trap name and number	Varbind	Description
coldStart 1.3.6.1.6.3.1.1.5.1	None	Indicates that the sending protocol entity is reinitializing itself; the agent's configuration or the protocol entity implementation may be altered.
warmStart 1.3.6.1.6.3.1.1.5.2	None	Indicates that the sending protocol entity is reinitializing itself; however, the agent configuration or the protocol entity implementation is not altered.
linkDown 1.3.6.1.6.3.1.1.5.3	ifEntry.ifIndex, ifEntry.ifDescr, ifEntry.ifAdminStatus, ifEntry.ifOperStatus, ifXEntry.ifAlias	A linkDown trap signifies that the SNMP entity acting in an agent role, has detected that the ifOperStatus object for one of its communication links is about to enter the down state from some other state (but not from the notPresent state). This other state is indicated by the included value of ifOperStatus.
linkUp 1.3.6.1.6.3.1.1.5.4	ifEntry.ifIndex, ifEntry.ifDescr, ifEntry.ifAdminStatus, ifEntry.ifOperStatus, ifXEntry.ifAlias	A linkUp trap signifies that the SNMP entity acting in an agent role, has detected that the ifOperStatus object for one of its communication links left the down state and transitioned into some other state (but not into the notPresent state). This other state is indicated by the included value of ifOperStatus.
NOTE Regarding linkUp and linkDown traps: RUCKUS FastIron release supports a maximum of 64 ports per module; thus, the ifIndex for the release ranges from 1 through 64 for Slot 1, from 65 through 128 for Slot2, and so on. Thus for Slot 2/Port 1, the value of the ifIndex of the port in RUCKUS FastIron release is 65.		
authenticationFailure 1.3.6.1.6.3.1.1.5.5	None	Indicates that the sending protocol entity is the addressee of a protocol message that is not properly authenticated. While implementations of SNMP must be capable of generating this trap, they must also be capable of suppressing the emission of such traps through an implementation-specific mechanism.

Traps for STP

RUCKUS supports the following traps for Spanning Tree Protocol (STP) from RFC 1493.

Trap name and number	Description
newRoot 1.3.6.1.2.1.17.0.1	Indicates that the sending agent has become the new root of the Spanning Tree. The trap is sent by a bridge soon after its election as the new root, for example, upon expiration of the Topology Change Timer immediately subsequent to its election.
topologyChange 1.3.6.1.2.1.17.0.2	Sent by a bridge when any of its configured ports transitions from the Learning state to the Forwarding state, or from the Forwarding state to the Blocking state. The trap is not sent if a newRoot trap is sent for the same transition.

Traps for alarms

RUCKUS supports the following traps for alarms from RFC 1757.

Trap name and number	Description
alarmRisingThreshold 1.3.6.1.2.1.16.3.1.1.7	A threshold for the sampled statistic. This object generates an event when the current sampled value is greater than or equal to this threshold, and the value at the last sampling interval was less than this threshold. This object also generates an event if the first sample after this entry becomes valid is greater than or equal to this threshold and the associated alarmStartupAlarm is equal to risingAlarm(1) or risingOrFallingAlarm(3). After a rising event is generated, another such event will not be generated until the sampled value falls below this threshold and reaches the alarmFallingThreshold.
alarmFallingThreshold 1.3.6.1.2.1.16.3.1.1.8	A threshold for the sampled statistic. This object generates an event when the current sampled value is less than or equal to this threshold, and the value at the last sampling interval was greater than this threshold. This object also generates an event if the first sample after this entry becomes valid is less than or equal to this threshold and the associated alarmStartupAlarm is equal to fallingAlarm(2) or risingOrFallingAlarm(3). After a falling event is generated, another such event will not be generated until the sampled value rises above this threshold and reaches the alarmRisingThreshold.

Ping notifications

The following are the Ping notifications.

Trap name and number	Supported?	Varbind	Description
pingProbeFailed	Yes	pingCtlTargetAddressType pingCtlTargetAddress pingResultsOperStatus pingResultsIpTargetAddressType pingResultsIpTargetAddress pingResultsMinRtt pingResultsMaxRtt pingResultsAverageRtt pingResultsProbeResponses pingResultsSentProbes pingResultsRttSumOfSquares pingResultsLastGoodProbe	This notification is generated when a probe failure is detected, when the corresponding pingCtlTrapGeneration object is set to probeFailure(0), subject to the value of pingCtlTrapProbeFailureFilter.
pingTestFailed	Yes	pingCtlTargetAddressType pingCtlTargetAddress pingResultsOperStatus pingResultsIpTargetAddressType pingResultsIpTargetAddress pingResultsMinRtt pingResultsMaxRtt pingResultsAverageRtt pingResultsProbeResponses pingResultsSentProbes pingResultsRttSumOfSquares pingResultsLastGoodProbe	This notification is generated when a ping test is determined to have failed, when the corresponding pingCtlTrapGeneration object is set to testFailure(1). pingCtlTrapTestFailureFilter specifies the number of probes in a test required to have failed in order to consider the test failed.
pingTestCompleted	Yes	pingCtlTargetAddressType pingCtlTargetAddress pingResultsOperStatus pingResultsIpTargetAddressType pingResultsIpTargetAddress pingResultsMinRtt pingResultsMaxRtt pingResultsAverageRtt pingResultsProbeResponses pingResultsSentProbes pingResultsRttSumOfSquares pingResultsLastGoodProbe	Generated at the completion of a ping test when the corresponding pingCtlTrapGeneration object has the testCompletion(2) bit set.

Proprietary traps

This section presents the proprietary traps supported on devices running proprietary software.

> **NOTE**
> The traps in the proprietary MIBs include the following lines in their description:--#TYPE "RUCKUS Trap: Power Supply Failure"--#SUMMARY "Power supply fails, error status %d."--#ARGUMENTS { 0 }--#SEVERITY MINOR--#STATE OPERATIONAL

General traps

The table below lists the general traps generated by devices. Refer to the previous sections in this chapter to determine if traps for a feature must be enabled (for example, OSPF traps must be enabled) .

