



# VOSS Release Notes

For VOSS 8.5

9037119-00 Rev AB  
February 2023



Copyright © 2023 Extreme Networks, Inc.

## Legal Notice

Extreme Networks, Inc. reserves the right to make changes in specifications and other information contained in this document and its website without prior notice. The reader should in all cases consult representatives of Extreme Networks to determine whether any such changes have been made.

The hardware, firmware, software or any specifications described or referred to in this document are subject to change without notice.

## Trademarks

Extreme Networks and the Extreme Networks logo are trademarks or registered trademarks of Extreme Networks, Inc. in the United States and/or other countries.

All other names (including any product names) mentioned in this document are the property of their respective owners and may be trademarks or registered trademarks of their respective companies/owners.

For additional information on Extreme Networks trademarks, see: [www.extremenetworks.com/company/legal/trademarks](http://www.extremenetworks.com/company/legal/trademarks)

## Open Source Declarations

Some software files have been licensed under certain open source or third-party licenses.

End-user license agreements and open source declarations can be found at: <https://www.extremenetworks.com/support/policies/open-source-declaration/>



# Table of Contents

---

<b>About this Document.....</b>	<b>7</b>
Purpose.....	7
Conventions.....	7
Text Conventions.....	8
Documentation and Training.....	9
Help and Support.....	10
Subscribe to Product Announcements.....	10
Send Feedback.....	11
<b>New in this Release.....</b>	<b>12</b>
New Hardware.....	12
New Transceivers and Components.....	12
SFPDD Cables.....	12
New Software Features in VOSS 8.5.....	13
Audit Generation Improvements.....	13
Auto-sense MIB.....	13
Deprecated Command: sys sys-default.....	13
DHCP Relay Support For UDP Source Port 67.....	13
Digital Certificate Enhancements.....	14
DvR and IPv6 VRRP Co-Existence on the Same I-SID.....	14
Dynamic Change Options for a Management Instance Attributes.....	14
Enhanced Secure Mode Sensitive File Protection.....	15
Extreme Integrated Application Hosting Virtual Service CLI Enhancement.....	15
Factorydefaults Flag Behavior Enhancements.....	15
Firmware Update And Verification With Digital Signed Certificate.....	16
Force User to Change Password on First Login.....	16
Fragmented ICMP Packet Filtering.....	16
Ingress Policer/Port Rate Limiter on 5420 Series, 5520 Series, VSP 4900 Series, and VSP 7400 Series.....	16
IPv6 ACL DSCP Remarking.....	17
Last Resort User in Enhanced Secure Mode.....	17
Link Debounce on 5420 Series, 5520 Series, VSP 7200 Series, VSP 8200 Series, and VSP 8400 Series.....	17
MACsec Key Agreement on VSP 4900 Series and 5520 Series.....	17
MACsec on 5420 Series (Pre-Shared Static Keys).....	18
Management I-SID Assignment to DvR Leaf.....	18
NTP Authentication Key Obfuscation.....	18
OSPFv2 MIB (RFC 4750).....	19
Password Enhancements for Enhanced Secure Mode.....	19
PIM Infinite Threshold Policy for IPv4 and IPv6.....	19
RESTCONF APIs Enhancement.....	19
Routing on Private VLANs.....	19

SFP28 DAC Use in 10G SFP+ Ports Operating at 10G Speeds.....	20
Simplified DvR Leaf Configuration Option on Bootup.....	20
TCP Maximum Segment Size on 5420 Series and 5520 Series.....	20
Filenames for this Release.....	20
<b>Upgrade and Downgrade Considerations.....</b>	<b>25</b>
Validated Upgrade Paths.....	25
Validated Upgrade Path for all Switches.....	25
Switches That Will Not Use Zero Touch Deployment .....	26
Switches That Will Use Zero Touch Deployment .....	26
Compatible Fabric IPsec Gateway Versions.....	28
Downgrade Considerations.....	28
Migration to Segmented Management Instance.....	29
Segmented Management Instance Migration and DvR .....	31
Real Time Clock.....	31
Post Upgrade Configuration for Zero Touch Fabric Configuration and Dynamic Nickname Assignment.....	32
Network Requirements.....	32
Zero Touch Fabric Configuration Switch.....	33
<b>Hardware and Software Compatibility.....</b>	<b>35</b>
5420 Series Hardware.....	35
5520 Series Hardware.....	36
Versatile Interface Module Operational Notes.....	37
Operational Notes for VIM Transceivers.....	37
VSP 4450 Series Hardware.....	38
VSP 4450 Series Operational Notes.....	38
VSP 4900 Series Hardware.....	38
VSP 4900 Series Operational Notes.....	39
Versatile Interface Module Operational Notes.....	39
VIM5-2Y and VIM5-4Y Operational Notes.....	40
VSP 7200 Series Hardware.....	41
VSP 7200 Series Operational Notes.....	41
VSP 7400 Series Hardware.....	43
VSP 7400 Series Operational Notes.....	43
VSP 8000 Series Hardware.....	44
XA1400 Series Hardware.....	45
Transceivers.....	46
Auto-Negotiation.....	46
Forward Error Correction (FEC).....	46
Power Supply Compatibility.....	46
<b>Scaling.....</b>	<b>51</b>
Layer 2.....	52
Maximum Number of Directed Broadcast Interfaces.....	59
Maximum Number of Microsoft NLB Cluster IP Interfaces.....	59
IP Unicast.....	60
IP Interface Maximums for 5420 Series.....	73
IP Interface Maximums for 5520 Series.....	73
IP Interface Maximums for VSP 4900 Series .....	73

IP Interface Maximums for VSP 7200 Series, VSP 8200 Series, and VSP 8400 Series.....	73
IP Interface Maximums for VSP 7400 Series.....	74
Layer 3 Route Table Size.....	74
Route Scaling.....	74
IP Multicast.....	77
Distributed Virtual Routing (DvR).....	81
VXLAN Gateway.....	84
Filters, QoS, and Security.....	86
Filter Scaling.....	87
OAM and Diagnostics.....	95
Extreme Integrated Application Hosting Scaling.....	101
Fabric Scaling.....	101
Number of I-SIDs Supported for the Number of Configured IS-IS Interfaces and Adjacencies (NNIs).....	110
Interoperability Considerations for IS-IS External Metric.....	112
Recommendations.....	113
VRF Scaling.....	113
<b>Important Notices.....</b>	<b>114</b>
ExtremeCloud IQ Support for VOSS Devices.....	114
Duplicate system-ids Between IS-IS Areas.....	115
Using Ping or IP Traceroute for Hosts in the DvR-One-IP Subnet.....	115
100BASE-FX Support on VSP 4450 Series.....	116
AES-GCM SSH Connection with Open SSH.....	116
Auto Negotiation Settings.....	116
clock set.....	116
dos-chkdkdsk.....	116
Base MAC Address Assignment for 5520 Series and 5420 Series Switches.....	116
Feature-Based Licensing in VOSS.....	117
Supported Browsers.....	117
System Name Prompt vs. IS-IS Host Name.....	118
Feature Differences.....	118
Memory Usage on VOSS Switches.....	118
VSP 4450 Series Connecting to an ERS 8800 Interoperability Notes .....	118
VSP 4450 Series Notes on Combination Ports .....	118
Cabled Connections for Both Copper and Fiber Ports.....	119
<b>Known Issues and Restrictions.....</b>	<b>120</b>
Known Issues.....	120
Known Issues for VOSS 8.5.....	120
Restrictions and Expected Behaviors.....	142
General Restrictions and Expected Behaviors.....	143
VSP 4450GTX-HT-PWR+ Restrictions.....	150
SSH Connections.....	151
Fabric Extend IP over ELAN/VPLS.....	152
Redirect Next-hop Filter Restrictions.....	152
IP Source Guard Restrictions.....	152
Filter Restrictions.....	153
<b>Resolved Issues in VOSS 8.5.....</b>	<b>154</b>

<b>Related Information.....</b>	<b>157</b>
MIB Changes.....	157
Deprecated MIBs.....	157
Modified MIBs.....	158
New MIBs.....	162
Obsolete MIBs.....	184



# About this Document

---

[Purpose](#) on page 7

[Conventions](#) on page 7

[Documentation and Training](#) on page 9

[Help and Support](#) on page 10

[Send Feedback](#) on page 11

The topics in this section discuss the purpose of this document, the conventions used, ways to provide feedback, additional help, and information regarding other Extreme Networks publications.

## Purpose

---

This document describes important information about this release for supported VSP Operating System Software (VOSS) platforms.

This document includes the following information:

- supported hardware and software
- scaling capabilities
- known issues, including workarounds where appropriate
- known restrictions

## Conventions






---

To help you better understand the information presented in this guide, the following topics describe the formatting conventions used for notes, text, and other elements.

## Text Conventions

The following tables list text conventions that can be used throughout this document.

**Table 1: Notes and warnings**

Icon	Notice type	Alerts you to...
	Tip	Helpful tips and notices for using the product.
	Note	Useful information or instructions.
	Important	Important features or instructions.
	Caution	Risk of personal injury, system damage, or loss of data.
	Warning	Risk of severe personal injury.

**Table 2: Text Conventions**

Convention	Description
Angle brackets ( < > )	Angle brackets ( < > ) indicate that you choose the text to enter based on the description inside the brackets. Do not type the brackets when you enter the command. If the command syntax is <code>cfm maintenance-domain maintenance-level &lt;0-7&gt;</code> , you can enter <code>cfm maintenance-domain maintenance-level 4</code> .
<b>Bold text</b>	Bold text indicates the GUI object name you must act upon. Examples: <ul style="list-style-type: none"> <li>Click <b>OK</b>.</li> <li>On the <b>Tools</b> menu, choose <b>Options</b>.</li> </ul>
Braces ( { } )	Braces ( { } ) indicate required elements in syntax descriptions. Do not type the braces when you enter the command. For example, if the command syntax is <code>ip address {A.B.C.D}</code> , you must enter the IP address in dotted, decimal notation.



**Table 2: Text Conventions (continued)**

Convention	Description
Brackets ( [ ] )	Brackets ( [ ] ) indicate optional elements in syntax descriptions. Do not type the brackets when you enter the command. For example, if the command syntax is <code>show clock [detail]</code> , you can enter either <code>show clock</code> or <code>show clock detail</code> .
Ellipses ( ... )	An ellipsis ( ... ) indicates that you repeat the last element of the command as needed. For example, if the command syntax is <code>ethernet/2/1 [ &lt;parameter&gt; &lt;value&gt; ] . . .</code> , you enter <code>ethernet/2/1</code> and as many parameter-value pairs as you need.
Italic Text	Italics emphasize a point or denote new terms at the place where they are defined in the text. Italics are also used when referring to publication titles that are not active links.
Plain Courier Text	Plain Courier text indicates command names, options, and text that you must enter. Plain Courier text also indicates command syntax and system output, for example, prompts and system messages. Examples: <ul style="list-style-type: none"> <li><code>show ip route</code></li> <li><code>Error: Invalid command syntax [Failed] [2013-03-22 13:37:03.303 -04:00]</code></li> </ul>
Separator ( > )	A greater than sign ( > ) shows separation in menu paths. For example, in the Navigation tree, expand the <b>Configuration &gt; Edit</b> folders.
Vertical Line (   )	A vertical line (   ) separates choices for command keywords and arguments. Enter only one choice. Do not type the vertical line when you enter the command. For example, if the command syntax is <code>access-policy by-mac action { allow   deny }</code> , you enter either <code>access-policy by-mac action allow</code> or <code>access-policy by-mac action deny</code> , but not both.

## Documentation and Training

Find Extreme Networks product information at the following locations:

[Current Product Documentation](#)

[Release Notes](#)

[Hardware and software compatibility](#) for Extreme Networks products  
[Extreme Optics Compatibility](#)  
[Other resources](#) such as white papers, data sheets, and case studies

Extreme Networks offers product training courses, both online and in person, as well as specialized certifications. For details, visit [www.extremenetworks.com/education/](http://www.extremenetworks.com/education/).

## Help and Support

---

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

### Extreme Portal

Search the GTAC (Global Technical Assistance Center) knowledge base; manage support cases and service contracts; download software; and obtain product licensing, training, and certifications.

### The Hub

A forum for Extreme Networks customers to connect with one another, answer questions, and share ideas and feedback. This community is monitored by Extreme Networks employees, but is not intended to replace specific guidance from GTAC.

### Call GTAC

For immediate support: (800) 998 2408 (toll-free in U.S. and Canada) or 1 (408) 579 2826. For the support phone number in your country, visit: [www.extremenetworks.com/support/contact](http://www.extremenetworks.com/support/contact)

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

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

## Subscribe to Product Announcements

You can subscribe to email notifications for product and software release announcements, Field Notices, and Vulnerability Notices.

1. Go to [The Hub](#).
2. In the list of categories, expand the **Product Announcements** list.
3. Select a product for which you would like to receive notifications.
4. Select **Subscribe**.
5. To select additional products, return to the **Product Announcements** list and repeat steps 3 and 4.

You can modify your product selections or unsubscribe at any time.

## Send Feedback

---

The Information Development team at Extreme Networks has made every effort to ensure that this document is accurate, complete, and easy to use. We strive to improve our documentation to help you in your work, so we want to hear from you. We welcome all feedback, but we especially want to know about:

- Content errors, or confusing or conflicting information.
- Improvements that would help you find relevant information.
- Broken links or usability issues.

To send feedback, do either of the following:

- Access the feedback form at <https://www.extremenetworks.com/documentation-feedback/>.
- Email us at [documentation@extremenetworks.com](mailto:documentation@extremenetworks.com).

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



# New in this Release

---

[New Hardware on page 12](#)

[New Software Features in VOSS 8.5 on page 13](#)

[Filenames for this Release on page 20](#)

The following platforms support VOSS 8.5:

- ExtremeSwitching 5420 Series
- ExtremeSwitching 5520 Series
- ExtremeSwitching VSP 4450 Series
- ExtremeSwitching VSP 4900 Series
- ExtremeSwitching VSP 7200 Series
- ExtremeSwitching VSP 7400 Series
- ExtremeSwitching VSP 8000 Series, which includes the VSP 8200 Series and VSP 8400 Series
- ExtremeSwitching XA1400 Series



## Important

VOSS 8.2 introduced changes to Segmented Management Instance that required migration of legacy management interfaces. Before you upgrade to VOSS 8.2 or later from an earlier release, you must consider your management interface configuration and migration scenario requirements. Backup and save your configuration files off the switch before upgrading to this release.

## New Hardware

---

### New Transceivers and Components

VOSS 8.5 introduces support for the following optical devices.

#### SFPDD Cables

- 20G SFPDD, 1M, PN:20G-DACP-SFPDD1M
- 20G SFPDD, 3M, PN:20G-DACP-SFPDD3M
- 20G SFPDD, 5M, PN: 20G-DACP-SFPDD5M
- 20G SFPDD, 0.5M, PN:20G-DACP-SFPDDZ5M
- 20G SFPDD to 2xSFP, 1M, PN:20G-DACP-SFPDD2SFP1M

- 20G SFPDD to 2xSFP, 3M, PN:20G-DACP-SFPDD2SFP3M
- 20G SFPDD to 2xSFP, 5M, PN:20G-DACP-SFPDD2SFP5M

Extreme Networks might announce support for additional optical components in the future. For a complete and current list of supported optical components, see the [Extreme Optics](#) website.