Trap name and number	Varbinds	Severity	Description and trap message
snTrapChasPwrSupply brcdIp.0.1 **NOTE** This object has been replaced by General traps and General traps	snChasPwrSupplyStatus	Minor	The power supply failed or is not operating normally. The value is a packed bit string; the power supply statuses are encoded into four bits (a nibble). The following shows the meaning of each bit: (Bit 0 is the least significant bit.) **Bit position and meaning** 4 to 31- Reserved 3 - Power Supply 2 DC (0=bad, 1=good). 2 - Power Supply 1 DC (0=bad, 1=good). 1 - Power Supply 2 present status (0-present, 1-not present). 0 - Power Supply 1 present status (0-present, 1-not present). **Sample trap message:** `Power supply fails, error status <snChasPwrSupplyStatus>`

Trap name and number	Varbinds	Severity	Description and trap message
snTrapLockedAddressViolation brcdIp.0.2	snSwViolatorPortNumber snSwViolatorMacAddress	Minor	The number of source MAC addresses received from a port is greater than the maximum number of addresses configured for that port. **Sample trap message:** `Lock address violation on Port <snSwViolatorPortNumber> with MAC Address <snSwViolatorMacAddress>`
snTrapModuleInserted brcdIp.0.28	snAgentBrdIndex	Informational	A module was inserted into the chassis while the system is running. **Sample trap message:** `Module <snAgentBrdIndex> was inserted to the chassis during system running`
snTrapModuleRemoved brcdIp.0.29	snAgentBrdIndex	Informational	A module was removed from the chassis while the system is running. **Sample trap message:** `Module <snAgentBrdIndex> was removed from the chassis during system running`

Trap name and number	Varbinds	Severity	Description and trap message
snTrapChasPwrSupplyFailed brcdIp.0.30	snChasPwrSupplyIndex snChasPwrSupplyDescription	Minor	A power supply in the device failed. **Sample trap message:** `Power supply <snChasPwrSupplyIndex> {<snChasPwrSupplyDescription>) failed`
snTrapChasFanFailed brcdIp.0.31	snChasFanIndex snChasFanDescription	Minor	A fan in the device failed. **Sample trap message:** `Fan <snChasFanIndex> (<snChasFanDescription>) failed`
snTrapLockedAddressViolation2 brcdIp.0.32	snAgGblTrapMessage	Minor	The number of source MAC addresses received from a port is greater than the maximum number of addresses configured for that port. **Sample trap message:** `Locked address violation at interface Ethernet <port>, address <mac>`

Trap name and number	Varbinds	Severity	Description and trap message
snTrapMgmtModuleRedunStateChange brcdIp.0.35	snAgGblTrapMessage	Warning	The management module changed its redundancy state. **Sample trap message:** `Management module at slot <slot-num> state changed from <old-state> to <new-state>`
snTrapTemperatureWarning brcdIp.0.36	snAgGblTrapMessage	Critical	The actual temperature reading is above the warning temperature threshold. **Sample trap message:** `Temperature <actual-temp> C degrees, warning level <warning-temp> C degrees, shutdown level <shutdown-temp> C degrees`
snTrapAccessListDeny brcdIp.0.37	snAgGblTrapMessage	Warning	A packet was denied by an access list. **Sample trap message: (for RIP):** `rip filter list <id> in rip denied <IP>, <n> event(s)`

Trap name and number	Varbinds	Severity	Description and trap message
snTrapMacFilterDeny brcdIp.0.38	snAgGblTrapMessage	Warning	A packet was denied by a MAC address filter. **Sample trap message:** `mac filter group denied packets on port <n> src macaddr <mac>, <n> packets`
snTrapDuplicateIp brcdIp.0.56		Major	A duplicate IP address was detected. **Sample trap message:** `Duplicate IP address detect.`
snTrapNoBmFreeQueue brcdIp.0.61		Warning	There are no free queues available in the buffer manager. **Sample trap message:** `Slot <slot-num> {M1|M2|M3|M4|M5|MiniG} Free Queue decreases less than the desirable values 3 consecutive times.`
snTrapSmcDmaDrop brcdIp.0.62		Informational	An SMC DMA packet has been dropped. **Sample trap message:** `Slot <slot-num> SMC <dma-id> DMA Drop Counter is <drop-count>.`

Trap name and number	Varbinds	Severity	Description and trap message
snTrapSmcBpDrop brcdIp.0.63		Informational	An SMC BackPlane packet has been dropped. **Sample trap message:** `Slot <slot-num> BP <dma-id> DMA Drop Counter is <drop-count>.`
snTrapBmWriteSeq Drop brcdIp.0.64		Informational	A BM write-sequence packet has been dropped. **Sample trap message:** `Slot <slot-num> Write Sequence Drop <drop-count> within 30 seconds.`
snTrapRunningConfigChanged brcdIp.0.73	snAgGblTrapMessage	Informational	The running configuration has been changed. **Sample trap message:** `Running-config was changed from telnet.`
snTrapStartupConfigChanged brcdIp.0.74	snAgGblTrapMessage	Informational	The startup configuration has been changed. **Sample trap message:** `Startup-config was changed from console.`
snTrapUserLogin brcdIp.0.75	snAgGblTrapMessage	Informational	A user logged in to a device. **Sample trap message:** `<user1> login to USER EXEC mode.`

Trap name and number	Varbinds	Severity	Description and trap message
snTrapUserLogout brcdIp.0.76	snAgGblTrapMessage	Informational	A user logged out of a device. **Sample trap message:** `<user1> logout from USER EXEC mode.`
snTrapChasPwrSupplyOK brcdIp.0.81	snChasPwrSupplyIndex, snChasPwrSupplyDescription	Notification	The SNMP trap that is generated when a power supply operational status changes from failure to normal. **Sample trap message:** `Power supply <device> OK`
snTrapMacAuthEnable brcdIp.0.85	snAgGblTrapMessage	Notification	The SNMP trap that is generated when MAC-Authentication is enabled on an interface.
snTrapMacAuthDisable brcdIp.0.86	snAgGblTrapMessage	Notification	The SNMP trap that is generated when MAC-Authentication is disabled on an interface.
snTrapMacAuthMACAccepted brcdIp.0.87	snAgGblTrapMessage	Notification	The SNMP trap that is generated when MAC-Authentication is successful on an interface.
snTrapMacAuthMACRejected brcdIp.0.88	snAgGblTrapMessage	Notification	The SNMP trap that is generated when MAC-Authentication is failed on an interface.
snTrapMacAuthPortDisabled brcdIp.0.89	snAgGblTrapMessage	Notification	The SNMP trap that is generated when an interface is disabled due to MAC-Authentication detecting a DOS attack on that interface.

Trap name and number	Varbinds	Severity	Description and trap message
snTrapClientLoginReject brcdIp.0.110	snAgGblTrapMessage	Informational	A login by a Telnet or SSH client failed. **Sample trap message:** `telnet|SSH access [by <username>] from src IP <ip>, src MAC <mac> rejected, <n> attempt(s)`
snTrapLocalUserConfigChange brcdIp.0.111	snAgGblTrapMessage	Informational	The configuration of a local user account has been changed. **Sample trap message:** `user <name> added| deleted| modified from console| telnet|ssh| web|snmp`
snTrapVlanConfigChange brcdIp.0.112	snAgGblTrapMessage	Informational	A VLAN configuration has been changed. **FSample trap message:** `vlan <vlan-id> added| deleted| modified from console| telnet|ssh| web|snmp session`

Trap name and number	Varbinds	Severity	Description and trap message
snTrapAclConfigChange brcdIp.0.113	snAgGblTrapMessage	Informational	An ACL configuration has been changed. **Sample trap message:** `ACL <acl-id> added| deleted| modified from console| telnet|ssh| web|snmp session`
snTrapMacFilterConfigChange brcdIp.0.114	snAgGblTrapMessage	Informational	A MAC filter configuration has been changed. **Sample trap message:** `MAC Filter <added| deleted> from console| telnet|ssh| web|snmp session (filter id=<id>, src mac=<mac>| any, dst mac=<mac>| any)`

Trap name and number	Varbinds	Severity	Description and trap message
snTrapSNMPConfigChange brcdIp.0.115	snAgGblTrapMessage	Informational	SNMP configuration has been changed. **Sample trap message:** `[read-only community|read-writecommunity|contact|location|user|group|view|engineId|trap host] "<value>"deleted|added|modified from console|telnet|ssh|web|snmp session` **NOTE** A contact, location, user, group, view, trap host name may be displayed for <value>.

Trap name and number	Varbinds	Severity	Description and trap message

snTrapSyslogConfigChange
brcdIp.0.116
	snAgGblTrapMessage	Informational	Syslog configuration has been changed.
			Sample trap message:
			`Syslog server <ip-address> deleted|added|modified from console|telnet|ssh|web|snmp`
			or
			`Syslog operation enabled|disabled from console|telnet|ssh|web|snmp`

snTrapPasswordConfigChange
brcdIp.0.117
	snAgGblTrapMessage	Informational	The enable or line password has been changed.
			Sample trap message:
			`Enable <super|port-config|read-only> password deleted|added|modified from console|telnet|ssh|web|snmp`
			`or`
			`Line password deleted|added|modified from console|telnet|ssh|web|snmp`

Trap name and number	Varbinds	Severity	Description and trap message
snTrapServerStatusChange brcdIp.0.118	snAgGblTrapMessage	Informational	SNMP trap server has been enabled or disabled. **Sample trap message:** `SSH|Telnet server enabled| disabled from console| telnet|ssh| web|snmp session [by <user> <username>]`
snTrapPortPriorityChange brcdIp.0.122	snAgGblTrapMessage	Informational	This trap is generated when a port's priority is changed. **Sample trap message:** `Port <port-number> priority changed to <new-priority>`
snTrapDot1xSecurityViolation brcdIp.0.131	snAgGblTrapMessage	Alert	This trap is generated when a malicious MAC address is detected.
snTrapDot1xPortLinkChange brcdIp.0.132	snAgGblTrapMessage	Notification	This trap is generated when a software port link status is changed to up or down.
snTrapDot1xPortControlChange brcdIp.0.133	snAgGblTrapMessage	Notification	This trap is generated when software port control status is changed to authorize or unauthorize.
snTrapDot1xVlanIdChange brcdIp.0.134	snAgGblTrapMessage	Notification	This trap is generated when VLAN ID of a port is changed.

Trap name and number	Varbinds	Severity	Description and trap message
snTrapDot1xFilterSetupFailure brcdIp.0.135	snAgGblTrapMessage	Notification	This trap is generated when software failed to setup a filter to a MAC address of a port.
snTrapDot1xError brcdIp.0.136	snAgGblTrapMessage	Debugging	This trap is generated when software detects system error.

snTrapPortConfigChange brcdIp.0.137	snAgGblTrapMessage	Informational	This trap is generated when interface configuration is changed.
			The following are the additional traps generated with the reason when the GRE tunnel interface is down:
			• **admin down**
			`PORT: tn1 disabled by user from console session.`
			• **delete**
			`PORT: tn1, removed ip address xx.xx.x.x by user from console session.`
			• **IP address remove**
			`PORT: tn1 down due to tunnel ip address removed.`
			• **source down**
			`PORT: tn1 down due to tunnel source interface down.`

Trap name and number	Varbinds	Severity	Description and trap message

			• **destination route not found**
			`PORT: tn1 down due to tunnel no destination route.`
			• **keepalive down**
			`PORT: tn1 down due to GRE keepalive.`
			• **recursive routing down**
			`PORT: tn1 down due to GRE recursive routing.`
			The following trap is generated when the GRE tunnel interface is UP and running.
			• **Tunnel UP Trap**
			`PORT: tn1 enabled by user from console session.`

snTrapMacAuthRadiusTimeout brcdIp.0.143	snAgGblTrapMessage	Notification	The SNMP trap that is generated when a request from Mac-Auth to RADIUS has not been answered within the retry and time limit.
snTrapUDLDLinkDown brcdIp.0.145	ifIndex, snAgGblTrapMessage	Notification	The SNMP trap that is generated when the UDLD port link status has changed to down.

Trap name and number	Varbinds	Severity	Description and trap message
snTrapUDLDLinkUp brcdIp.0.146	ifIndex, snAgGblTrapMessage	Notification	The SNMP trap that is generated when the UDLD port link status has changed to up.
snTrapChasFanNormal brcdIp.0.149	snChasFanIndex snChasFanDescription	Minor	The status of a fan has changed from fail to normal. **Sample trap message:** `Fan <snChasFanIndex> (<snChasFanDescription>) ok`
snTrapLACPLinkStateChange brcdIp.0.155	ifIndex, snAgGblTrapMessage	Notification	This trap is generated when LACP port changes its state.
snTrapStackingTemperatureWarning brcdIp.0.171	snChasUnitIndex, snAgGblTrapMessage	Critical	This trap is generated when the actual temperature reads above the warning temperature threshold in case of a stacking unit.
snTrapPBRConfigChanged brcdIp.0.173	snAgGblTrapMessage	Alert	This trap is generated when a Policy Based Routing (PBR) routemap is bound or unbound either globally or to an interface..
snTrapSysmaxReverted brcdIp.0.178	snAgGblTrapMessage	Warning	This trap is generated when the revertible sysmax elements are reverted during the card bringup if they cannot be accomodated in the available memory.