---

## New Software Features in VOSS 8.5

---

The following sections describe what is new in VOSS 8.5:

### Audit Generation Improvements

In this release, audit logs are improved to inform you of the following:

- configuration errors during certificate installation
- different mismatches or errors in secure applications that use Public Key Identification (PKI), such as SSH x509, Web TLS, IPsec IKE, and Syslog

### Auto-sense MIB

An SNMP MIB is now available for Auto-sense functionality that was introduced in VOSS 8.3. With the introduction of this MIB, you can manage Auto-sense functionality using Enterprise Device Manager (EDM) for the following:

- Voice information for IP phones
- Fabric Attach authentication
- IS-IS authentication
- Onboarding of I-SID

For more information, see [VOSS User Guide](#).

### Deprecated Command: `sys sys-default`

In this release, the **`sys sys-default`** command is deprecated.

The following example output displays when you enter the **`sys sys-default`** command:

```
WARNING: The "sys-default" command has been deprecated. Please use the
"boot config flags factorydefaults" command instead
```

For more information about the **`boot config flags factorydefaults`** command, see [VOSS User Guide](#).

### DHCP Relay Support For UDP Source Port 67

In earlier releases, Dynamic Host Configuration Protocol (DHCP) relay implementation used, by default, port 68 as the User Datagram Protocol (UDP) source port to forward Bootstrap Protocol (BOOTP) messages. Now DHCP relay can optionally use port 67 as the UDP source port to forward BOOTP messages.

For more information, see [VOSS User Guide](#).

## Digital Certificate Enhancements

This release includes the following digital certificate enhancements:

- You can configure up to eight certificate authority (CA) trustpoint servers.
- You can configure the CA trustpoint or offline identity for secure applications that use digital certificates, such as SSH x509, Web TLS, IPsec IKE, Syslog, and IPsec Fabric Extend strongSwan.
- You can configure up to 10 subject names or subject alternative names (SAN) as device identity.
- You can generate up to 10 RSA keys identified by key name.
- You can generate a certificate signing request (CSR) with a specified key and subject identity.
- You can specify a subject and a key to install offline subject certificates for a previously generated CSR.

For more information, see [VOSS User Guide](#).

## DvR and IPv6 VRRP Co-Existence on the Same I-SID

You can now configure IPv6 interface, IPv6 Virtual Router Redundancy Protocol (VRRP), and IPv6 Dynamic Host Configuration Protocol (DHCP) relay on the same Distributed Virtual Routing (DvR)-enabled VLAN or I-SID.

For more information, see [VOSS User Guide](#).

## Dynamic Change Options for a Management Instance Attributes

In earlier releases, you could not change the properties of an existing Management Instance interface without rebooting the switch.

You can now dynamically change the attributes of a Management Instance while you actively manage the switch over that same Management Instance without requiring the switch to reboot. For example, if your switch onboards using VLAN 4048, you can change that Management Instance VLAN to a new VLAN.

You can change the following attributes for the Management Instance:

- Management Instance VLAN:
  - VLAN ID
  - IPv4 address
  - default gateway
  - I-SID (on a DvR Leaf)
  - ports-tagged
  - ports-untagged
- Management Instance CLIP
  - IPv4 address
  - vrf

- Management Instance Out-of-Band (OOB)
  - IPv4 address
  - default gateway

For more information, see [VOSS User Guide](#).

## Enhanced Secure Mode Sensitive File Protection

This release introduces the following enhancements:

- Sensitive files and paths are now protected for switches in enhanced secure mode. The home directory for enhanced secure mode is changed from `/intflash` to `/intflash/shared`.
- You cannot access sensitive files using Telnet, SSH, FTP, SFTP, TFTP, and SCP connections.
- Updated the `ssh dsa-user-key|rsa-user-key` command to copy the public key from `/intflash/.ssh` to `/intflash/shared`. The `no ssh dsa-user-key|rsa-user-key` command is also updated to delete the public key from `/intflash/shared`. These commands are now available on switches in enhanced secure mode.
- Added the new `ssh install-user-key` command to import or remove the imported SSH, RSA, or DSA public or private keys. This command is available on switches in enhanced secure mode.
- Implemented critical security parameters (CSP) zeroization for plain text keys, SSH, Digicert, RADSec, SLA Mon, RESTCONF, and OVSDB. When a key or certificate is uninstalled or overwritten, the corresponding file is removed. For switches in enhanced secure mode, the passwords file is removed and recreated each time the file is accessed.
- Log files are now protected to prevent deletion and leaving all actions from being traced. Additional restrictions are added to Telnet, SSH, FTP, SFTP, TFTP, and SCP applications to protect the current log file from deletion. In previous releases, the Administrator access level role could access the `remove` and `delete` log commands. In this release, the Administrator access level role no longer has access to these commands.
- The home directory for log files generation is changed from `/intflash` to `/intflash/shared`. This also applies to switches in enhanced secure mode.

For more information, see [VOSS User Guide](#).

## Extreme Integrated Application Hosting Virtual Service CLI Enhancement

You can now provision the Fabric IPsec Gateway from the VOSS CLI using the `virtual-service WORD<1-128> figw-cli WORD<1-256>` command.

## Factorydefaults Flag Behavior Enhancements

The `factorydefaults boot` flag now removes the runtime, primary, and backup configuration files, resets all local default user account passwords, and removes all digital certificates. The Radsec, IPsec, IKE, OSPF, SNMP, SSL, SSH, OVSDB, and NTP files are also removed. The CLI displays a warning that the configurations, passwords, and files will be reset, and the system logs an informational message. The configuration and file removals occur during the next boot sequence when the `factorydefaults boot` flag is enabled. After the switch reboots, the configuration is removed, but the security mode setting

is retained. To enable Zero Touch Onboarding after a factorydefaults boot, reboot the switch again without saving a configuration.

For more information, see [VOSS User Guide](#).

## Firmware Update And Verification With Digital Signed Certificate

In this release, VOSS software images are cryptographic signed. Code signing is the process of digitally signing executables and scripts to confirm the software author and guarantee that the code has not been altered or corrupted since it was signed. This process employs the use of a cryptographic hash to validate authenticity and integrity.

- You are not required to provide additional input.
- You can use unsigned images; however, this is not recommended. To use an unsigned image, downgrade to a pre-VOSS 8.5 software image then load a debug image.
- You cannot enter Enhanced Secure Mode with an unsigned image. Enhanced Secure Mode requires a signed image.

For more information, see [VOSS User Guide](#).

## Force User to Change Password on First Login

In previous releases, you could use a default password to initially access the CLI. Now a password change is required to access the CLI on first login after a factory default or if your switch has no primary or backup configuration files. The system provides three attempts to change the password. If unsuccessful, you are taken back to the login prompt but you are not locked out. You cannot use an empty password. A password change is required irrespective of security mode, console, SSH, or Telnet access.

For more information, see [VOSS User Guide](#).

## Fragmented ICMP Packet Filtering

Internet Control Message Protocol (ICMP) fragmentation distributed denial-of-service (DDoS) attacks can flood the destination resources with fragmented packets and overwhelm the network because of massive volumes of traffic. With Fragmented ICMP packet filtering, the system inspects each incoming IPv4 or IPv6 ICMP packet to determine if it should drop the packet or forward it. This feature is disabled by default.

For more information, see [VOSS User Guide](#).

## Ingress Policier/Port Rate Limiter on 5420 Series, 5520 Series, VSP 4900 Series, and VSP 7400 Series

With ingress policier/port rate functionality, you can limit the bandwidth of traffic for a port or for a flow that matches an ACL ACE. A policier can be attached directly to an ACL ACE entry to perform flow-based rate limiting. You can configure the service rate and peak rate using CLI and EDM.



Ingress policer/port rate functionality is supported on the following hardware platforms:

- VSP 4900 Series
- VSP 7400 Series
- 5520 Series
- 5420 Series

For more information, see [VOSS User Guide](#).

## IPv6 ACL DSCP Remarking

IPv6 ACLs support Differentiated Services Code Point (DSCP) remarking. You can now configure IPv6 ACL QoS ACE actions for VSP 4900 Series, VSP 7400 Series, VSP 8404C, 5520 Series, and 5420 Series.

For more information, see [VOSS User Guide](#).

## Last Resort User in Enhanced Secure Mode

In earlier releases, the privilege user was used as the emergency admin if the administrator access level was disabled. Now, the privilege user is no longer used as the emergency admin and the administrator access level cannot be disabled by any means.

For more information, see [VOSS User Guide](#).

## Link Debounce on 5420 Series, 5520 Series, VSP 7200 Series, VSP 8200 Series, and VSP 8400 Series

This release introduces support for the Link Debounce feature for the following platforms:

- 5420 Series
- 5520 Series
- VSP 7200 Series
- VSP 8200 Series
- VSP 8400 Series

This functionality is already supported on VSP 4450 Series, VSP 4900 Series, and VSP 7400 Series.

This release also adds Enterprise Device Manager (EDM) support for the Link Debounce feature.

For more information, see [VOSS User Guide](#).

## MACsec Key Agreement on VSP 4900 Series and 5520 Series

MACsec Key Agreement (MKA) protocol discovers mutually authenticated MACsec peers, and elects one as a key server. The key server generates and distributes Secure Association Keys (SAKs), which are used at both ends of an Ethernet link to encrypt and decrypt frames. The key server periodically generates and distributes SAKs to maintain the link for as long as MACsec is enabled.

MKA is now supported on the following switches and Versatile Interface Modules (VIMs):

- VSP4900-24XE
- VSP4900-12MXU-12XE
- VSP4900-48P
- VIM5-4XE
- VIM5-4YE
- 5520-24T
- 5520-24W
- 5520-12MW-36W
- 5520-48SE
- 5520-48T
- 5520-48W
- 5520-VIM-4XE
- 5520-VIM-4YE

For more information, see [VOSS User Guide](#).

## MACsec on 5420 Series (Pre-Shared Static Keys)

5420 Series switches now support Media Access Control Security (MACsec) in VOSS software. You must configure the boot flag using the command **boot config flags macsec** to enable MACsec on any of the ports.

For more information, see [VOSS User Guide](#).

## Management I-SID Assignment to DvR Leaf

In earlier releases, when you configured a Management Instance VLAN interface on a DvR Leaf node, you specified the VLAN ID. Now you can configure a Management Instance VLAN simply by specifying the I-SID.

For more information, see [VOSS User Guide](#).

## NTP Authentication Key Obfuscation

In earlier releases, the secret key displayed in clear text on the console and in the configuration file when you assigned an authentication key to the server using the **ntp server** command.

In this release, the secret key is encrypted and is not visible on the console or in the configuration file. Asterisks now display as the secret key. The **show ntp key** CLI command output no longer displays the secret key field. The **keysecret** field in EDM is also removed.

For more information, see [VOSS User Guide](#).

## OSPFv2 MIB (RFC 4750)

This release introduces support for additional SNMP Managed Information Base (MIB) objects and traps defined in RFC 4750 OSPFv2 MIB.

For more information, see [New MIBs](#) on page 162.

## Password Enhancements for Enhanced Secure Mode

This release introduces password enhancements for enhanced secure mode. The system now enforces a minimum password change, which defines that 8 characters must differ within the same position from the old password.

For more information, see [VOSS User Guide](#).

## PIM Infinite Threshold Policy for IPv4 and IPv6

In earlier releases, the switch did not support a threshold bit rate in relation to shortest path tree (SPT) switchover. Multicast traffic immediately switched over to the shortest and best path from the source to the receiver.

Now, you can enable the PIM Infinite Threshold Policy feature for IPv4 and IPv6 to prevent SPT switchover. Multicast traffic follows the shared tree path through a Rendezvous Point (RP) instead of switching over to SPT.

For more information, see [VOSS User Guide](#).

## RESTCONF APIs Enhancement

In this release, VOSS implements additional RESTCONF modules:

- OpenConfig - Extreme Network Service
- OpenConfig - Relay Agent
- OpenConfig - Interfaces Port
- OpenConfig - Interfaces LAG
- OpenConfig - Platform
- OpenConfig - Network Instance
- OpenConfig - Spanning Tree Protocol

For more information, see [VOSS User Guide](#).

## Routing on Private VLANs

You can route traffic out of a private VLAN (PVLAN) by applying an IP address to a PVLAN. IP routing is supported on private VLANs for edge switches. With PVLAN packet routing, two hosts located in different private VLANs can communicate over the network.

This feature is not supported on VSP 4450 Series, and XA1400 Series.

For more information, see [VOSS User Guide](#).

## SFP28 DAC Use in 10G SFP+ Ports Operating at 10G Speeds

When you insert an SFP28 DAC in an SFP28 port, it is detected as a 25 Gbps device, by default. You can optionally configure the port speed to 10 Gbps, using the **speed** command, if you want to use SFP28 DACs at 10 Gbps.

For more information, see [VOSS User Guide](#).

## Simplified DvR Leaf Configuration Option on Bootup

In earlier releases, when you enabled the **dvr-leaf-mode** boot flag to configure the node as a DvR leaf, you were required to reboot the switch. Now you can configure the node as a DvR leaf node without rebooting, as long as there is no unsupported configuration discovered on the switch.

For more information, see [VOSS User Guide](#).

## TCP Maximum Segment Size on 5420 Series and 5520 Series

The ability to adjust the TCP maximum segment size (MSS) is added for 5520 Series and 5420 Series. This functionality was already supported on VSP 4900 Series, VSP 7400 Series, and XA1400 Series.

For more information, see [VOSS User Guide](#).

## Filenames for this Release



### Important

Do not use Google Chrome or Safari to download software files. Google Chrome can change the file sizes. Safari changes the .tgz extension to .tar.

After you download the software, calculate and verify the md5 checksum. For more information, see [VOSS User Guide](#).

Prior to VOSS 8.1, software image filenames contained either a product family, or a product platform, depending on the product. In VOSS 8.1 and later, all software image filenames contain a product platform, to more accurately and consistently describe the switches that the software applies to.

In VOSS 8.1 and later, when extracting the software image file, the extraction process appends the software version portion of the extracted filenames to include the final full software version. (For example, extracting **VOSS8400.8.2.5.0.tgz** results in a software file named **VOSS8400.8.2.5.0.GA**.) Ensure that you specify the final full software version (in this case, **8.2.5.0.GA**) when using CLI commands that include the software version, such as activating or removing the software.

The Open Source license text for the switch is included on the product. You can access it by entering the following command in the CLI:

```
more release/w.x.y.z.GA /release/oss-notice.txt
```

where *w.x.y.z* represents a specific release number.

The following tables provide the filenames and sizes for this release.

**Table 3: 5420 Series Software Filenames and Sizes**

Description	File	Size
SHA512 Checksum files	5420.8.5.0.0.sha512	1,368 bytes
MD5 Checksum files	5420.8.5.0.0.md5	453 bytes
MIB - supported object names	5420.8.5.0.0_mib_sup.txt	1,501,278 bytes
MIB - zip file of all MIBs	5420.8.5.0.0_mib.zip	1,212,658 bytes
MIB - objects in the OID compile order	5420.8.5.0.0_mib.txt	8,104,087 bytes
EDM Help files	VOSSv850_HELP_EDM_gzip.zip	5,066,214 bytes
Logs reference	5420.8.5.0.0_edoc.tar	63,948,800 bytes
Software image	5420.8.5.0.0.voss	97,695,082 bytes
Open source software - Master copyright file	5420.8.5.0.0_oss-notice.html	2,781,384 bytes
YANG model	restconf_yang.tgz	506,020 bytes

**Table 4: 5520 Series Software Filenames and Sizes**

Description	File	Size
SHA512 Checksum files	5520.8.5.0.0.sha512	1,368 bytes
MD5 Checksum files	5520.8.5.0.0.md5	453 bytes
MIB - supported object names	5520.8.5.0.0_mib_sup.txt	1,501,835 bytes
MIB - zip file of all MIBs	5520.8.5.0.0_mib.zip	1,212,658 bytes
MIB - objects in the OID compile order	5520.8.5.0.0_mib.txt	8,104,087 bytes
EDM Help files	VOSSv850_HELP_EDM_gzip.zip	5,066,214 bytes
Logs reference	5520.8.5.0.0_edoc.tar	63,948,800 bytes
Software image	5520.8.5.0.0.voss	101,163,870 bytes
Open source software - Master copyright file	5520.8.5.0.0_oss-notice.html	2,781,384 bytes
YANG model	restconf_yang.tgz	506,020 bytes

**Table 5: VSP 4450 Series Software Filenames and Sizes**

Description	File	Size
SHA512 Checksum files	VOSS4400.8.5.0.0.sha512	1,395 bytes
MD5 Checksum files	VOSS4400.8.5.0.0.md5	476 bytes
MIB - supported object names	VOSS4400.8.5.0.0_mib_sup.txt	1,482,261 bytes
MIB - zip file of all MIBs	VOSS4400.8.5.0.0_mib.zip	1,212,658 bytes
MIB - objects in the OID compile order	VOSS4400.8.5.0.0_mib.txt	8,104,087 bytes

**Table 5: VSP 4450 Series Software Filenames and Sizes (continued)**

Description	File	Size
EDM Help files	VOSSv850_HELP_EDM_gzip.zip	5,066,214 bytes
Logs reference	VOSS4400.8.5.0.0_edoc.tar	63,948,800 bytes
Software image	VOSS4400.8.5.0.0.tgz	112,778,484 bytes
Open source software - Master copyright file	VOSS4400.8.5.0.0_oss-notice.html	2,781,384 bytes
YANG model	restconf_yang.tgz	506,020 bytes

**Table 6: VSP 4900 Series Software Filenames and Sizes**

Description	File	Size
SHA512 Checksum files	VOSS4900.8.5.0.0.sha512	1,706 bytes
MD5 Checksum files	VOSS4900.8.5.0.0.md5	595 bytes
MIB - supported object names	VOSS4900.8.5.0.0_mib_sup.txt	1,506,037 bytes
MIB - zip file of all MIBs	VOSS4900.8.5.0.0_mib.zip	1,212,658 bytes
MIB - objects in the OID compile order	VOSS4900.8.5.0.0_mib.txt	8,104,087 bytes
EDM Help files	VOSSv850_HELP_EDM_gzip.zip	5,066,214 bytes
Logs reference	VOSS4900.8.5.0.0_edoc.tar	63,948,800 bytes
Software image	VOSS4900.8.5.0.0.tgz	259,732,224 bytes
Open source software - Master copyright file	VOSS4900.8.5.0.0_oss-notice.html	2,781,384 bytes
YANG model	restconf_yang.tgz	506,020 bytes
Third Party Virtual Machine (TPVM)	TPVM_4900_8.4.0.0.img	1,677,066,240 bytes
Fabric IPsec Gateway	FabricIPSecGW_VM_5.0.0.0.ova	3,995,351,040 bytes

**Table 7: VSP 7200 Series Software Filenames and Sizes**

Description	File	Size
SHA512 Checksum files	VOSS7200.8.5.0.0.sha512	1,395 bytes
MD5 Checksum files	VOSS7200.8.5.0.0.md5	476 bytes
MIB - supported object names	VOSS7200.8.5.0.0_mib_sup.txt	1,446,753 bytes
MIB - zip file of all MIBs	VOSS7200.8.5.0.0_mib.zip	1,212,658 bytes
MIB - objects in the OID compile order	VOSS7200.8.5.0.0_mib.txt	8,104,087 bytes
EDM Help files	VOSSv850_HELP_EDM_gzip.zip	5,066,214 bytes
Logs reference	VOSS7200.8.5.0.0_edoc.tar	63,948,800 bytes
Software image	VOSS7200.8.5.0.0.tgz	127,540,331 bytes

**Table 7: VSP 7200 Series Software Filenames and Sizes (continued)**

Description	File	Size
Open source software - Master copyright file	VOSS7200.8.5.0.0_oss-notice.html	2,781,384 bytes
YANG model	restconf_yang.tgz	506,020 bytes

**Table 8: VSP 7400 Series Software Filenames and Sizes**

Description	File	Size
SHA512 Checksum files	VOSS7400.8.5.0.0.sha512	1,706 bytes
MD5 Checksum files	VOSS7400.8.5.0.0.md5	595 bytes
MIB - supported object names	VOSS7400.8.5.0.0_mib_sup.txt	1,499,439 bytes
MIB - zip file of all MIBs	VOSS7400.8.5.0.0_mib.zip	1,212,658 bytes
MIB - objects in the OID compile order	VOSS7400.8.5.0.0_mib.txt	8,104,087 bytes
EDM Help files	VOSSv850_HELP_EDM_gzip.zip	5,066,214 bytes
Logs reference	VOSS7400.8.5.0.0_edoc.tar	63,948,800 bytes
Software image	VOSS7400.8.5.0.0.tgz	259,405,383 bytes
Open source software - Master copyright file	VOSS7400.8.5.0.0_oss-notice.html	2,781,384 bytes
YANG model	restconf_yang.tgz	506,020 bytes
Third Party Virtual Machine (TPVM)	TPVM_7400_8.4.0.0.img	1,677,066,240 bytes
Fabric IPsec Gateway	FabricIPSecGW_VM_5.0.0.0.ova	3,995,351,040 bytes

**Table 9: VSP 8200 Series Software Filenames and Sizes**

Description	File	Size
SHA512 Checksum files	VOSS8200.8.5.0.0.sha512	1,395 bytes
MD5 Checksum files	VOSS8200.8.5.0.0.md5	476 bytes
MIB - supported object names	VOSS8200.8.5.0.0_mib_sup.txt	1,446,753 bytes
MIB - zip file of all MIBs	VOSS8200.8.5.0.0_mib.zip	1,212,658 bytes
MIB - objects in the OID compile order	VOSS8200.8.5.0.0_mib.txt	8,104,087 bytes
EDM Help files	VOSSv850_HELP_EDM_gzip.zip	5,066,214 bytes
Logs reference	VOSS8200.8.5.0.0_edoc.tar	63,948,800 bytes
Software image	VOSS8200.8.5.0.0.tgz	127,541,128 bytes

**Table 9: VSP 8200 Series Software Filenames and Sizes (continued)**

Description	File	Size
Open source software - Master copyright file	VOSS8200.8.5.0.0_oss-notice.html	2,781,384 bytes
YANG model	restconf_yang.tgz	506,020 bytes

**Table 10: VSP 8400 Series Software Filenames and Sizes**

Description	File	Size
SHA512 Checksum files	VOSS8400.8.5.0.0.sha512	1,395 bytes
MD5 Checksum files	VOSS8400.8.5.0.0.md5	476 bytes
MIB - supported object names	VOSS8400.8.5.0.0_mib_sup.txt	1,446,753 bytes
MIB - zip file of all MIBs	VOSS8400.8.5.0.0_mib.zip	1,212,658 bytes
MIB - objects in the OID compile order	VOSS8400.8.5.0.0_mib.txt	8,104,087 bytes
EDM Help files	VOSSv850_HELP_EDM_gzip.zip	5,066,214 bytes
Logs reference	VOSS8400.8.5.0.0_edoc.tar	63,948,800 bytes
Software image	VOSS8400.8.5.0.0.tgz	190,240,213 bytes
Open source software - Master copyright file	VOSS8400.8.5.0.0_oss-notice.html	2,781,384 bytes
YANG model	restconf_yang.tgz	506,020 bytes

**Table 11: XA1400 Series Software Filenames and Sizes**

Description	File	Size
SHA512 Checksum files	VOSS1400.8.5.0.0.sha512	1,247 bytes
MD5 Checksum files	VOSS1400.8.5.0.0.md5	424 bytes
MIB - supported object names	VOSS1400.8.5.0.0_mib_sup.txt	1,140,608 bytes
MIB - zip file of all MIBs	VOSS1400.8.5.0.0_mib.zip	1,212,658 bytes
MIB - objects in the OID compile order	VOSS1400.8.5.0.0_mib.txt	8,104,087 bytes
EDM Help files	VOSSv850_HELP_EDM_gzip.zip	5,066,214 bytes
Logs reference	VOSS1400.8.5.0.0_edoc.tar	63,948,800 bytes
Software image	VOSS1400.8.5.0.0.tgz	326,313,020 bytes
Open source software - Master copyright file	VOSS1400.8.5.0.0_oss-notice.html	2,781,384 bytes





# Upgrade and Downgrade Considerations

---

[Validated Upgrade Paths](#) on page 25

[Compatible Fabric IPsec Gateway Versions](#) on page 28

[Downgrade Considerations](#) on page 28

[Migration to Segmented Management Instance](#) on page 29

[Real Time Clock](#) on page 31

[Post Upgrade Configuration for Zero Touch Fabric Configuration and Dynamic Nickname Assignment](#) on page 32

See the [VOSS User Guide](#) for detailed image management procedures that includes information about the following specific upgrade considerations:

- IPv6:
  - Notes for systems using IPv6 static neighbors
- Fabric:
  - Pre-upgrade instructions for IS-IS metric type
- Considerations for VLANs or MLTs where the VLAN or MLT name uses all numbers.
- Considerations for digital certificates configured prior to VOSS 8.1.
- Considerations for Fast PoE and Perpetual PoE features configured prior to VOSS 8.1.5.

If your configuration includes one of the preceding scenarios or features, read the upgrade information in [VOSS User Guide](#) before you begin an image upgrade.

The topics in this section provide information on validated upgrade paths, migration considerations, and compatible software versions.

## Validated Upgrade Paths

---

This section identifies the software releases for which upgrades to this release have been validated.

### Validated Upgrade Path for all Switches

Validated upgrade path for 5420 Series:

- 8.4.x to 8.5

Validated upgrade path for 5520 Series:

- 8.4.x to 8.5
- 8.3.x to 8.5

Validated paths for all other switches:

- 8.4.x to 8.5



#### Note

8.4.0.0 and 8.4.1.0 do not include support for XA1400 Series.

- 8.3.x to 8.5
- 8.1.x to 8.5



#### Caution

Switches using earlier software releases must upgrade to at least 8.1.x before upgrading to 8.5. Upgrades from earlier releases have not been validated by Extreme Networks.

Upgrade switches using one of the options in the following sections.

## Switches That Will Not Use Zero Touch Deployment

Switches that will not use Zero Touch Deployment with ExtremeCloud™ IQ or ZTP+ with Extreme Management Center or ExtremeCloud IQ - Site Engine should upgrade to this release by performing these steps:

1. For switches prior to VOSS 8.2, migrate the Management IP address. For more information, see [Migration to Segmented Management Instance](#) on page 29 and *VOSS User Guide*.
2. Upgrade to this release from one of the previously described releases.
3. Continue to use the previous switch configuration.

## Switches That Will Use Zero Touch Deployment

Switches that will use Zero Touch Deployment with ExtremeCloud IQ or ZTP+ with Extreme Management Center or ExtremeCloud IQ - Site Engine should upgrade to this release by performing the following steps:



#### Important

When you perform these steps, any prior configuration for this switch is lost. For more information, see [ExtremeCloud IQ Support for VOSS Devices](#) on page 114.

You do not need to complete this procedure for switches that are already managed by ExtremeCloud IQ or Extreme Management Center or ExtremeCloud IQ - Site Engine; use the upgrade functionality available in ExtremeCloud IQ or Extreme Management Center or ExtremeCloud IQ - Site Engine.

1. Upgrade to this release from one of the previously described releases.
2. Ensure the switch boots without a configuration file. To ensure the switch boots without a configuration file, perform one of the following actions:
  - Rename existing primary and secondary configuration files. Use the **mv** command to rename the existing configuration files. For example, **mv config.cfg config.cfg.backup**.

This is the preferred option because it ensures that the primary and secondary files are removed while making a backup of them at the same time. This option also ensures that the switch uses the default config.cfg file for the final configuration after it has successfully onboarded.

- Delete the existing primary and secondary configuration files. Create a backup of these files before you delete them.
- Boot from non-existent configuration files. Use the **boot config choice** command to configure the primary and backup configuration files to reference files that do not exist on the switch:

```
boot config choice primary config-file nonexistent1.cfg
```

```
boot config choice primary backup-config-file nonexistent2.cfg
```

This option also works, however, after the switch has successfully onboarded, it does not use the default config.cfg file but uses the alternative configuration file name provided instead, which might not be desired.

### 3. Reboot the switch.

Performing these steps results in a switch with a Zero Touch Deployment configuration with the following characteristics:

- The ssh and sshd boot configuration flags are enabled by default.
- All ports are Private VLAN isolated ports, except on the XA1400 Series.
- VLAN 4048 is created as an *onboarding-vlan* for host-only connectivity for In Band management. On all platforms, except the XA1400 Series, all front panel ports are members of VLAN 4048.
- In Band management is enabled.
- Dynamic Host Configuration Protocol (DHCP) client requests are cycled between In Band and Out of Band ports, except on the XA1400 Series and VSP 4450 Series. XA1400 Series and VSP 4450 Series support In Band management only.
- If the switch resets after the IP address is obtained from the DHCP Server, the entire DHCP process does not need to be repeated. Instead, the switch can directly send the DHCP Request to the DHCP Server for the IP stored in the /intflash/dhcp/dhclient.leases file.
- Out of Band management is enabled, except on the XA1400 Series and VSP 4450 Series. XA1400 Series and VSP 4450 Series support In Band management only.
- All ports are administratively enabled, except on the XA1400 Series. Only Port 1/8 is administratively enabled on the XA1400 Series, which means the administrator must plug in and use only port 1/8 for Zero Touch Deployment on an XA1400 Series.
- IQAgent is enabled by default.
- Zero Touch Provisioning Plus (ZTP+) for Extreme Management Center or ExtremeCloud IQ - Site Engine onboarding is enabled by default.
- Initiates Zero Touch Fabric Configuration.
- After the Zero Touch Fabric establishes successfully, the onboarding VLAN 4048 is automatically assigned to onboarding I-SID 15999999.

After the switch reboots in the Zero Touch Deployment configuration, the DHCP client and ExtremeCloud IQ Agent are enabled. The DHCP client obtains an IP address for the switch, DNS discovery is used to discover a Domain Name Server, and the switch attempts to connect to ExtremeCloud IQ and Extreme Management Center or ExtremeCloud IQ - Site Engine.

All switches, except XA1400 Series, also receive a Zero Touch Fabric Configuration. For more information, see [VOSS User Guide](#).

## Compatible Fabric IPsec Gateway Versions

---



### Note

This section only applies to VSP 4900 Series and VSP 7400 Series. For more information about feature support, see [VOSS Feature Support Matrix](#).

This VOSS release is not compatible with Fabric IPsec Gateway versions earlier than 4.0.0.0. To use Fabric IPsec Gateway features, you must upgrade the Fabric IPsec Gateway image to at least 4.0.0.0.



### Important

The Fabric IPsec Gateway 4.0.0.0 OVA image cannot be used with VOSS releases prior to 8.3.1 or 8.4.2. For earlier releases, use the compatible qcow2 image. For more information about files available for each release, see the [Release Notes](#) for the specific release.

For more information about image files in this release, see [Filenames for this Release](#) on page 20. For virtual service upgrade instructions, see [VOSS User Guide](#).