Trap name and number	Varbinds	Severity	Description and trap message
snTrapSysmaxLeftLowMem brcdIp.0.179	snAgGblTrapMessage	Warning	This trap is generated when that the configured sysmax set can leave less than 10% available memory free during bootup.
snTrapSysMemoryLowThreshold brcdIp.0.180	snAgGblTrapMessage	Warning	This trap is generated when the available dynamic memory in a card is below 5% of the installed physical memory.
snTrapSysMemoryOutThreshold brcdIp.0.181	snAgGblTrapMessage	Warning	This trap is generated when the dynamic memory fails to be allocated in a system.
snTrapLinkOAMLinkDown brcdIp.0.182	ifIndex, snAgGblTrapMessage	Notification	This trap is generated when Link-OAM port link status is changed to down.
snTrapLinkOAMLinkUp brcdIp.0.183	ifIndex, snAgGblTrapMessage	Notification	This trap is generated when Link-OAM port link status is changed to up.
snTrapLinkOAMLoopbackEntered brcdIp.0.185	ifIndex, dot3OamLoopbackStatus, snAgGblTrapMessage	Notification	This trap is generated when Link-OAM port has entered the loopback mode. The link is not useful for data transfer any more.
snTrapLinkOAMLoopbackCleared brcdIp.0.186	ifIndex, dot3OamLoopbackStatus, snAgGblTrapMessage	Notification	This trap is generated when Link-OAM port has cleared the loopback mode.

Trap name and number	Varbinds	Severity	Description and trap message
snTrapChasFanOK brcdIp.0.1000	snChasFanDescription snChasFanIndex	Minor	This trap is generated when a fan operational status changed from failure to normal or change in the fan speed due to temperature variations downwards.
snTrapTemperatureOK brcdIp.0.1001	snAgGblTrapMessage	Critical	This trap is generated when the actual temperature reading is below the warning temperature threshold.
snTrapChassisFanSpeedLow brcdIp.0.1200	snAgGblTrapMessage	Informational	This trap is generated when all chassis fans change to low speed.
snTrapChassisFanSpeedMedium brcdIp.0.1201	snAgGblTrapMessage	Informational	This trap is generated when all chassis fans change to medium speed.
snTrapChassisFanSpeedMedHigh brcdIp.0.1202	snAgGblTrapMessage	Informational	This trap is generated when all chassis fans change to medium high speed.
snTrapChassisFanSpeedHigh brcdIp.0.1203	snAgGblTrapMessage	Informational	This trap is generated when all chassis fans change to high speed.

MAC-based VLAN traps

The following table contains MAC-based VLAN traps.

Trap name and number	Varbinds	Severity	Description and trap message
snTrapMacAuthVlanIdChange brcdIp.0.138	snAgGblTrapMessage	Notification	VLAN ID of a port has changed.
snTrapMacBasedVlanEnabled brcdIp.0.147	snAgGblTrapMessage	Notification	MAC-based VLAN is enabled. **Sample trap message:** `SNTrapMacBasedVlanEnabled: Mac Based Vlan Enabled on port <port id>.`

Trap name and number	Varbinds	Severity	Description and trap message
snTrapMacBasedVlanDisabled brcdIp.0.148	snAgGblTrapMessage	Notification	MAC-based VLAN is disabled. **Sample trap message:** `SNTrapMacBasedVlanDisabled : Mac Based Vlan Disabled on port <port id>.`

snTrapMacMoveThresholdRate brcdIp.0.197	snAgGblTrapMessage	Notification	The SNMP notification is generated when MAC movement is exceeding the certain threshold for a sampling interval is detected.
			Sample trap message:
			`Mac-Move threshold-rate: MAC address <mac> moved from interface <port-id> to interface <port-id> for vlan <vlan-id>,`
			`<move-count> times exceeding the threshold rate <threshold-rate> for a sampling interval <interval> seconds`

snTrapMacMoveIntervalHistory brcdIp.0.198	snAgGblTrapMessage	Notification	The SNMP notification is generated for every user configured interval, summarizing the moves in the interval. Sample trap message: `Mac-Move Interval-History: <#macs> macs moved in last <interval> seconds. Total number of mac moves in the interval is <#moves>`

VRRP traps

The following table contains VRRP trap that can be used only by the devices that support VRRP.

Trap name and number	Varbinds	Severity	Description and trap message
snTrapVrrpIfStateChange brcdIp.0.34	snAgGblTrapMessage	Warning	A VRRP routing device changed state from master to backup or vice versa. **Sample trap message:** `VRRP intf state changed, intf <port>, vrid <id>, state <new-state>.`

VSRP traps

The following traps can be used by the devices that support VSRP.

Trap name and number	Varbinds	Severity	Description
snTrapVsrpIfStateChange brcdIp.0.83	snAgGblTrapMessage	Informational	A VSRP switching and routing device changed its state.

Trap name and number	Varbinds	Severity	Description
snTrapVsrpCamError brcdIp.0.84	snAgGblTrapMessage	Informational	A VSRP CAM error has occurred.

OSPF traps

NOTE
You must configure the **log adjacency** command under the "router ospf" mode to see traps for the following objects: ospfIfStateChange trap ospfNbrStateChange trap ospfVirtIfStateChange trap ospfVirtNbrStateChange trap

Trap name and number	Varbinds	Severity	Description and trap message
snTrapOspfIfStateChange 1.3.6.1.2.1.14.16.2.3	snOspfRouterId (The originator of the trap) snOspfIfStatusIpAddress snOspfIfStatusState (The new state)	Informational	There has been a change in the state of a non-virtual OSPF interface. This trap should be generated when the interface state regresses (for example, goes from Dr to Down) or progresses to a terminal state (for example, Point-to-Point, DR Other, Dr, or Backup). **NOTE** You must configure the **log adjacency** command under the "router ospf" mode to see traps. **Sample trap message:** `OSPF router id <snOspfRouterId>, interface <snOspfIfStatusIpAddress> state changed to <snOspfIfStatusState>.`
snTrapOspfVirtIfStateChange 1.3.6.1.2.1.14.16.2.4	snOspfRouterId (The originator of the trap) snOspfVirtIfStatusAreaID snOspfVirtIfStatusNeighbor snOspfVirtIfStatusState (The new state)	Informational	There has been a change in the state of an OSPF virtual interface. This trap should be generated when the interface state regresses (for example, goes from Point-to-Point to Down) or progresses to a terminal state (for example, Point-to-Point). **NOTE** You must configure the **log adjacency** command under the "router ospf" mode to see traps. **Sample trap message:** `OSPF router id <snOspfRouterId>, virtual interface area id <snOspfVirtIfStatusAreaID> neighbor <snOspfVirtIfStatusNeighbor> state changed to <snOspfVirtIfStatusState>.`