### Note

Upgrade the VOSS image before you upgrade the Fabric IPsec Gateway image.

## Downgrade Considerations

---

Save a backup copy of your switch configuration before upgrading to new release. New releases contain significant enhancements, which cannot be used in previous software versions. Downgrading to an earlier release will require a compatible configuration file.

For devices running VOSS 8.3 or later that connect to ExtremeCloud IQ using ExtremeCloud IQ Agent versions 0.4.0 or higher, you cannot downgrade to VOSS 8.2.x and connect to the cloud automatically. After you downgrade to VOSS 8.2.x, you lose connectivity to ExtremeCloud IQ so you must install a VOSS 8.2.x compatible ExtremeCloud IQ Agent version to re-establish connectivity.

Contact support for assistance with installation of the VOSS 8.2.x compatible ExtremeCloud IQ Agent version. For the support phone number in your country, visit: [www.extremenetworks.com/support/contact](http://www.extremenetworks.com/support/contact).

For information about how to reinstall ExtremeCloud IQ Agent firmware beginning with VOSS 8.4.2, see [VOSS User Guide](#).

## Migration to Segmented Management Instance



### Important

VOSS 8.2 introduced changes to Segmented Management Instance that required migration of legacy management interfaces. Before you upgrade to VOSS 8.2 or later from an earlier release, you must consider your management interface configuration and migration scenario requirements. Backup and save your configuration files off the switch before upgrading to this release.

If the switch already runs VOSS 8.2 or later, you can ignore this section.

Management interface access to the switch can be lost if you do not perform the applicable migration scenarios before upgrading to this release. Loss of management access after an upgrade can result in an automatic roll-back to the previous software version.

You must perform a manual software commit after upgrading from VOSS Release 8.1.5.0 or earlier to VOSS 8.2 or later. Management interface access is required to input the `software commit` CLI command within 10 minutes after the upgrade. If the time expires the system initiates an automatic roll-back to the previous release.

You must ensure the switch runs VOSS 8.1.x before you upgrade to VOSS 8.2 or later to support the **migrate-to-mgmt** functionality.



### Note

If the network environment must migrate static IPv6 routes, the switches must run VOSS Release 8.1.2.0 or later before you upgrade to VOSS 8.2 or later.

Not all upgrade paths are validated by Extreme Networks for each new software release. To understand the validated upgrade paths, see [Validated Upgrade Paths](#) on page 25.

You must consider the following legacy management interface migration scenarios before you upgrade to VOSS 8.2 or later:

**Table 12: Management Interface Migration Scenarios**

Mgmt Interface	Mgmt Scenario	Migration Description
DvR leaf	Automatic migration during upgrade.	DvR leaf settings migrate automatically during the software upgrade process. The DvR <b>inband-mgmt-ip</b> CLIP automatically becomes the new Segmented Management Instance CLIP.  <b>Note:</b> Leaf nodes only support the management CLIP as part of the Global Routing Table (GRT).
OoB	Automatic migration during upgrade.	Out-of-Band management settings migrate automatically during the software upgrade process.

**Table 12: Management Interface Migration Scenarios (continued)**

Mgmt Interface	Mgmt Scenario	Migration Description
CLIP	Specify a Circuitless IP (CLIP) interface for migration to management interface before you upgrade.	<p>You can use this interface type for CLIP management network routing in a Fabric network or Layer 3 routing network.</p> <p>Use the <b>migrate-to-mgmt</b> command in the Loopback Interface Configuration mode of the CLI to specify the CLIP interface for management before starting the software upgrade process.</p> <p>You can designate the IP Shortcut CLIP to migrate to the Management Instance CLIP. After the upgrade, the IS-IS source IP address moves to the Management Instance CLIP. You should configure a new GRT CLIP using a different IP address and assign that as the new IS-IS source IP.</p> <p>Save the configuration before upgrading.</p> <p><b>Important:</b> Ensure that the management CLIP IP address does not fall into the range of a configured VLAN IP address range as this is not allowed.</p>
VLAN	Specify a VLAN interface for migration to management interface before you upgrade.	<p>You can use this interface type for management of Layer 2 switches or for Zero-Touch onboarding of newly deployed devices. Use the CLIP Management Instance for routed management.</p> <p>Use the <b>migrate-to-mgmt</b> command in the VLAN Interface Configuration mode of the CLI to specify the VLAN interface for management before starting the software upgrade process.</p> <p><b>Important:</b> Choose a VLAN that does not have an IP interface on it. The upgrade process removes the IP configuration and network connectivity can be impacted.</p> <p>Save the configuration before upgrading. The VLAN Management Instance does not route to or from the GRT.</p>

**Table 12: Management Interface Migration Scenarios (continued)**

Mgmt Interface	Mgmt Scenario	Migration Description
		Bridged management traffic must ingress on the VLAN or I-SID.

For more information about Segmented Management Instance migration, see [VOSS User Guide](#).

## Segmented Management Instance Migration and DvR

Starting with VOSS Release 8.2, VSP devices can be managed by a CLIP/Loopback IP address that is assigned to a virtual router and forwarder (VRF) that is not in the Global Routing Table (GRT). When you convert a VSP switch from a regular backbone edge bridge (BEB) to a DvR leaf device by setting the DvR leaf boot flag, you must assign the management CLIP to the GRT. If you assign the management CLIP to a VRF, the device will not be reachable after the migration because the management CLIP cannot be migrated.

## Real Time Clock

The latest VSP switches have an updated real time clock (RTC) component, which is not compatible with some older software releases. If you have the new hardware, the switch prevents you from downgrading to an unsupported release.

The hardware revision number of the affected products has been updated to reflect this change. For each product in the affected product families, the following table identifies the hardware revisions, and higher, that contain the updated RTC component.

Model	Minimum Hardware Revision
VSP 4450GSX	11
VSP 4450GTX-HT-PWR+	11
VSP 7254XSQ and VSP 7254XTQ	13
VSP 8284XSQ	12
VSP 8404	10
VSP 8404C	12

The minimum versions of software required for proper functioning of the product with the new RTC component are as follows:

- 6.x software baseline – 6.1.6.0
- 7.x or later software baseline – 7.1.0.1

All other earlier software versions do not support the new RTC component.

## Post Upgrade Configuration for Zero Touch Fabric Configuration and Dynamic Nickname Assignment

---

Beginning with VOSS 8.3, the switch initiates Zero Touch Fabric Configuration if you boot without a configuration file.

To add new Zero Touch Fabric Configuration devices or implement Zero Touch Fabric Configuration on existing devices, the network requires a nickname server and reachability to the DHCP server and, optionally, ExtremeCloud IQ servers or Extreme Management Center or ExtremeCloud IQ - Site Engine. How you implement this depends on if the network is a new deployment using VOSS 8.3, or later, or an existing Fabric network that you upgrade to VOSS 8.3, or later. In a new deployment, you can meet the network requirements with one node, known as a seed node. In an existing network, functions can already exist on different nodes.

For more details on Zero Touch Fabric Configuration, see [VOSS User Guide](#).

### Network Requirements

The following list identifies the network requirements before you add new Zero Touch Fabric Configuration devices or implement Zero Touch Fabric Configuration on existing devices:

- You must configure a node as the nickname server, if one does not already exist. This node can be anywhere in the SPB Fabric IS-IS area.
- The DHCP server must be reachable by the remote nodes:
  - In an existing network, the DHCP server can be anywhere in the network. If the DHCP server is on a different IP subnet from the onboarding I-SID, configure DHCP Relay functionality on the existing IP interface of VLAN 4048 with I-SID 159999999.
  - If the DHCP server is on the same subnet as the onboarding I-SID, configure the port facing the DHCP server as private-vlan promiscuous, using Private VLAN 4048, if the new DHCP snooping port feature does not have the promiscuous port configured automatically. This VLAN and the Auto-sense onboarding I-SID are created automatically on a newly deployed device.
- Starting in VOSS 8.3, ports send Fabric Connect LLDP TLVs regardless of the Auto-sense configuration, which means these devices can establish adjacencies with other VOSS 8.3 or later devices that use either Auto-sense or static NNI configuration.

In an existing network that includes devices that run an earlier version of VOSS, such as VOSS 8.2.6, you must manually configure the NNI. Because the port running in the earlier release does not send Fabric Connect LLDP TLVs, an adjacency with a VOSS 8.3 or later node does not form automatically.

For Zero Touch Fabric Configuration to work when a new switch that runs VOSS 8.3, or later, connects to a switch on an existing Fabric, upgrade at least the existing Fabric switches to VOSS 8.3, or later, first.

- Some SPB deployments use Ethertype 0x88a8 but many use 0x8100. Zero Touch Fabric Configuration works with existing networks that use either value as long as the existing switches that connect to the new switches run VOSS 8.3, or later.



## Zero Touch Fabric Configuration Switch



### Important

If you deploy a Fabric-capable switch with Auto-sense enabled, the switch interacts with existing switches that support Fabric Attach (FA). If an existing FA Proxy switch does not have FA server connectivity established yet, it will form an FA connectivity to the newly connected VOSS 8.3, or later, switch as it announces itself as an FA server. To avoid unintended FA connectivity, disable Auto-sense using the **no auto-sense enable** command on the relevant ports.

On switches (upgraded existing or newly deployed) where you want to initiate Zero Touch Fabric Configuration, perform the following tasks:

1. Upgrade to VOSS 8.3, or later, if the device is not a new deployment already running VOSS8.3, or later. For a new deployment, ensure the network operating system (NOS) is VOSS.
2. On upgraded existing switches, ensure the switch boots without a configuration file. The switch joins the network as an end host. To ensure the switch boots without a configuration file, perform one of the following actions:

- Rename existing primary and secondary configuration files. Use the **mv** command to rename the existing configuration files. For example, **mv config.cfg config.cfg.backup**.

This is the preferred option because it ensures that the primary and secondary files are removed while making a backup of them at the same time. This option also ensures that the switch uses the default config.cfg file for the final configuration after it has successfully onboarded.

- Delete the existing primary and secondary configuration files. Create a backup of these files before you delete them.
- Boot from non-existent configuration files. Use the **boot config choice** command to configure the primary and backup configuration files to reference files that do not exist on the switch:

```
boot config choice primary config-file nonexistent1.cfg
```

```
boot config choice primary backup-config-file nonexistent2.cfg
```

This option also works, however, after the switch has successfully onboarded, it does not use the default config.cfg file but uses the alternative configuration file name provided instead, which might not be desired.

3. The switch creates a Zero Touch Deployment configuration to onboard the switch, including the following Zero Touch Fabric Configuration items:



### Note

For more details on Zero Touch Deployment, see [VOSS User Guide](#).

- Creates private VLAN 4048.
- Enables SPBM.
- Creates SPBM instance 1.
- Creates default backbone VLANs (B-VLAN) (4051 and 4052).

- Creates manual area 00.1515.fee1.900d.1515.fee1.900d.

**Note**

The B-VLAN and manual area configuration values are not compulsory. This remote switch can attach to a Fabric core that does not match these values because the Auto-sense functionality dynamically learns the B-VLANs and manual area in use in the Fabric core from the connected seed node using LLDP.

- Creates the onboarding I-SID 15999999.
- Assigns the onboarding I-SID to private VLAN 4048 and also includes the management VLAN.

**Note**

As a best practice, use the onboarding I-SID for onboarding purposes and, whenever possible, configure a management VLAN or management CLIP on a different I-SID after the onboarding procedures have been successfully completed.

- Enables Auto-sense on all ports.
  - Configures Auto-sense access ports and Layer 2 trusted Auto-sense ports.
  - Enables IS-IS globally.
  - With Auto-sense, ports on a switch can detect whether they connect to an SPB device, a Fabric Attach (FA) client, FA Proxy, Voice IP devices, or an undefined host, and then make the necessary configuration.
4. If the seed node uses Auto-sense IS-IS Authentication, configure the remote switch to use the same authentication type and key as the seed node.
  5. The switch joins the Fabric.
  6. The nickname server dynamically assigns an SPBM nickname.
  7. After the Zero Touch Fabric establishes successfully, the switch attempts to acquire an IP address on the onboarding VLAN and I-SID using DHCP. When the DHCP client obtains an IP address for the switch, the switch automatically attempts to connect to ExtremeCloud IQ and Extreme Management Center or ExtremeCloud IQ - Site Engine.



# Hardware and Software Compatibility

- [5420 Series Hardware on page 35](#)
- [5520 Series Hardware on page 36](#)
- [VSP 4450 Series Hardware on page 38](#)
- [VSP 4900 Series Hardware on page 38](#)
- [VSP 7200 Series Hardware on page 41](#)
- [VSP 7400 Series Hardware on page 43](#)
- [VSP 8000 Series Hardware on page 44](#)
- [XA1400 Series Hardware on page 45](#)
- [Transceivers on page 46](#)
- [Power Supply Compatibility on page 46](#)

The topics in this section list the software compatibility for hardware platforms.

## 5420 Series Hardware



### Note

5420 Series is a universal hardware product that supports more than one Network Operating System (NOS) personality. For information about NOS personalities, see [VOSS User Guide](#).

**Table 13: Switch models**

Part number	Model	Initial release	Supported new feature release	
			VOSS 8.4.2	VOSS 8.5
5420F-24T-4XE	5420F-24T-4XE switch	8.4	Y	Y
5420F-8W-16P-4XE	5420F-8W-16P-4XE switch	8.4	Y	Y
5420F-24P-4XE	5420F-24P-4XE switch	8.4	Y	Y
5420F-48T-4XE	5420F-48T-4XE switch	8.4	Y	Y
5420F-16MW-32P-4XE	5420F-16MW-32P-4XE switch	8.4	Y	Y
5420F-24S-4XE	5420F-24S-4XE switch	8.4	Y	Y
5420F-16W-32P-4XE	5420F-16W-32P-4XE switch	8.4	Y	Y
5420F-48P-4XE	5420F-48P-4XE switch	8.4	Y	Y

**Table 13: Switch models (continued)**

Part number	Model	Initial release	Supported new feature release	
			VOSS 8.4.2	VOSS 8.5
5420F-48P-4XL	5420F-48P-4XL switch	8.4	Y	Y
5420M-24T-4YE	5420M-24T-4YE switch	8.4	Y	Y
5420M-24W-4YE	5420M-24W-4YE switch	8.4	Y	Y
5420M-48T-4YE	5420M-48T-4YE switch	8.4	Y	Y
5420M-48W-4YE	5420M-48W-4YE switch	8.4	Y	Y
5420M-16MW-32P-4YE	5420M-16MW-32P-4YE switch	8.4	Y	Y

## 5520 Series Hardware



### Note

5520 Series is a universal hardware product that supports more than one Network Operating System (NOS) personality. For information about NOS personalities, see [VOSS User Guide](#).

**Table 14: Switch models**

Part number	Model	Initial release	Supported new feature release			
			8.3	8.4	8.4.2	8.5
5520-24T	5520-24T switch	8.2.5	Y	Y	Y	Y
5520-24W	5520-24W switch	8.2.5	Y	Y	Y	Y
5520-48T	5520-48T switch	8.2.5	Y	Y	Y	Y
5520-48W	5520-48W switch	8.2.5	Y	Y	Y	Y
5520-12MW-36W	5520-12MW-36W switch	8.2.5	Y	Y	Y	Y

**Table 14: Switch models (continued)**

Part number	Model	Initial release	Supported new feature release			
			8.3	8.4	8.4.2	8.5
5520-24X	5520-24X switch	8.2.5	Y	Y	Y	Y
5520-48SE	5520-48SE	8.2.5	Y	Y	Y	Y

**Note**

Ensure the switch runs, at a minimum, the noted initial software release before you install a VIM.

**Table 15: Versatile Interface Modules (VIMs)**

Part number	Model	Initial release	Supported new feature release			
			8.3	8.4	8.4.2	8.5
5520-VIM-4X	5520-VIM-4X	8.2.5	Y	Y	Y	Y
5520-VIM-4XE	5520-VIM-4XE	8.2.5	Y	Y	Y	Y
5520-VIM-4YE	5520-VIM-4YE	8.2.5	Y	Y	Y	Y

## Versatile Interface Module Operational Notes

The following table summarizes the operational capabilities of the various VIMs:

**Table 16: 5520-VIM Matrix**

	5520-VIM-4X	5520-VIM-4XE	5520-VIM-4YE
Operational speeds	1Gbps & 10Gbps	1Gbps & 10Gbps	10Gbps & 25Gbps
PHY present	No	Yes	Yes
1000BASE-T & 10GBASE-T	10GBASE-T only	Both	10GBASE-T only
Mixed speeds	1Gbps & 10Gbps	1Gbps & 10Gbps	Mixed speeds not supported
1G Auto-negotiation	Disabled	Disabled	Disabled
10G Auto-negotiation	Disabled	Disabled	Disabled
25G Auto-negotiation			Enabled for DAC Disabled for Fiber
FEC	Not supported	Not supported	Auto-FEC enabled for DAC and Fiber
MACsec	Not supported	128/256 bit	128/256 bit

## Operational Notes for VIM Transceivers

The IEEE 802.3by requirement for 25 Gb is that any transceiver or DAC 3 meters or longer, requires the use of forward error correction (FEC).

If you use an unsupported 25 Gb transceiver, you might experience CRC or link flap errors.

## VSP 4450 Series Hardware

**Table 17: Switch models**

Part number	Model number	Initial release	Supported new feature release				
			8.2.5	8.3	8.4	8.4.2	8.5
EC4400004-E6	VSP 4450GSX-DC	4.0.50	Y	Y	Y	Y	Y
EC4400A03-E6	VSP 4450GTX-HT-PWR+	4.0.50	Y	Y	Y	Y	Y
EC4400A05-E6	VSP 4450GSX-PWR+	4.0	Y	Y	Y	Y	Y
EC4400A05-E6GS	VSP 4450GSX-PWR+ TAA Compliant	4.0.50	Y	Y	Y	Y	Y

## VSP 4450 Series Operational Notes

On a VSP 4450 Series switch, when making the initial connection to the two 10 Gbps SFP+ ports with MACsec-capable PHY (ports 49 and 50), the remote device flaps two times before remaining up due to the MACsec probing done by the VSP 4450 Series switch.

## VSP 4900 Series Hardware

**Table 18: Switch models**

Part number	Model number	Initial release	Supported new feature release				
			8.2.5	8.3	8.4	8.4.2	8.5
VSP4900-48P	VSP4900-48P	8.1	Y	Y	Y	Y	Y
VSP4900-12MXU-12XE	VSP4900-12MXU-12XE	8.1.5	Y	Y	Y	Y	Y
VSP4900-24S	VSP4900-24S	8.1.5	Y	Y	Y	Y	Y
VSP4900-24XE	VSP4900-24XE	8.1.5	Y	Y	Y	Y	Y



**Note**

Ensure the switch runs, at a minimum, the noted initial software release before you install a VIM.

**Table 19: Versatile Interface Modules (VIM)**

Part number	Model number	Initial release	Supported new feature release				
			8.2.5	8.3	8.4	8.4.2	8.5
VIM5-4X	VIM5-4X	8.1	Y	Y	Y	Y	Y
VIM5-4XE	VIM5-4XE	8.1	Y	Y	Y	Y	Y
VIM5-2Y	VIM5-2Y	8.1	Y	Y	Y	Y	Y
VIM5-4YE	VIM5-4YE	8.1	Y	Y	Y	Y	Y

**Table 19: Versatile Interface Modules (VIM) (continued)**

Part number	Model number	Initial release	Supported new feature release				
			8.2.5	8.3	8.4	8.4.2	8.5
VIM5-2Q	VIM5-2Q	8.1	Y	Y	Y	Y	Y
VIM5-4Y	VIM5-4Y	8.1.5	Y	Y	Y	Y	Y

## VSP 4900 Series Operational Notes

VSP4900-24S fixed ports operate at 1 Gbps. If you connect a 10 Gbps DAC/SFP+ to a VSP4900-24S 1 Gbps fixed port, the system displays the following error message:

**10Gb optical module inserted in 1Gb only port nn. Not supported.**

Although the link successfully comes up, the operational speed shows as 10 Gbps instead of 1 Gbps. This scenario occurs when a 10 Gbps DAC/SFP+ is used to make any of the following connections from a VSP4900-24S 1 Gbps fixed port:

- a VSP4900-24S to VSP4900-24S loopback connection
- a VSP4900-24S connected to another VSP4900-24S
- a VSP4900-24S connected to a VSP 4450GSX

## Versatile Interface Module Operational Notes

The following table summarizes the operational capabilities of the various VIMs:

**Table 20: VSP 4900 Series VIM Matrix**

	VIM5-4X	VIM5-4XE	VIM5-2Y	VIM5-4YE	VIM5-4Y	VIM5-2Q
Number of supported ports for VSP4900-48P and VSP4900-24S	4	4	2	2	2	1
Number of supported ports for VSP4900-24XE and VSP4900-12MXU-12XE	4	4	2	4	4	2
Port speeds	1 Gbps 10 Gbps	1 Gbps 10 Gbps	10 Gbps or 25 Gbps All ports must operate at either 10 Gbps or 25 Gbps (default)	10 Gbps or 25 Gbps All ports must operate at either 10 Gbps or 25 Gbps (default)	10 Gbps or 25 Gbps All ports must operate at either 10 Gbps or 25 Gbps (default)	40 Gbps 10 Gbps (with channelizati on
PHY present	No	Yes	Yes	Yes	Yes	No
Copper transceiver support (1 Gbps/10 Gbps)	10GBASE-T only	Both	10GBASE-T only	10GBASE-T only	10GBASE-T only	Not applicable
MACsec	Not supported	128/256 bit	Not supported	128/256 bit	Not supported	Not supported

**Table 20: VSP 4900 Series VIM Matrix (continued)**

	VIM5-4X	VIM5-4XE	VIM5-2Y	VIM5-4YE	VIM5-4Y	VIM5-2Q
Forward Error Correction (FEC)	Not supported	Not supported	Not supported	Default is Auto-FEC - FEC Auto, CL108, CL91, CL74 and No FEC supported	Not supported	Not supported
1 Gbps Auto-Negotiation	Disabled	Enabled	Not applicable	Not applicable	Not applicable	Not applicable
10 Gbps Auto-Negotiation	Disabled	Disabled	Disabled	Disabled	Disabled	Not applicable
25 Gbps Auto-Negotiation	Not applicable	Not applicable	Disabled	Enabled for DACs Disabled for AOCs, optical transceivers	Disabled	Not applicable
<b>Note:</b> Auto-Negotiation values are automatically set based on the type of transceiver detected.						

## VIM5-2Y and VIM5-4Y Operational Notes



### Note

VIM5-2Y and VIM5-4Y are in end-of-sale status.

The IEEE 802.3by requirement for 25 G is that any transceiver or DAC 3 meters or longer, requires the use of forward error correction (FEC). Because the VIM5-2Y and VIM5-4Y do not support FEC, note the following considerations for proper operation with these VIMs:

- Supported 25 G optics:
  - PN: 10502 - 25GBASE-SR (FEC-Lite): up to 30 m for OM3, up to 40 m for OM4
- Supported 25 G DACs:
  - 10520 25G SFP28 Cable (1 m)
- You must disable Auto-Negotiation and FEC on any VSP 7400 Series device that is connected to either of these VIMs.

You might experience CRC or link flap errors by using an unsupported 25 G transceiver.



## VSP 7200 Series Hardware

Part number	Model number	Initial release	Supported new feature release				
			8.2.5	8.3	8.4	8.4.2	8.5
EC720001F-E6	VSP 7254XSQ DC (front to back airflow)	4.2.1	Y	Y	Y	Y	Y
EC7200A1B-E6 (back-to-front airflow) EC7200A1F-E6 (front-to-back airflow)	VSP 7254XSQ	4.2.1	Y	Y	Y	Y	Y
EC720002F-E6	VSP 7254XTQ DC (Front to back airflow)	4.2.1	Y	Y	Y	Y	Y
EC7200A2B-E6 (back-to-front airflow) EC7200A2F-E6 (front-to-back airflow)	VSP 7254XTQ	4.2.1	Y	Y	Y	Y	Y
EC7200A3B-E6 (back-to-front airflow) EC7200A3F-E6 (front-to-back airflow)	VSP 7254XSQ Port Licensed	5.1	Y	Y	Y	Y	Y
EC7200A4B-E6 (back-to-front airflow) EC7200A4F-E6 (front-to-back airflow)	VSP 7254XTQ Port Licensed	5.1	Y	Y	Y	Y	Y

## VSP 7200 Series Operational Notes

- The VSP 7254XSQ has a PHYless design, which is typical for Data Center top of rack switches. The benefits of a PHYless design are lower power consumption and lower latency. However, due to the PHYless design, the following transceivers that require electronic dispersion compensation (EDC) for proper operation are not supported:
  - AA1403017-E6: 1-port 10GBASE-LRM SFP+
  - AA1403016-E6: 1-port 10GBase-ZR/ZW SFP+

The AA1403165 10GBASE-ZR CWDM DDI SFP+ transceiver can be substituted for AA1403016-E6 10GBASE-ZR/ZW SFP+
- Software partitions the switch into two logical slots: Slot 1 and Slot 2.
  - Slot 1: 10 Gbps ports: 1 - 48
  - Slot 2: 40 Gbps ports: 1 - 6

- Channelization is supported on the 40 Gbps QSFP+ ports.
- MACsec support:
  - MACsec is only supported on the VSP 7254XTQ 10 Gbps ports.
  - MACsec is not supported on VSP 7254XSQ 10 Gbps ports
  - MACsec is not supported on VSP 7254XTQ and VSP 7254XSQ 40 Gbps ports whether channelization is enabled or not.
- Port licensing support on the port licensed VSP 7254XSQ fiber switch:
  - 24 ports (Slot 1, ports 25 to 48) out of the 48 1/10 GbE SFP/SFP+ ports require a Port License to be unlocked.
  - two ports (Slot 2, ports 5 and 6) out of the six 40 GbE QSFP+ ports require a Port License to be unlocked.
- Port licensing support on the port licensed VSP 7254XTQ copper switch:
  - 24 ports (Slot 1, ports 25 to 48) out of the 48 100 Mbps/1 GbE/10 GbE RJ-45 ports require a Port License to be unlocked.
  - two ports (Slot 2, ports 5 and 6) out of the six 40 GbE QSFP+ ports require a Port License to be unlocked.
- 1000BASE-T SFP (AA1419043-E6) will only operate at 1 Gbps speeds when used on a VSP 7254XSQ.
- When you use 1 Gigabit Ethernet SFP transceivers on VSP 7254XSQ, the software disables auto-negotiation on the port:
  - If you use 1 Gbps fiber SFP transceivers, the remote end must also have auto-negotiation disabled.
  - If you use 1 Gbps copper SFP transceivers, the remote end must have auto-negotiation enabled. If not, the link will not be established.
- When a port on VSP 7254XSQ is disabled or enabled, or a cable replaced, or the switch rebooted, the remote link can flap twice.
- Enable auto-negotiation to ensure proper operation at 100 Mbps speeds on VSP 7254XTQ:
  - Link instability will be seen if both ends are set to 100 Mbps auto-negotiation disabled and you use a straight through cable.
  - If Link instability is seen when you use a cross-over cable, a port disable or enable can fix the issue.

## VSP 7400 Series Hardware

Part number	Model Number	Initial release	Supported new feature release				
			8.2.5	8.3	8.4	8.4.2	8.5
VSP7400-32C (no power supplies or fans) VSP7400-32C-AC-F (front-to-back airflow) VSP7400-32C-AC-R (back-to-front airflow)	VSP 7432CQ	8.0	Y	Y	Y	Y	Y
VSP7400-48Y-8C (no power supplies or fans) VSP7400-48Y-8C-AC-F (front-to-back airflow) VSP7400-48Y-8C-AC-R (back-to-front airflow)	VSP 7400-48Y	8.0.5	Y	Y	Y	Y	Y

### VSP 7400 Series Operational Notes

The VSP 7400 Series has a PHYless design. The benefits of a PHYless design are lower power consumption and lower latency. However, due to the PHYless design, the following transceivers that require electronic dispersion compensation (EDC) for proper operation are not supported:

- AA1403017-E6: 1-port 10GBASE-LRM SFP+
- AA1403016-E6: 1-port 10GBase-ZR/ZW SFP+

The AA1403165 10GBASE-ZR CWDM DDI SFP+ transceiver can be substituted for AA1403016-E6 10GBASE-ZR/ZW SFP+

The following list provides operational notes for VSP 7432CQ.

- Ports 31 and 32 (low) or ports 29, 30, 31, and 32 (high) are reserved for internal use when certain features, including Fabric Connect, are used. For a full list of the features, refer to [VOSS User Guide](#).
- The QSFP28 ports support the use of QSFP28 and QSFP+ transceivers:
  - The software detects the transceiver type and sets the port speed as either 100 Gbps for QSFP28 or 40 Gbps for QSFP+.
- Channelization:
  - Channelization is not supported on port 28.
  - Supports 4x10 Gbps when channelization is enabled and QSFP+ transceiver is detected.
  - Supports 4x25 Gbps when channelization is enabled and QSFP28 transceiver is detected.

The following list provides operational notes for VSP 7400-48Y.

- Ports 55 and 56 (low) or ports 53, 54, 55, and 56 (high) are reserved for internal use when certain features, including Fabric Connect, are used. For a full list of the features, refer to [VOSS User Guide](#).
- The QSFP28 ports support the use of QSFP28 and QSFP+ transceivers:
  - The software detects the transceiver type and sets the port speed as either 100 Gbps for QSFP28 or 40 Gbps for QSFP+.
- The SFP28 ports support the use of SFP28, SFP, and SFP+ transceivers.
  - The software detects the transceiver type and sets the port speed as either 25 Gbps for SFP28, 1 Gbps for SFP, or 10 Gbps for SFP+.
  - Auto-Negotiation is not supported when a 25 Gbps port operates at 1 Gbps. The following log message displays on the switch: `Auto-Negotiation enabled but not applied to port 1/1 since 1G transceiver is present..`
- Channelization is not supported. As a result, you cannot use the following optical components:
  - 40 Gbps or 100 Gbps breakout cables
  - QSFP28 to SFP28 Adapter (PN: 10506)

## VSP 8000 Series Hardware

**Table 21: Switch models**

Part number	Model number	Initial release	Supported new feature release				
			8.2.5	8.3	8.4	8.4.2	8.5
EC8200A01-E6 EC8200A01-E6GS	VSP 8284XSQ	4.0	Y	Y	Y	Y	Y
EC8200001-E6	VSP 8284XSQ DC	4.0.50	Y	Y	Y	Y	Y
EC8400001-E6	VSP 8404 DC	4.2.1	Y	Y	Y	Y	Y
EC8400A01-E6 EC8200A01-E6GS	VSP 8404	4.2	Y	Y	Y	Y	Y

**Table 21: Switch models (continued)**

Part number	Model number	Initial release	Supported new feature release				
			8.2.5	8.3	8.4	8.4.2	8.5
EC8400002-E6	VSP 8404C DC	5.3	Y	Y	Y	Y	Y
EC8400A02-E6 EC8200A02-E6GS	VSP 8404C	5.3	Y	Y	Y	Y	Y

**Important**

Ensure the switch runs, at a minimum, the noted initial software release before you install an Ethernet Switch Module (ESM).