Trap name and number	Varbinds	Severity	Description and trap message
snOspfNbrStateChange 1.3.6.1.2.1.14.16.2.5	snOspfRouterId (The originator of the trap) snOspfNbrIpAddr snOspfNbrRtrId snOspfNbrState (The new state)	Informational	There has been a change in the state of a non-virtual OSPF neighbor. This trap should be generated when a neighbor state regresses (for example, goes from Attempt or Full to 1-Way or Down) or progresses to a terminal state (for example, 2-Way or Full). When an neighbor transitions from or to Full on non-broadcast multi-access and broadcast networks, the trap should be generated by the designated router. A designated router transitioning to Down will be noted by ospfIfStateChange. **NOTE** You must configure the **log adjacency** command under the "router ospf" mode to see traps. **Sample trap message:** `OSPF router id <snOspfRouterId> neighbor area <snOspfNbrIpAddr>,neighbor router id <snOspfNbrRtrId> state changed to <snOspfNbrState>.`
snOspfVirtNbrStateChange 1.3.6.1.2.1.14.16.2.6	snOspfRouterId (The originator of the trap) snOspfVirtNbrArea snOspfVirtNbrRtrId snOspfVirtNbrState (The new state)	Informational	There has been a change in the state of an OSPF virtual neighbor. This trap should be generated when the neighbor state regresses (for example, goes from Attempt or Full to 1-Way or Down) or progresses to a terminal state (for example, Full). **NOTE** You must configure the **log adjacency** command under the "router ospf" mode to see traps. **Sample trap message:** `OSPF router id <snOspfRouterId> virtual neighbor area <snOspfVirtNbrArea>, virtual neighbor router id <snOspfVirtNbrRtrId> state changed to <snOspfVirtNbrState>.`

Trap name and number	Varbinds	Severity	Description and trap message
snOspfIfConfigError 1.3.6.1.2.1.14.16.2.7	snOspfRouterId (The originator of the trap) snOspfIfStatusIpAddress snOspfPacketSrc (The source IP address) snOspfConfigErrorType (Type of error) snOspfPacketType	Major	A packet has been received on a non-virtual interface from a router whose configuration parameters conflict with this router's configuration parameters. **NOTE** The optionMismatch event should cause a trap only if it prevents an adjacency from forming. **Sample trap message:** `Configuration error type <snOspfConfigErrorType> with packet type <snOspfPacketType> has been received on interface <snOspfIfStatusIpAddress>, router id <snOspfRouterId> from <snOspfPacketSrc>.`
snOspfVirtIfConfigError 1.3.6.1.2.1.14.16.2.8	snOspfRouterId (The originator of the trap) snOspfVirtIfStatusAreaID snOspfVirtIfStatusNeighbor snOspfConfigErrorType (Type of error) snOspfPacketType	Major	A packet has been received on a virtual interface from a router whose configuration parameters conflict with this router's configuration parameters. **NOTE** The optionMismatch event should cause a trap only if it prevents an adjacency from forming. **Sample trap message:** `Configuration error type <snOspfConfigErrorType> with packet type <snOspfPacketType> has been received on virtual interface area id <snOspfVirtIfStatusAreaID>, router id <snOspfRouterId> from neighbor <snOspfVirtIfStatusNeighbor>.`

Trap name and number	Varbinds	Severity	Description and trap message
snOspfIfAuthFailure 1.3.6.1.2.1.14.16.2.9	snOspfRouterId (The originator of the trap) snOspfIfStatusIpAddress snOspfPacketSrc (The source IP address) snOspfConfigErrorType (authTypeMismatch or authFailure snOspfPacketType	Minor	A packet has been received on a non-virtual interface from a router whose authentication key or authentication type conflicts with this router's authentication key or authentication type. **Sample trap message:** `OSPF authentication failed. Router ID <snOspfRouterId>, Interface <snOspfIfStatusIpAddress>, packet src <snOspfPacketSrc>, error type <snOspfConfigErrorType> and packet type <snOspfPacketType>.`
snOspfVirtIfAuthFailure 1.3.6.1.2.1.14.16.2.10	snOspfRouterId (The originator of the trap) snOspfVirtIfStatusAreaID snOspfVirtIfStatusNeighbor snOspfConfigErrorType (authTypeMismatch or authFailure) snOspfPacketType	Minor	A packet has been received on a virtual interface from a router whose authentication key or authentication type conflicts with this router's authentication key or authentication type. **Sample trap message:** `OSPF authentication failed. Router ID <snOspfRouterId>, virtual interface <snOspfVirtIfStatusAreaID>, Neigbor <snOspfVirtIfStatusNeighbor>, Error type <snOspfConfigErrorType> and packet type <snOspfPacketType>.`
snOspfIfRxBadPacket 1.3.6.1.2.1.14.16.2.11	snOspfRouterId (The originator of the trap) snOspfIfStatusIpAddress snOspfPacketSrc (The source IP address) snOspfPacketType	Warning	An OSPF packet has been received on a non-virtual interface that cannot be parsed. **Sample trap message:** `OSPF Router Id <snOspfRouterId>, interface <snOspfIfStatusIpAddress> receive bad packet (type <snOspfPacketType>) from <snOspfPacketSrc>.`

Trap name and number	Varbinds	Severity	Description and trap message
snOspfVirtIfRxBadPacket 1.3.6.1.2.1.14.16.2.12	snOspfRouterId (The originator of the trap) snOspfVirtIfStatusAreaID snOspfVirtIfStatusNeighbor snOspfPacketType	Warning	An OSPF packet has been received on a virtual interface that cannot be parsed. **Sample trap message:** `OSPF router id <snOspfRouterId>, virtual interface <snOspfVirtIfStatusAreaID> received bad packet (type <snOspfPacketType>) from neighbor <snOspfVirtIfStatusNeighbor>.`
snOspfTxRetransmit 1.3.6.1.2.1.14.16.2.13	snOspfRouterId (The originator of the trap) snOspfIfStatusIpAddress snOspfNbrRtrId (Destination) snOspfPacketType snOspfLsdbType snOspfLsdbLsId snOspfLsdbRouterId	Warning	An OSPF packet has been retransmitted on a non-virtual interface. All packets that may be retransmitted are associated with an LSDB entry. The LS type, LS ID, and Router ID are used to identify the LSDB entry. **Sample trap message:** `OSPF router id <snOspfRouterId> interface <snOspfIfStatusIpAddress> retransmitted packet type <snOspfPacketType>,LSDB type <snOspfLsdbType>, LSDB LS ID <snOspfLsdbLsId> and LSDB router id <snOspfLsdbRouterId> to Neighbor router id <snOspfNbrRtrId>.`
ospfVirtIfTxRetransmit 1.3.6.1.2.1.14.16.2.14	snOspfRouterId (The originator of the trap) snOspfVirtIfStatusAreaID snOspfVirtIfStatusNeighbor snOspfPacketType snOspfLsdbType snOspfLsdbLsId snOspfLsdbRouterId	Warning	An OSPF packet has been retransmitted on a virtual interface. All packets that may be retransmitted are associated with an LSDB entry. The LS type, LS ID, and Router ID are used to identify the LSDB entry. **Sample trap message:** `OSPF router id <snOspfRouterId>, virtual interface area id snOspfVirtIfStatusAreaID> retransmitted packet type <snOspfPacketType>,LSDB type <snOspfLsdbType>, LSDB LS ID <snOspfLsdbLsId> and LSDB router id <snOspfLsdbRouterId> to Neighbor <snOspfVirtIfStatusNeighbor>.`