**Table 22: ESMs – VSP 8400 Series only**

Part number	Model number	Initial release	Supported new feature release				
			8.2.5	8.3	8.4	8.4.2	8.5
EC8404001-E6 EC8404001-E6GS	8424XS	4.2	Y	Y	Y	Y	Y
EC8404002-E6 EC8404002-E6GS	8424XT	4.2	Y	Y	Y	Y	Y
EC8404003-E6 EC8404003-E6GS	8408QQ	4.2	Y	Y	Y	Y	Y
EC8404005-E6 EC8404005-E6GS	8418XSQ	4.2	Y	Y	Y	Y	Y
EC8404006-E6 EC8404006-E6GS	8418XTQ	5.0	Y	Y	Y	Y	Y
EC8404007-E6 EC8404007-E6GS	8424GS	5.0	Y	Y	Y	Y	Y
EC8404008-E6 EC8404008-E6GS	8424GT	5.0	Y	Y	Y	Y	Y
EC8404009-E6 EC8404009-E6GS	8402CQ Supported in VSP 8404C only	5.3	Y	Y	Y	Y	Y

## XA1400 Series Hardware

Part number	Model number	Initial release	Supported new feature release				
			8.2.5	8.3	8.4	8.4.2	8.5
XA1440	ExtremeAccess Platform 1440 (XA1440)	8.0.50	Y	Y	N	Y	Y
XA1480	ExtremeAccess Platform 1480 (XA1480 )	8.0.50	Y	Y	N	Y	Y

## Transceivers

---

The software allows the use of transceivers and direct attach cables from any vendor, which means that the switch will bring up the port operationally when using any transceiver. Extreme Networks does not provide support for operational issues related to the use of non-Extreme Networks branded transceivers and direct attached cables used in the switches.



### Note

Although VSP 8000 Series and VSP 7200 Series support 10 Gigabit and 40 Gigabit DAC cables in forgiving mode, in releases earlier than VOSS 4.2.1, the command output for **show pluggable-optical-modules basic** displays the corresponding vendor name rather than leaving the vendor name field blank.

To find product descriptions and compatibility information for optical transceivers and components, visit the [Extreme Optics](#) website.

## Auto-Negotiation

Use auto-negotiation to enable the device to automatically negotiate the best common data rate and duplex mode to use between two auto-negotiation-capable Ethernet devices.

When you use a 1 Gb SFP transceiver on a 10 Gb SFP+ port, ensure that auto-negotiation is enabled. Note, however, the following special considerations:

- If you use 1 Gb SFP transceivers on a VSP 4450 Series switch that is connected to third-party switches, you must have auto-negotiation enabled at all times. This applies to SFP transceivers installed in either 1 Gb SFP ports or 10 Gb SFP+ ports.
- Auto-negotiation is not supported for the VSP 7254XSQ. On the VSP 7254XSQ, if you are using a 1 Gb SFP module, the link can be established only when auto-negotiation is disabled at the remote device. Also note that, because the SFP+ ports on the VSP 7254XSQ support only 1 Gb and 10 Gb speeds, the 1000BASE-T SFP module (part no. AA1419043-E6 or 10070H) can operate only at 1 Gb.
- For 1000BASE-T SFP transceivers, the best practice is to perform custom auto-negotiation at the remote native copper port. This can prevent connections from failing if the speed or duplex negotiation changes.

## Forward Error Correction (FEC)

Forward Error Correction (FEC) is a method of obtaining error control in data transmission over an unreliable or noisy channel in which the source (transmitter) encodes the data in a redundant way by using an error correcting code (ECC). This redundancy enables a destination (receiver) to detect a limited number of errors and correct them without requiring a re-transmission.

For more information about FEC, see [VOSS User Guide](#).

## Power Supply Compatibility

---

You can use certain power supplies in more than one platform. This section lists the power supplies and indicates the compatible platforms.

For more specific information on each power supply, see the following documents:

- [ExtremeSwitching 5420 Series Hardware Installation Guide](#)
- [ExtremeSwitching 5520 Series Hardware Installation Guide](#)
- [Installing the Virtual Services Platform 4450GTX-HT-PWR+](#)
- [Installing the Virtual Services Platform 4450GSX-PWR+](#)
- [VSP 4900 Series Switches: Hardware Installation Guide](#)
- [Installing the Virtual Services Platform 7200 Series](#)
- [VSP 7400 Series Switches: Hardware Installation Guide](#)
- [Installing the Virtual Services Platform 8000 Series](#)
- [XA1400 Series Switches: Hardware Installation Guide](#)

In the following table for 5420 Series power supplies:

- All 5420-compatible power supplies have front-to-back ventilation airflow.
- Each power supply has a keyed power inlet (C16) that requires a notched (C15) power cord.

**Table 23: 5420 Series Power Supplies**

Platform	150W AC PSU-FB XN-ACPWR-150W	600W AC PoE-FB XN-ACPWR-600W	920W AC PoE XN-ACPWR-920W	1200 W AC PoE-FB XN-ACPWR-1200W	2000 W AC PSU-FB XN-ACPWR-2000W-F
5420F-24T-4XE	Y	—	—	—	—
5420F-24S-4XE	Y	—	—	—	—
5420F-8W-16P-4XE	—	Y	—	—	—
5420F-24P-4XE	—	Y	—	—	—
5420F-48T-4XE	Y	—	—	—	—
5420F-16MW-32P-4XE	—	—	—	Y	—
5420F-16W-32P-4XE	—	—	—	Y	—
5420F-48P-4XE	—	—	Y	—	—
5420F-48P-4XL	—	—	Y	—	—
5420M-24T-4YE	Y	—	—	—	—
5420M-24W-4YE	—	—	Y	—	—
5420M-48T-4YE	Y	—	—	—	—
5420M-48W-4YE	—	—	Y	—	Y
5420M-16MW-32P-4YE	—	—	Y	—	Y

**Note**

In the following table for 5520 Series power supplies:

- All 5520-compatible power supplies have front-to-back ventilation airflow.
- Each power supply has a keyed power inlet (C16) that requires a notched (C15) power cord.

**Table 24: 5520 Series Power Supplies**

Platform	350 W AC PSU-FB 10953	715 W AC PSU-FB 10951	1100 W AC PSU-FB 10941	2000 W AC PSU-FB XN- ACPWR-2000W-F
5520-24T	Y	—	—	—
5520-24W	—	Y	Y	Y
5520-24X	Y	—	—	—
5520-12MW-36W	—	Y	Y	Y
5520-48T	Y	—	—	—
5520-48W	—	Y	Y	Y
5520-48SE	Y	—	—	—

**Table 25: VSP 4450 Series Power Supplies**

Platform	300 W DC AL1905005-E5	1000 W AC AL1905A21-E6	1000 W AC-HT EC4005A03- E6HT
VSP 4450GTX-HT-PWR+	—	—	Y
VSP 4450GSX-DC	Y	—	—
VSP 4450GSX-PWR+	—	Y	Y

**Table 26: VSP 4900 Series Power Supplies**

Platform	350 W AC 10953	715 W AC 10951	1100 W AC 10941	2000 W AC XN-ACPWR-2000W-F
VSP4900-48P	—	Y	Y	Y
VSP4900-12MXU-12XE	—	Y	Y	Y



**Table 26: VSP 4900 Series Power Supplies (continued)**

Platform	350 W AC 10953	715 W AC 10951	1100 W AC 10941	2000 W AC XN-ACPWR-2000W-F
VSP4900-24XE	Y	—	—	—
VSP4900-24S	Y	—	—	—

**Table 27: VSP 7200 Series and VSP 8000 Series Power Supplies**

Platform	460 W AC front-to-back EC7205A1F- E6	460 W AC back-to-front EC7205A1B- E6	800 W AC front-to-back EC8005A01- E6	800 W AC front-to-back EC7205A0F- E6	800 W AC back-to-front EC7205A0B- E6	800 W DC front-to-back EC8005001- E6
VSP 8284XSQ	—	—	Y	—	—	—
VSP 8284XSQ DC	—	—	—	—	—	Y
VSP 8404	—	—	Y	—	—	—
VSP 8404 DC	—	—	—	—	—	Y
VSP 8404C	—	—	Y	—	—	—
VSP 8404C DC	—	—	—	—	—	Y
VSP 7254XSQ front- to-back	Y	—	—	—	—	—
VSP 7254XSQ back- to-front	—	Y	—	—	—	—
VSP 7254XTQ front- to-back	—	—	—	Y	—	—
VSP 7254XTQ back- to-front	—	—	—	—	Y	—
VSP 7254XSQ DC	—	—	—	—	—	Y
VSP 7254XTQ DC	—	—	—	—	—	Y

The following table for VSP 7400 Series includes the orderable part number as well as the model number or model name, as it is displayed on the power supply.

**Table 28: VSP 7400 Series Power Supplies**

Platform	750 W AC front-to-back XN-ACPWR-750W-F	750 W AC back-to-front XN-ACPWR-750W-R	750 W DC front-to-back XN-DCPWR-750W-F	750 W DC back-to-front XN-DCPWR-750W-R
Model Number/ Model Name	700-013684-0100/ MC75A4-3	700-013917-0000/ MC75A4-3-001	700-013670-0000	700-013670-0100
VSP 7432CQ front- to-back	Y	—	—	—
VSP 7432CQ back- to-front	—	Y	—	—

**Table 28: VSP 7400 Series Power Supplies (continued)**

Platform	750 W AC front-to-back XN-ACPWR-750W-F	750 W AC back-to-front XN-ACPWR-750W-R	750 W DC front-to-back XN-DCPWR-750W-F	750 W DC back-to-front XN-DCPWR-750W-R
VSP 7432CQ front-to-back DC	—	—	Y	—
VSP 7432CQ back-to-front DC	—	—	—	Y
VSP 7400-48Y front-to-back	Y	—	—	—
VSP 7400-48Y back-to-front	—	Y	—	—
VSP 7400-48Y front-to-back DC	—	—	Y	—
VSP 7400-48Y back-to-front DC	—	—	—	Y

**Table 29: XA1400 Series Power Supplies**

Platform	12 V DC XA1400-PWR-ADPT
XA1440	Y
XA1480	Y



# Scaling

---

[Layer 2 on page 52](#)

[IP Unicast on page 60](#)

[Layer 3 Route Table Size on page 74](#)

[IP Multicast on page 77](#)

[Distributed Virtual Routing \(DvR\) on page 81](#)

[VXLAN Gateway on page 84](#)

[Filters, QoS, and Security on page 86](#)

[OAM and Diagnostics on page 95](#)

[Extreme Integrated Application Hosting Scaling on page 101](#)

[Fabric Scaling on page 101](#)

[VRF Scaling on page 113](#)

This section documents scaling capabilities of the VOSS platforms.

The scaling and performance information shown in the following tables is provided for the purpose of assisting with network design. It is recommended that network architects and administrators design and manage networks with an appropriate level of network scaling “head room.” The scaling and performance figures provided have been verified using specific network topologies using limited switch configurations. There is no guarantee that the scaling and performance figures shown are applicable to all network topologies and switch configurations and are provided as a realistic estimation only. If you experience scaling and performance characteristics that you feel are sufficiently below what has been documented, contact Extreme Networks technical support for additional assistance.



## Note

If your switch uses Advanced Feature Bandwidth Reservation in Full Feature mode, this affects scaling information that is based on the number of available ports. If you enable the boot configuration flag for this feature, remember to deduct the number of reserved ports from the documented scaling maximum. Not all hardware platforms require this feature to provide full feature support. For more information, see [VOSS User Guide](#).

## Layer 2

**Table 30: Layer 2 Maximums**

Attribute	Product	Maximum number supported
MAC table size (without SPBM)	5420 Series	32,000 for 5420F Series models
		64,000 for 5420M Series models
	5520 Series	81,920
	VSP 4450 Series	32,000
	VSP 4900 Series	80,000
	VSP 7200 Series	224,000
	VSP 7400 Series	160,000
	VSP 8000 Series	224,000
	XA1400 Series	2,000 for XA1440 4,000 for XA1480
MAC table size (with SPBM)	5420 Series	16,000 for 5420F Series models
		32,000 for 5420M Series models
	5520 Series	40,960
	VSP 4450 Series	16,000
	VSP 4900 Series	40,000
	VSP 7200 Series	112,000
	VSP 7400 Series as Interior Node	80,000
	VSP 7400 Series as Boundary Node	54,000
	VSP 8000 Series	112,000
MAC table size (with Multi-area SPB, Redistributed I-SIDs, no local UNI)	5420 Series	n/a
	5520 Series	n/a
	VSP 4450 Series	n/a
	VSP 4900 Series	n/a
	VSP 7200 Series	n/a
	VSP 7400 Series	160,000
	VSP 8000 Series	n/a
	XA1400 Series	n/a

**Table 30: Layer 2 Maximums (continued)**

Attribute	Product	Maximum number supported
Endpoint Tracking MAC addresses per switch	5420 Series	n/a
	5520 Series	8,000
	VSP 4450 Series	n/a
	VSP 4900 Series	n/a
	VSP 7200 Series	8,000
	VSP 7400 Series	8,000
	VSP 8000 Series	8,000
	XA1400 Series	n/a
Directed Broadcast interfaces	5420 Series	200 See <a href="#">Maximum Number of Directed Broadcast Interfaces</a> on page 59.
	5520 Series	200 See <a href="#">Maximum Number of Directed Broadcast Interfaces</a> on page 59.
	VSP 4450 Series	n/a
	VSP 4900 Series	200 See <a href="#">Maximum Number of Directed Broadcast Interfaces</a> on page 59.
	VSP 7200 Series	200 See <a href="#">Maximum Number of Directed Broadcast Interfaces</a> on page 59.
	VSP 7400 Series	200 See <a href="#">Maximum Number of Directed Broadcast Interfaces</a> on page 59.
	VSP 8000 Series	200 See <a href="#">Maximum Number of Directed Broadcast Interfaces</a> on page 59.
	XA1400 Series	n/a

**Table 30: Layer 2 Maximums (continued)**

Attribute	Product	Maximum number supported
Port-based VLANs  <b>Note:</b> When you use Flex-UNI functionality, you can use the complete range from 1 to 4096 for port VLAN IDs.	5420 Series	4,059
	5520 Series	4,059
	VSP 4450 Series	4,059
	VSP 4900 Series	4,059
	VSP 7200 Series	4,059
	VSP 7400 Series	4,059
	VSP 8000 Series	4,059
	XA1400 Series	500
Private VLANs	5420 Series	100
	5520 Series	200
	VSP 4450 Series	200
	VSP 4900 Series	200
	VSP 7200 Series	200
	VSP 7400 Series	200
	VSP 8000 Series	VSP 8404C = 400 Other VSP 8000 Series platforms = 200
	XA1400 Series	n/a
Protocol-based VLANs (IPv6 only)	5420 Series	1
	5520 Series	1
	VSP 4450 Series	1
	VSP 4900 Series	1
	VSP 7200 Series	1
	VSP 7400 Series	1
	VSP 8000 Series	1
	XA1400 Series	n/a
RSTP instances	5420 Series	1
	5520 Series	1
	VSP 4450 Series	1
	VSP 4900 Series	1
	VSP 7200 Series	1
	VSP 7400 Series	1
	VSP 8000 Series	1
	XA1400 Series	1