Trap name and number	Varbinds	Severity	Description and trap message
snOspfOriginateLsa 1.3.6.1.2.1.14.16.2.15	snOspfRouterId (The originator of the trap) snOspfLsdbAreaId (0.0.0.0 for AS Externals) snOspfLsdbType snOspfLsdbLsId snOspfLsdbRouterId	Informational	This router originated a new LSA. This trap should not be invoked for simple refreshes of LSAs (which happens every 30 minutes), but instead will only be invoked when an LSA is re-originated due to a topology change. Additionally, this trap does not include LSAs that are being flushed because they have reached MaxAge **Sample trap message:** `New LSA (area id <snOspfLsdbAreaId>, type <snOspfLsdbType>, LS Id <snOspfLsdbLsId> and router id <snOspfLsdbRouterId>) has been originated by router id <snOspfRouterId>.`
snOspfMaxAgeLsa 1.3.6.1.2.1.14.16.2.16	snOspfRouterId (The originator of the trap) snOspfLsdbAreaId (0.0.0.0 for AS Externals) snOspfLsdbType snOspfLsdbLsId snOspfLsdbRouterId	Warning	One of the LSAs in the router's link-state database has aged to MaxAge. **Sample trap message:** `The LSA (area id <snOspfLsdbAreaId>, type <snOspfLsdbType>, LS Id <snOspfLsdbLsId> and router id <snOspfLsdbRouterId>) in router id <snOspfRouterId> link-state database has aged to maximum age.`
snOspfLsdbOverflow 1.3.6.1.2.1.14.16.2.17	snOspfRouterId (The originator of the trap) snOspfExtLsdbLimit	Warning	The number of LSAs in the router's link-state database has exceeded the ospfExtLsdbLimit. **Sample trap message:** `The number of LSAs in the OSPF router id <snOspfRouterId> link-state database has exceeded <snOspfExtLsdbLimit>.`
snOspfLsdbApproachingOverflow 1.3.6.1.2.1.14.16.2.18	snOspfRouterId (The originator of the trap) snOspfExtLsdbLimit	Informational	The number of LSAs in the router's link-state database has exceeded 90 percent of the ospfExtLsdbLimit. **Sample trap message:** `The number of LSAs in the OSPF router id <snOspfRouterId> link-state database has exceeded ninety percent of <snOspfExtLsdbLimit>.`

ICMP traps

The following traps are generated for ICMP functionalities.

Trap name and number	Varbinds	Severity	Description and trap message
snTrapIcmpLocalExceedBurst brcdIp.0.51	snAgGblTrapMessage	Warning	Incoming ICMP exceeded the maximum local burst packets. **Sample trap message:** `Local ICMP exceeds <num> burst packets, stopping for <num> seconds!!`
snTrapIcmpTransitExceedBurst brcdIp.0.52	snAgGblTrapMessage	Warning	Transit ICMP exceeded the maximum transit burst packets. **Sample trap message:** `Transit ICMP in interface <port-num> exceeds <num> burst packets, stopping for <num> seconds!!`

TCP traps

The following traps are generated for TCP functionalities.

Trap name and number	Varbinds	Severity	Description and trap message
snTrapTcpLocalExceedBurst brcdIp.0.53	snAgGblTrapMessage	Warning	Incoming TCP exceeded the maximum local burst packets. **Sample trap message:** `Local TCP exceeds <num> burst packets, stopping for <num> seconds!!`

snTrapTcpTransitExceedBurst
brcdIp.0.54
	snAgGblTrapMessage	Warning	Transit TCP exceeded the maximum transit burst packets.
			Sample trap message:
			`Transit TCP in interface <port-num> exceeds <num> burst packets, stopping for <num> seconds!!`
			Sample trap message:
			`Locked address violation at <port-name> <port-num>, address <mac>`

BGP traps

The following table contains BGP traps that are obsolete and has been replaced with the bgp4V2BackwardTransitionNotification (1.3.6.1.4.1.1991.3.5.1.0.2).

Trap name and number	Varbinds	Severity	Description and trap message
snTrapBgpPeerUp brcdIp.0.65	snAgGblTrapMessage	Informational	The Border Gateway Protocol (BGP) peer is up. **Sample trap message:** `BGP Peer <IP> UP(ESTABLISHED)`
snTrapBgpPeerDown brcdIp.0.66	snAgGblTrapMessage	Informational	The BGP peer is down. **Sample trap message:** `BGP Peer <IP> DOWN (<reason-string>)\n`

Port security traps

The port security feature enables a device to learn a limited number of "secure" MAC addresses on an interface. The interface forwards only those packets with source MAC addresses that match the secure addresses. The following traps are generated, if the interface receives MAC addresses that are included in its secure MAC list.

NOTE

The following traps apply to ports that have the port security feature enabled.

Trap name and number	Varbinds	Severity	Description and trap message
snTrapPortSecurityViolation brcdIp.0.77	snAgGblTrapMessage	Minor	Packets from an unknown MAC address are dropped. **Sample trap message:** RUCKUS `Trap: Port Security Violation`
snTrapPortSecurityShutdown brcdIp.0.78	snAgGblTrapMessage	Minor	The port is disabled for the amount of time configured using the **violation shutdown** *<minutes>* port security CLI command. **Sample trap message:** RUCKUS `Trap: Port Security Violation Cause Shutdown`

MRP traps

The following traps are generated for MRP functionalities.

Trap name and number	Varbinds	Severity	Description
snTrapMrpStateChange brcdIp.0.79	snAgGblTrapMessage	Informational	An MRP state occurred.
snTrapMrpCamError brcdIp.0.80	snAgGblTrapMessage	Warning	An MRP CAM error occurred.

BPDU guard and root guard traps

The following are the traps for BPDU guard and root guard.