**Table 30: Layer 2 Maximums (continued)**

Attribute	Product	Maximum number supported
MSTP instances	5420 Series	12
	5520 Series	12
	VSP 4450 Series	12
	VSP 4900 Series	12
	VSP 7200 Series	12
	VSP 7400 Series	64
	VSP 8000 Series	12
	XA1400 Series	12
LACP aggregators	5420 Series	56 (48 fixed ports, 4 Universal Ethernet ports, 4 SFP-DD ports)
	5520 Series	48-port models: up to 60 with channelization 24-port models: up to 36 with channelization
	VSP 4450 Series	24
	VSP 4900 Series	VSP4900-48P: 52 (48 fixed ports + 4 VIM ports) VSP4900-24S, VSP4900-24XE, VSP4900-12MXU-12XE: 28 (24 fixed + 4 VIM ports)
	VSP 7200 Series	54 (up to 72 with channelization)
	VSP 7400 Series	VSP 7432CQ = 32 (up to 125 with channelization) configured in Full Port mode VSP 7400-48Y = 56 configured in Full Port mode
	VSP 8000 Series	84 (up to 96 with channelization)
	XA1400 Series	8

**Table 30: Layer 2 Maximums (continued)**

Attribute	Product	Maximum number supported
Ports per LACP aggregator	5420 Series	8 active
	5520 Series	8 active
	VSP 4450 Series	8 active
	VSP 4900 Series	8 active
	VSP 7200 Series	8 active
	VSP 7400 Series	8 active
	VSP 8000 Series	8 active
	XA1400 Series	8
MLT groups	5420 Series	56 (48 fixed ports, 4 Universal Ethernet ports, 4 SFP-DD ports)
	5520 Series	48-port models: up to 60 with channelization 24-port models: up to 36 with channelization
	VSP 4450 Series	50
	VSP 4900 Series	VSP4900-48P: 52 (48 fixed ports + 4 VIM ports) VSP4900-24S, VSP4900-24XE, VSP4900-12MXU-12XE: 28 (24 fixed + 4 VIM ports)
	VSP 7200 Series	54 (up to 72 with channelization)
	VSP 7400 Series	VSP 7432CQ = 32 (up to 125 with channelization) configured in Full Port mode VSP 7400-48Y = 56 configured in Full Port mode
	VSP 8000 Series	84 (up to 96 with channelization)
	XA1400 Series	8



**Table 30: Layer 2 Maximums (continued)**

Attribute	Product	Maximum number supported
Ports per MLT group	5420 Series	8 active
	5520 Series	8 active
	VSP 4450 Series	8
	VSP 4900 Series	8
	VSP 7200 Series	8
	VSP 7400 Series	8
	VSP 8000 Series	8
	XA1400 Series	8
Link State Tracking (LST) groups	5420 Series	48
	5520 Series	48
	VSP 4450 Series	48
	VSP 4900 Series	48
	VSP 7200 Series	48
	VSP 7400 Series	48
	VSP 8000 Series	48
	XA1400 Series	n/a
Interfaces per LST group	5420 Series	8 upstream 128 downstream
	5520 Series	8 upstream 128 downstream
	VSP 4450 Series	8 upstream 128 downstream
	VSP 4900 Series	8 upstream 128 downstream
	VSP 7200 Series	8 upstream 128 downstream
	VSP 7400 Series	8 upstream 128 downstream
	VSP 8000 Series	8 upstream 128 downstream
	XA1400 Series	n/a

**Table 30: Layer 2 Maximums (continued)**

Attribute	Product	Maximum number supported
SLPP VLANs	5420 Series	128
	5520 Series	128
	VSP 4450 Series	128
	VSP 4900 Series	128
	VSP 7200 Series	128
	VSP 7400 Series	500
	VSP 8000 Series	128
	XA1400 Series	128
VLACP interfaces	5420 Series	56 (48 fixed ports, 4 Universal Ethernet ports, 4 SFP-DD ports)
	5520 Series	48-port models: up to 60 with channelization 24-port models: up to 36 with channelization
	VSP 4450 Series	50
	VSP 4900 Series	VSP4900-48P: 52 (48 fixed ports + 4 VIM ports) VSP4900-24S, VSP4900-24XE, VSP4900-12MXU-12XE: 28 (24 fixed + 4 VIM ports) VIM5-2Q on VSP4900-12MXU-12XE and VSP4900-24XE with channelization enabled: 32
	VSP 7200 Series	54 (up to 72 with channelization)
	VSP 7400 Series	VSP 7432CQ = 32 (up to 125 with channelization) configured in Full Port mode VSP 7400-48Y = 56 configured in Full Port mode
	VSP 8000 Series	84 (up to 96 with channelization)
	XA1400 Series	8

**Table 30: Layer 2 Maximums (continued)**

Attribute	Product	Maximum number supported
Microsoft NLB cluster IP interfaces	5420 Series	Not supported
	5520 Series	200 See <a href="#">Maximum Number of Microsoft NLB Cluster IP Interfaces</a> on page 59.
	VSP 4450 Series	n/a
	VSP 4900 Series	200 See <a href="#">Maximum Number of Microsoft NLB Cluster IP Interfaces</a> on page 59.
	VSP 7200 Series	200 See <a href="#">Maximum Number of Microsoft NLB Cluster IP Interfaces</a> on page 59.
	VSP 7400 Series	200 See <a href="#">Maximum Number of Microsoft NLB Cluster IP Interfaces</a> on page 59.
	VSP 8000 Series	200 See <a href="#">Maximum Number of Microsoft NLB Cluster IP Interfaces</a> on page 59.
	XA1400 Series	n/a

## Maximum Number of Directed Broadcast Interfaces

The number of Directed Broadcast interfaces must be less than or equal to 200. However, if you configure VLANs with both NLB and Directed Broadcast, you can only scale up to 100 VLANs.

## Maximum Number of Microsoft NLB Cluster IP Interfaces

The number of NLB cluster IP interfaces multiplied by the number of configured clusters must be less than or equal to 200. The number of NLB cluster IP interfaces is the key, not the number of VLANs. You can configure 1 VLAN with up to 200 NLB cluster IP interfaces or configure up to 200 VLANs with 1 NLB cluster IP interface per VLAN.

For example: 1 virtual interface per cluster x 200 clusters = 200 or 2 virtual interfaces per cluster x 100 clusters = 200

However, if you configure VLANs with both NLB and Directed Broadcast, you can only scale up to 100 VLANs assuming there is only 1 NLB cluster IP interface per VLAN.

## IP Unicast

**Table 31: IP Unicast Maximums**

Attribute	Product	Maximum number supported
IP interfaces (IPv4 or IPv6 or IPv4+IPv6)	5420 Series	248
	5520 Series	500 See <a href="#">IP Interface Maximums for 5520 Series</a> on page 73.
	VSP 4450 Series	256
	VSP 4900 Series	500 See <a href="#">IP Interface Maximums for VSP 4900 Series</a> on page 73.
	VSP 7200 Series	505 See <a href="#">IP Interface Maximums for VSP 7200 Series, VSP 8200 Series, and VSP 8400 Series</a> on page 73.
	VSP 7400 Series	1,000 See <a href="#">IP Interface Maximums for VSP 7400 Series</a> on page 74.
	VSP 8000 Series	VSP 8404C = 500 Other VSP 8000 Series platforms = 505 See <a href="#">IP Interface Maximums for VSP 7200 Series, VSP 8200 Series, and VSP 8400 Series</a> on page 73.
	XA1400 Series	500 (IPv4 only)

**Table 31: IP Unicast Maximums (continued)**

Attribute	Product	Maximum number supported
VRRP interfaces (IPv4 or IPv6)	5420 Series	124
	5520 Series	252 See <a href="#">IP Interface Maximums for 5520 Series</a> on page 73.
	VSP 4450 Series	64
	VSP 4900 Series	252 See <a href="#">IP Interface Maximums for VSP 4900 Series</a> on page 73.
	VSP 7200 Series	252 See <a href="#">IP Interface Maximums for VSP 7200 Series, VSP 8200 Series, and VSP 8400 Series</a> on page 73.
	VSP 7400 Series	500 per switch 256 per VRF See <a href="#">IP Interface Maximums for VSP 7400 Series</a> on page 74.
	VSP 8000 Series	252 See <a href="#">IP Interface Maximums for VSP 7200 Series, VSP 8200 Series, and VSP 8400 Series</a> on page 73.
	XA1400 Series	64 (IPv4 only)

**Table 31: IP Unicast Maximums (continued)**

Attribute	Product	Maximum number supported
Routed Split Multi-Link Trunking (RSMLT) interfaces (IPv4 or IPv6 or IPv4+IPv6)	5420 Series	124
	5520 Series	499 See <a href="#">IP Interface Maximums for 5520 Series</a> on page 73.
	VSP 4450 Series	251
	VSP 4900 Series	251 See <a href="#">IP Interface Maximums for VSP 4900 Series</a> on page 73.
	VSP 7200 Series	251 See <a href="#">IP Interface Maximums for VSP 7200 Series, VSP 8200 Series, and VSP 8400 Series</a> on page 73.
	VSP 7400 Series	499 See <a href="#">IP Interface Maximums for VSP 7400 Series</a> on page 74.
	VSP 8000 Series	251 See <a href="#">IP Interface Maximums for VSP 7200 Series, VSP 8200 Series, and VSP 8400 Series</a> on page 73.
	XA1400 Series	n/a
VRRP interfaces with fast timers (200ms) - IPv4/IPv6	5420 Series	24
	5520 Series	24
	VSP 4450 Series	24
	VSP 4900 Series	24
	VSP 7200 Series	24
	VSP 7400 Series	24
	VSP 8000 Series	24
	XA1400 Series	24

**Table 31: IP Unicast Maximums (continued)**

Attribute	Product	Maximum number supported
ECMP groups/paths per group	5420 Series	64/8
	5520 Series	125/8
	VSP 4450 Series	500/4
	VSP 4900 Series	1,000/8
	VSP 7200 Series	1,000/8
	VSP 7400 Series	1,000/8
	VSP 8000 Series	1,000/8
	XA1400 Series	500/8
OSPF v2/v3 interfaces	5420 Series	50
	5520 Series	100
	VSP 4450 Series	100
	VSP 4900 Series	500
	VSP 7200 Series	500
	VSP 7400 Series	500
	VSP 8000 Series	500
	XA1400 Series	48 (v2 only)
OSPF v2/v3 neighbors (adjacencies)	5420 Series	50
	5520 Series	100
	VSP 4450 Series	100
	VSP 4900 Series	500
	VSP 7200 Series	500
	VSP 7400 Series	500
	VSP 8000 Series	500
	XA1400 Series	24 (v2 only)

**Table 31: IP Unicast Maximums (continued)**

Attribute	Product	Maximum number supported
OSPF areas	5420 Series	12 for the switch
	5520 Series	12 for each VRF 80 for the switch
	VSP 4450 Series	12 for each VRF 64 for the switch
	VSP 4900 Series	12 for each VRF 80 for the switch
	VSP 7200 Series	12 for each VRF 80 for the switch
	VSP 7400 Series	12 for each VRF 80 for the switch
	VSP 8000 Series	12 for each VRF 80 for the switch
	XA1400 Series	12 for each VRF 64 for each switch
IPv4 ARP table	5420 Series	15,000 for 5420F Series models
		24,000 for 5420M Series models
	5520 Series	16,000
	VSP 4450 Series	6,000
	VSP 4900 Series	32,000 in non-SPB deployments 16,000 in SPB deployments
	VSP 7200 Series	48,000 in non-SPB deployments 32,000 in SPB deployments
	VSP 7400 Series	56,000 non-SPB deployments 40,000 SPB deployments
	VSP 8000 Series	48,000 in non-SPB deployments 32,000 in SPB deployments
	XA1400 Series	2,000 for XA1440 4,000 for XA1480



**Table 31: IP Unicast Maximums (continued)**

Attribute	Product	Maximum number supported
IPv4 CLIP interfaces	5420 Series	64
	5520 Series	64
	VSP 4450 Series	64
	VSP 4900 Series	64
	VSP 7200 Series	64
	VSP 7400 Series	64
	VSP 8000 Series	64
	XA1400 Series	64
IPv4 RIP interfaces	5420 Series	50
	5520 Series	100
	VSP 4450 Series	200
	VSP 4900 Series	200
	VSP 7200 Series	200
	VSP 7400 Series	200
	VSP 8000 Series	200
	XA1400 Series	200
IPv4 BGP peers	5420 Series	8
	5520 Series	16
	VSP 4450 Series	12
	VSP 4900 Series	256
	VSP 7200 Series	256
	VSP 7400 Series	256
	VSP 8000 Series	256
	XA1400 Series	12
IPv4 VRFs with iBGP	5420 Series	8
	5520 Series	16
	VSP 4450 Series	16
	VSP 4900 Series	16
	VSP 7200 Series	16
	VSP 7400 Series	16
	VSP 8000 Series	16
	XA1400 Series	n/a

**Table 31: IP Unicast Maximums (continued)**

Attribute	Product	Maximum number supported
IPv4/IPv6 VRF instances For additional information, see <a href="#">VRF Scaling</a> on page 113.	5420 Series	64 See <a href="#">IP Interface Maximums for 5420 Series</a> on page 73.
	5520 Series	256 including mgmt VRF and GRT See <a href="#">IP Interface Maximums for 5520 Series</a> on page 73.
	VSP 4450 Series	128 including GRT
	VSP 4900 Series	256 including mgmt VRF and GRT See <a href="#">IP Interface Maximums for VSP 4900 Series</a> on page 73.
	VSP 7200 Series	256 including mgmt VRF and GRT See <a href="#">IP Interface Maximums for VSP 7200 Series, VSP 8200 Series, and VSP 8400 Series</a> on page 73.
	VSP 7400 Series	256 including mgmt VRF and GRT See <a href="#">IP Interface Maximums for VSP 7400 Series</a> on page 74.
	VSP 8000 Series	256 including mgmt VRF and GRT See <a href="#">IP Interface Maximums for VSP 7200 Series, VSP 8200 Series, and VSP 8400 Series</a> on page 73.
	XA1400 Series	24 including GRT

**Table 31: IP Unicast Maximums (continued)**

Attribute	Product	Maximum number supported
IPv4 static ARP entries	5420 Series	1000 per VRF 5000 per switch
	5520 Series	2,000 for each VRF 10,000 for the switch
	VSP 4450 Series	200 for each VRF 1,000 for the switch
	VSP 4900 Series	2,000 for each VRF 10,000 for the switch
	VSP 7200 Series	2,000 for each VRF 10,000 for the switch
	VSP 7400 Series	2,000 for each VRF 10,000 for the switch
	VSP 8000 Series	2,000 for each VRF 10,000 for the switch
	XA1400 Series	200 for each VRF 1,000 for the switch
IPv4 static routes	5420 Series	500 per VRF 2500 per switch
	5520 Series	1,000 for each VRF 5,000 for the switch
	VSP 4450 Series	1,000 for each VRF 1,000 for the switch
	VSP 4900 Series	1,000 for each VRF 5,000 for the switch
	VSP 7200 Series	1,000 for each VRF 5,000 for the switch
	VSP 7400 Series	1,000 for each VRF 5,000 for the switch
	VSP 8000 Series	1,000 for each VRF 5,000 for the switch
	XA1400 Series	1,000 for each VRF 5,000 for the switch