Trap name and number	Varbinds	Severity	Description and trap message
snTrapStpRootGuardDetect brcdIp.0.150	ifIndex, snVLanByPortCfgVLanId, snAgGblTrapMessage	Notification	The SNMP trap that is generated when a Root-Guarded port receives a superior BPDU. **Sample trap message:** RUCKUS `Trap: Stp root guard detect`
snTrapStpRootGuardExpire brcdIp.0.151	ifIndex, snVLanByPortCfgVLanId, snAgGblTrapMessage	Notification	The SNMP trap that is generated when a port's Root-Guard expires. **Sample trap message:** RUCKUS `Trap: Stp root guard expire`
snTrapStpBPDUGuardDetect brcdIp.0.152	ifIndex, snVLanByPortCfgVLanId, snAgGblTrapMessage	Notification	The SNMP trap that is generated when a BPDU-guarded is disabled because it received a BPDU. **Sample trap message:** RUCKUS `Trap: STP BPDU guard`
snTrapMstpBPDUGuardDetect brcdIp.0.153	ifIndex, snAgGblTrapMessage	Notification	The SNMP trap that is generated when a BPDU-guarded port receiveds a BPDU. **Sample trap message:** RUCKUS `Trap: MSTP BPDU guard.`
snTrapErrorDisableAction brcdIp.0.154	ifIndex, snAgGblTrapMessage	Notification	The SNMP trap that is generated when an interface error-disable is hit or recovery times out. **Sample trap message:** RUCKUS `Trap: Error-disable hit or recovery times out.`
snTrapStpRootGuardExpire brcdIp.0.160	ifIndex, snVLanByPortCfgVLanId, snAgGblTrapMessage	Notification	The SNMP trap that is generated when a port is re-enabled after it has been disabled because it received a BPDU packet and BPDU Guard is enabled. **Sample trap message:** RUCKUS `Trap: STP BPDU Guard Expire.`
snTrapPortLoopDetection brcdIp.0.161	ifIndex, snVLanByPortCfgVLanId, snAgGblTrapMessage	Notification	The SNMP notification is generated when a port loop is detected. **Sample trap message:** RUCKUS `Trap: LOOP DETECTION: VLAN <id>, port <slot>/<port> detect, putting into err-disable state`

Traps for stacking

The following table has traps for stacking.

Trap name and number	Varbinds	Severity	Description and trap message
snTrapStackingMasterElected brcdIp.0.163	snChasUnitIndex, snAgGblTrapMessage	Minor	The SNMP trap that is generated when a unit is elected as the Master unit for the stacking system. **Sample trap message:** `Stack unit <unitNumber> has been elected as ACTIVE unit of the stack system`
snTrapStackingUnitAdded brcdIp.0.164	snChasUnitIndex, snAgGblTrapMessage	Minor	The SNMP trap that is generated when a unit has been added to the stacking system. **Sample trap message:** `Stack: Stack unit <unitNumber> has been added to the stack system`
snTrapStackingUnitDeleted brcdIp.0.165	snChasUnitIndex, snAgGblTrapMessage	Minor	The SNMP trap that is generated when a unit has been deleted from the stacking system. **Sample trap message:** `Stack: Stack unit <unitNumber> has been deleted to the stack system`
snTrapStackingChasPwrSupplyOK brcdIp.0.166	snChasUnitIndex, snChasPwrSupplyIndex, snAgGblTrapMessage	Minor	The SNMP trap that is generated when a power supply operational status changed from failure to normal for a stacking system. **Sample trap message:** `System: Stack unit <unitNumber> Power supply <snChasPwrSupplyIndex> is up`
snTrapStackingChasPwrSupplyFailed brcdIp.0.167	snChasUnitIndex, snChasPwrSupplyIndex, snAgGblTrapMessage	Minor	The SNMP trap that is generated when a power supply operational status changed from normal to failure for a stacking system. **Sample trap message:** `System: Stack unit <unitNumber> Power supply <snChasPwrSupplyIndex> is down`
snTrapStackingChasFanNormal brcdIp.0.168	snChasUnitIndex, snChasFanIndex, snChasFanDescription	Minor	The SNMP trap that is generated when a fan operational status changed from failure to normal for a stacking system. **Sample trap message:** `System: Stack unit <unitNumber> Fan <snChasFanIndex> (<snChasFanDescription>), ok`

Trap name and number	Varbinds	Severity	Description and trap message
snTrapStackingChasFanFailed brcdIp.0.169	snChasUnitIndex, snChasFanIndex, snChasFanDescription	Minor	The SNMP trap that is generated when a fan fails to operate normally for a stacking system. **Sample trap message:** `System: Stack unit <unitNumber> Fan <snChasFanIndex> (<snChasFanDescription>), failed`
snTrapStackingManagementMAC Changed brcdIp.0.170	snAgGblTrapMessage	Minor	The SNMP trap that is generated when the managemnet MAC address of a stacking system has been changed. **Sample trap message:** `System: Management MAC address changed to <mac_address>`
snTrapStackingTemperatureWarning brcdIp.0.171	snChasUnitIndex, snAgGblTrapMessage	Minor	The SNMP trap that is generated when the actual temperature reading is above the warning temperature threshold for a stack sytem. **Sample trap message:** `System: Stack unit <unitNumber> Temperature <actual-temp> C degrees, warning level <warning-temp> C degrees, shutdown level <shutdown-temp> C degrees`
snTrapStackingStandbyElected brcdIp.0.196	snChasUnitIndex, snAgGblTrapMessage	Minor	The SNMP trap that is generated when a unit is elected as Standby unit for the stacking system.
snTrapStackingShowStack Connect brcdIp.0.209	snAgGblTrapMessage	Notification	The SNMP trap is generated when the background diagnosis detects the connection errors to notify the user to check the connections in a stacking system. **Format**: `Background diagnosis detects connection errors. Please use show stack conn to view detailed connections.`
snTrapStackingStandByChanged Standalone brcdIp.0.210	snChasUnitIndex, snAgGblTrapMessage	Notification	The SNMP trap is generated when a unit is changed from Standby to Standalone when the active unit is down.
snTrapStackISSUSystemCompleted brcdIp.0.215	snAgGblTrapMessage	Notification	The SNMP trap is generated when system completed stack upgrade process.
snTrapStackISSUSystemFailed brcdIp.0.216	snAgGblTrapMessage	Alerts	The SNMP trap is generated when system failed stack upgrade process.

Trap name and number	Varbinds	Severity	Description and trap message
snTrapStackISSUUnitCompleted brcdIp.0.217	snChasUnitIndex, snAgGblTrapMessage	Notification	The SNMP trap is generated when unit completed upgrade process. **Format**: Stack: stack unit <*unit_id*> completed upgrade
snTrapStackISSUUnitFailed brcdIp.0.218	snChasUnitIndex, snAgGblTrapMessage	Alerts	The SNMP trap is generated when unit failed upgrade process. **Format**: Stack: system upgrade failed, stack unit <*unit_id*> is in failure state
snTrapStackISSUSystemStart brcdIp.0.219	snAgGblTrapMessage	Notification	The SNMP trap is generated when system starts stack upgrade process. **Format**: Stack: system upgrade started and most of user interfaces are blocked
snTrapStackingIgnoreShutdown TemperatureThresholdEnabled brcdIp.0.220	snChasUnitIndex snAgGblTrapMessage	Alerts	The SNMP trap is generated when Ignore Shutdown Temperature Threshold is enabled for a stack unit.
snTrapStackingIgnoreShutdown TemperatureThresholdDisabled brcdIp.0.221	snChasUnitIndex snAgGblTrapMessage	Alerts	"The SNMP trap is generated when Ignore Shutdown Temperature Threshold is disabled for a stack unit.
snTrapStackSAULicenseChange brcdIp.0.224	snChasUnitIndex, snAgGblTrapMessage	Notification	The SNMP trap is generated when upgrade license is changed.

Other traps

Trap name and number	Varbinds	Severity	Description and trap message
snTrapSysMonErrorDetect brcdIp.0.200	snAgGblTrapMessage	Warning	The SNMP notification is generated when SYSMON detects internal error. Sample trap message: RUCKUS `Trap: SYSMON error Detection`
snTrapStpDesignatedGuardDetect brcdIp.0.203	ifIndex, snVLanByPortCfgVLanId, snAgGblTrapMessage	Notification	The SNMP trap is generated when VLAN ports Designated-Guard is detected.
snTrapStpDesignatedGuard Disable brcdIp.0.204	ifIndex, snVLanByPortCfgVLanId, snAgGblTrapMessage	Notification	The SNMP trap is generated when VLAN ports Designated-Guard is disabled.
snTrapLicenseNNLLTrialNotify brcdIp.0.205	snAgGblTrapMessage	Notification	The SNMP trap is generated when a non-node locked licensed feature is enabled with a non-node locked license installed. **Format:** Stack <*stack_id*>: Use of the <*feature_name*> feature requires a license to be purchased and installed within <*day*> days.

Trap name and number	Varbinds	Severity	Description and trap message
snTrapLicenseNNLLTrialExpiry brcdIp.0.206	snAgGblTrapMessage	Notification	The SNMP trap is generated when a non-node locked licensed feature is enabled after 30-44 days with a non-node locked license installed. **Format**: Stack *<stack_id>:* The *<feature_name>* feature has been activated for *<day>* days.
snTrapLicenseNNLLNonCompliant brcdIp.0.207	snAgGblTrapMessage	Warning	The SNMP trap is generated when a non-node locked licensed feature is enabled after 45+ days with a non-node locked license installed or deleted if any of the associated features are still enabled. **Format**: Stack *<stack_id>:*`THIS UNIT IS NOT COMPLIANT`. A license for *<feature_name>* feature must be purchased and installed or the feature *<feature_name>* must be deactivated to become compliant with the terms and conditions of use.
snTrapLicenseNNLLDelete brcdIp.0.208	snAgGblTrapMessage	Warning	The SNMP trap is generated when a non-node locked licensed feature is enabled after a non-node locked license is deleted. **Format**: Stack *<stack_id>:* The *<license_name>* license has been deleted on this unit and is available for redeployment on another unit in accordance with the terms and conditions of use. All features associated to this license must be disabled.
snTrapBroadcastlimit brcdIp.0.211	snAgGblTrapMessage	Informational	The SNMP trap is generated after reached the Broadcast limit.
snTrapMulticastlimit brcdIp.0.212	snAgGblTrapMessage	Informational	The SNMP trap is generated after reached the Multicast limit.
snTrapUnicastlimit brcdIp.0.213	snAgGblTrapMessage	Informational	The SNMP trap is generated after reached the Unknown Unicast limit.
snTrapPsuFanStateChange brcdIp.0.214	snAgGblTrapMessage	Informational	The SNMP trap is generated when the PSU fan status changed.
snTrapGlobalBattleShortModeEnabled brcdIp.0.222	snAgGblTrapMessage	Alerts	The SNMP trap is generated when battleshort mode is enabled at global level.
snTrapGlobalBattleShortModeDisabled brcdIp.0.223	snAgGblTrapMessage	Alerts	The SNMP trap is generated when battleshort mode is disabled at global level.

LAG LACP MAC notification

The following MAC notification is generated for the LAG LACP port table supported on the RUCKUS ICX devices.

Trap name and number	Varbinds	Severity	Description and trap message
snTrapMacNotification brcdIp.0.201	snAgGblTrapMessage	Notifications	The SNMP notification is generated when MAC events are detected. Format: `MAC-Event:MAC:<mac>-VLAN:<vlan-id>-PORT:<port-id>-ACT:<action>::MAC:<mac>-VLAN:<vlan-id>-PORT:<port-id>-ACT:<action>:: .....MAC:<mac>-VLAN:<vlan-id>-PORT:<port-id>-ACT:<action>::` Actions: • 1 - MAC addition • 2 - MAC deletion • 3 - Removes all MACs • 4 - Removes MAC from a port • 5 - Removes MAC from a VLAN • 6 - Removes MAC from a VLAN on a port **NOTE** The notification supports all versions of SNMP (SNMPv1, SNMPv2, and SNMPv3).

snTrapMacEventBufferFull
brcdIp.0.202
	snAgGblTrapMessage	Warning	The SNMP notification is generated when MAC event buffer full is detected.
			Format:
			`MAC-Event: The Buffer is full, FDB table walk is required`
			`#TYPE " RUCKUS Trap: MAC event buffer full detection"`

Trap specific to FWS

The following trap is supported on the FastIron devices.

Trap name and number	Varbinds	Severity	Description and trap message
snTrapNoFreeTcamEntry brcdIp.0.162	snAgGblTrapMessage	Alerts	The SNMP trap that is generated when the system is running out of TCAM spaces allocated for routing entries. **Sample trap message:** `System: No free TCAM entry. System will be unstable`

Software licensing traps

The following traps apply to devices that support software licensing.

Trap name and number	Varbinds	Severity	Description
snTrapLicenseAdded brcdIp.0.187	snAgGblTrapMessage, snChasUnitIndex	Notification	The SNMP trap is generated when a new license is added to the system.
snTrapLicenseRemoved brcdIp.0.188	snAgGblTrapMessage, snChasUnitIndex	Notification	The SNMP trap is generated when a license is removed from the system.
snTrapLicenseExpires brcdIp.0.189	snAgGblTrapMessage, snChasUnitIndex	Notification	The SNMP trap that is generated when a trial license is about to expire. This trap is generated daily for the last 3 days of the license, and every 2 hours on the day when the license expires.
snTrapLicenseExpired brcdIp.0.190	snAgGblTrapMessage, snChasUnitIndex	Notification	The SNMP trap that is generated when a trial license has expired.
snTrapStackSAUOptionChange brcdip.0.224	snAgGblTrapMessage, snChasUnitIndex	Notification	The SNMP trap that is generated when SAU license option is changed.
snTrapStackSAUOptionDeleted brcdip.0.227	snAgGblTrapMessage, snChasUnitIndex	Notification	The SNMP trap that is generated when SAU license option is deleted.



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