**Table 31: IP Unicast Maximums (continued)**

Attribute	Product	Maximum number supported
IPv4 route policies	5420 Series	50 per VRF 500 per switch
	5520 Series	500 for each VRF 5,000 for the switch
	VSP 4450 Series	500 for each VRF 5,000 for the switch
	VSP 4900 Series	500 for each VRF 5,000 for the switch
	VSP 7200 Series	500 for each VRF 5,000 for the switch
	VSP 7400 Series	500 for each VRF 5,000 for the switch
	VSP 8000 Series	500 for each VRF 5,000 for the switch
	XA1400 Series	500 for each VRF 5,000 for the switch
IPv4 UDP forwarding entries	5420 Series	128
	5520 Series	256
	VSP 4450 Series	128
	VSP 4900 Series	512
	VSP 7200 Series	512
	VSP 7400 Series	1,024
	VSP 8000 Series	512
	XA1400 Series	128
IPv4 DHCP Relay forwarding entries	5420 Series	248
	5520 Series	512
	VSP 4450 Series	128
	VSP 4900 Series	2048
	VSP 7200 Series	2048
	VSP 7400 Series	2048
	VSP 8000 Series	2048
	XA1400 Series	128

**Table 31: IP Unicast Maximums (continued)**

Attribute	Product	Maximum number supported
IPv6 DHCP Snoop entries in Source Binding Table	5420 Series	512
	5520 Series	1,024
	VSP 4450 Series	1,024
	VSP 4900 Series	1,024
	VSP 7200 Series	1,024
	VSP 7400 Series	1,024
	VSP 8000 Series	1,024
	XA1400 Series	n/a
IPv6 Neighbor table	5420 Series	8,000 for 5420F Series models
		16,000 for 5420M Series models
	5520 Series	16,000
	VSP 4450 Series	4,000
	VSP 4900 Series	8,000
	VSP 7200 Series	8,000
	VSP 7400 Series	32,000
	VSP 8000 Series	8,000
XA1400 Series	n/a	
IPv6 static entries in Source Binding Table	5420 Series	64 per VRF 256 per system
	5520 Series	128 per VRF 512 per system
	VSP 4450 Series	256
	VSP 4900 Series	256
	VSP 7200 Series	256
	VSP 7400 Series	256
	VSP 8000 Series	256
	XA1400 Series	n/a

**Table 31: IP Unicast Maximums (continued)**

Attribute	Product	Maximum number supported
IPv6 static neighbor records	5420 Series	64 per VRF 256 per switch
	5520 Series	128 per VRF 512 per system
	VSP 4450 Series	128
	VSP 4900 Series	128 per VRF 512 per system
	VSP 7200 Series	128 per VRF 512 per system
	VSP 7400 Series	128 per VRF 512 per system
	VSP 8000 Series	128 per VRF 512 per system
	XA1400 Series	n/a
IPv6 CLIP interfaces	5420 Series	64
	5520 Series	64
	VSP 4450 Series	64
	VSP 4900 Series	64
	VSP 7200 Series	64
	VSP 7400 Series	64
	VSP 8000 Series	64
	XA1400 Series	n/a
IPv6 static routes	5420 Series	500
	5520 Series	1,000
	VSP 4450 Series	1,000
	VSP 4900 Series	1,000
	VSP 7200 Series	1,000
	VSP 7400 Series	1,000
	VSP 8000 Series	1,000
	XA1400 Series	n/a

**Table 31: IP Unicast Maximums (continued)**

Attribute	Product	Maximum number supported
IPv6 6in4 configured tunnels	5420 Series	32
	5520 Series	64
	VSP 4450 Series	64
	VSP 4900 Series	64
	VSP 7200 Series	64
	VSP 7400 Series	64
	VSP 8000 Series	64
	XA1400 Series	n/a
IPv6 DHCP Relay forwarding	5420 Series	248
	5520 Series	256 per switch 10 per VRF
	VSP 4450 Series	128
	VSP 4900 Series	512 per switch 10 per VRF
	VSP 7200 Series	512 per switch 10 per VRF
	VSP 7400 Series	512
	VSP 8000 Series	512
	XA1400 Series	n/a
IPv6 BGP peers	5420 Series	8
	5520 Series	16 Up to 8,000 IPv6 prefixes for BGPv6 peering
	VSP 4450 Series	12 Up to 8,000 IPv6 prefixes for BGPv6 peering
	VSP 4900 Series	256 Up to 8,000 IPv6 prefixes for BGPv6 peering
	VSP 7200 Series	256 Up to 8,000 IPv6 prefixes for BGPv6 peering
	VSP 7400 Series	256
	VSP 8000 Series	256 Up to 8,000 IPv6 prefixes for BGPv6 peering
	XA1400 Series	n/a

**Table 31: IP Unicast Maximums (continued)**

Attribute	Product	Maximum number supported
IPv6 VRFs with iBGP	5420 Series	8
	5520 Series	16
	VSP 4450 Series	16
	VSP 4900 Series	16
	VSP 7200 Series	16
	VSP 7400 Series	16
	VSP 8000 Series	16
	XA1400 Series	n/a
BFD VRF instances	5420 Series	16
	5520 Series	16
	VSP 4450 Series	16
	VSP 4900 Series	16
	VSP 7200 Series	16
	VSP 7400 Series	16
	VSP 8000 Series	16
	XA1400 Series	n/a
BFD sessions per switch (IPv4/IPv6) with default values	5420 Series	16
	5520 Series	16
	VSP 4450 Series	16
	VSP 4900 Series	16
	VSP 7200 Series	16
	VSP 7400 Series	16
	VSP 8000 Series	16
	XA1400 Series	n/a
BFD sessions with Fabric Extend tunnels (IPv4)	5420 Series	16
	5520 Series	16
	VSP 4450 Series	Not Supported
	VSP 4900 Series	16
	VSP 7200 Series	16
	VSP 7400 Series	16
	VSP 8000 Series	16
	XA1400 Series	16



## IP Interface Maximums for 5420 Series

The maximum number of IP interfaces for 5420 Series is based on the following formulas:

- If you disable the VRF scaling boot configuration flag:
  - # IP interfaces (248 max) + (# of VRRP IPv4 interfaces) + (# of VRRP IPv6 interfaces) + (# of RSMLT interfaces) + 2(if IP Shortcuts is enabled) + 3x(# of VRFs) = cannot exceed 248
- If you enable the VRF scaling boot configuration flag:
  - # IP interfaces (max 248) + (# of VRRP IPv4 interfaces) + (# of VRRP IPv6 interfaces) + (# of RSMLT interfaces) + 2(if IP Shortcuts is enabled) + 3 = cannot exceed 248

## IP Interface Maximums for 5520 Series

The maximum number of IP interfaces for 5520 Series is based on the following formulas:

- If you disable the VRF scaling boot configuration flag:
  - # IP interfaces (500 max) + (# of VRRP IPv4 interfaces) + (# of VRRP IPv6 interfaces) + (# of RSMLT interfaces) + 2(if IP Shortcuts is enabled) + 3x(# of VRFs) = cannot exceed 1000
- If you enable the VRF scaling boot configuration flag:
  - # IP interfaces (max 500) + (# of VRRP IPv4 interfaces) + (# of VRRP IPv6 interfaces) + (# of RSMLT interfaces) + 2(if IP Shortcuts is enabled) + 3 = cannot exceed 1000

## IP Interface Maximums for VSP 4900 Series

The maximum number of IP interfaces for VSP 4900 Series is based on the following formulas:

- If you disable the VRF scaling boot configuration flag:
  - = 500 - (# of VRRP IPv4 interfaces) - (# of VRRP IPv6 interfaces) - (# of RSMLT interfaces) - 2 (if IP Shortcuts is enabled) - 3x(# of VRFs)
- If you enable the VRF scaling boot configuration flag:
  - = 500 - (# of VRRP IPv4 interfaces) - (# of VRRP IPv6 interfaces) - (# of RSMLT interfaces) - 2 (if IP Shortcuts is enabled) - 3

## IP Interface Maximums for VSP 7200 Series, VSP 8200 Series, and VSP 8400 Series

The maximum number of IP interfaces for VSP 7200 Series, VSP 8200 Series, and VSP 8400 Series is based on the following formulas:

- If you disable the VRF scaling boot configuration flag:
  - = 505 - (# of VRRP IPv4 interfaces) - (# of VRRP IPv6 interfaces) - (# of RSMLT interfaces) - 2 (if IP Shortcuts is enabled) - 3x(# of VRFs)
- If you enable the VRF scaling boot configuration flag:
  - = 505 - (# of VRRP IPv4 interfaces) - (# of VRRP IPv6 interfaces) - (# of RSMLT interfaces) - 2 (if IP Shortcuts is enabled) - 3

## IP Interface Maximums for VSP 7400 Series

The maximum number of IP interfaces for VSP 7400 Series is based on the following formulas:

- If you disable the VRF scaling boot configuration flag:
  - = 1000 - (# of VRRP IPv4 interfaces) - (# of VRRP IPv6 interfaces) - (# of RSMLT interfaces) - 2 (if IP Shortcuts is enabled) - 3x(# of VRFs)
- If you enable the VRF scaling boot configuration flag:
  - = 1000 - (# of VRRP IPv4 interfaces) - (# of VRRP IPv6 interfaces) - (# of RSMLT interfaces) - 2 (if IP Shortcuts is enabled) - 3

## Layer 3 Route Table Size

**Table 32: Layer 3 Route Table Size Maximums**

Attribute	Maximum number supported
IPv4 RIP routes	See <a href="#">Route Scaling</a> on page 74.
IPv4 OSPF routes	
IPv4 BGP routes	
IPv4 SPB shortcut routes	
IPv4 SPB Layer 3 VSN routes	
IPv6 OSPFv3 routes - GRT only	
IPv6 SPB shortcut routes - GRT only	
IPv6 RIPng routes	

## Route Scaling

The following table provides information on IPv4 and IPv6 route scaling. The route table is a shared hardware resource where IPv4 routes consume one entry and IPv6 routes with a prefix length less than 64 consume two entries.

The route scaling does not depend on the protocol itself, but rather the general system limitation in the following configuration modes:

- URPF check mode - Enable this boot configuration flag to support Unicast Reverse Path Forwarding check mode.
- IPv6 mode - Enable this boot configuration flag to support IPv6 routes with prefix-lengths greater than 64 bits. When the IPv6-mode is enabled, the maximum number of IPv4 routing table entries decreases. This flag does not apply to all hardware platforms.

**Table 33: 5420 Series**

URPF mode	IPv6 mode	5420 Series		
		IPv4	IPv6 (prefix less than 64)	IPv6 (prefix greater than 64)
No	No	12,000	5890	n/a
No	Yes	5890	1800	1500
Yes	No	5890	2820	n/a
Yes	Yes	2820	770	750

**Note:**

The stated numbers in the preceding rows are one-dimensional where the given number implies that only routes for that address family or type are present. For a given row in the table, the maximum scaling number is 'x' IPv4 routes OR 'y' ipv6 <= 64 routes (not a combination of both).

**Table 34: 5520 Series**

URPF mode	IPv6 mode	5520 Series		
		IPv4	IPv6 (prefix less than 64)	IPv6 (prefix greater than 64)
No	No	15,500	7,750	n/a
No	Yes	7,500	3,750	2,000
Yes	No	7,500	3,500	n/a
Yes	Yes	3,500	1,750	1,000

**Note:**

The stated numbers in the preceding rows are one-dimensional where the given number implies that only routes for that address family or type are present. For a given row in the table, the maximum scaling number is 'x' IPv4 routes OR 'y' ipv6 <= 64 routes (not a combination of both).

**Table 35: VSP 4450 Series, VSP 4900 Series, VSP 7200 Series, and VSP 8000 Series**

URPF mode	IPv6 mode	VSP 4450 Series			VSP 7200 Series, VSP 4900 Series, and VSP 8000 Series		
		IPv4	IPv6		IPv4	IPv6	
			Prefix less than 64	Prefix greater than 64		Prefix less than 64	Prefix greater than 64
No	No	15,744	7,887	256	15,488	7,744	n/a
No	Yes	n/a	n/a	n/a	7,488	3,744	2,000
Yes	No	7,744	3,872	256	7,488	3,744	n/a

**Table 35: VSP 4450 Series, VSP 4900 Series, VSP 7200 Series, and VSP 8000 Series (continued)**

URPF mode	IPv6 mode	VSP 4450 Series			VSP 7200 Series, VSP 4900 Series, and VSP 8000 Series		
		IPv4	IPv6		IPv4	IPv6	
			Prefix less than 64	Prefix greater than 64		Prefix less than 64	Prefix greater than 64
Yes	Yes	n/a	n/a	n/a	3,488	1,744	2,000

**Note:**

The stated numbers in the preceding rows are one-dimensional where the given number implies that only routes for that address family or type are present. For a given row in the table, the maximum scaling number is 'x' IPv4 routes OR 'y' ipv6 <= 64 routes OR 'z' ipv6 >64 routes (not a combination of all).

**Table 36: VSP 7400 Series**

URPF mode	IPv6 mode	VSP 7400 Series		
		IPv4	IPv6	
			Prefix less than 64	Prefix greater than 64
No	No	15,000	7,000	n/a
No	Yes	7,000	3,500	2,000
Yes	No	7,000	3,500	n/a
Yes	Yes	3,000	1,500	1,000

**Note:**

The stated numbers in the preceding rows are one-dimensional where the given number implies that only routes for that address family or type are present. For a given row in the table, the maximum scaling number is 'x' IPv4 routes OR 'y' ipv6 <= 64 routes OR 'z' ipv6 >64 routes (not a combination of all).

**Table 37: XA1400 Series**

IPv4 BGP routes (control plane only)	15,488
IPv4 OSPF routes	15,488
IPv4 RIP routes	15,488
IPv4 routes	15,488
IPv4 SPB Shortcut routes	15,488

## IP Multicast

**Table 38: IP Multicast Maximums**

Attribute	Product	Maximum number supported
IGMP/MLD interfaces (IPv4/IPv6)	5420 Series	4000/2000
	5520 Series	4,059
	VSP 4450 Series	4,059
	VSP 4900 Series	4,059
	VSP 7200 Series	4,059
	VSP 7400 Series	4,059
	VSP 8000 Series	4,059
	XA1400 Series	n/a
PIM interfaces (IPv4/IPv6)	5420 Series	16 Active
	5520 Series	128 Active
	VSP 4450 Series	128 Active
	VSP 4900 Series	128 Active
	VSP 7200 Series	128 Active
	VSP 7400 Series	128 Active
	VSP 8000 Series	128 Active
	XA1400 Series	n/a
PIM Neighbors (IPv4/IPv6) (GRT Only)	5420 Series	16
	5520 Series	128
	VSP 4450 Series	128
	VSP 4900 Series	128
	VSP 7200 Series	128
	VSP 7400 Series	128
	VSP 8000 Series	128
	XA1400 Series	n/a
PIM-SSM static channels (IPv4/IPv6)	5420 Series	512
	5520 Series	4,000
	VSP 4450 Series	512
	VSP 4900 Series	4,000
	VSP 7200 Series	4,000
	VSP 7400 Series	4,000
	VSP 8000 Series	4,000
	XA1400 Series	n/a

**Table 38: IP Multicast Maximums (continued)**

Attribute	Product	Maximum number supported
Multicast receivers/IGMP joins (IPv4/IPv6) (per switch)	5420 Series	6,000
	5520 Series	6,000
	VSP 4450 Series	1,000
	VSP 4900 Series	6,000
	VSP 7200 Series	6,000
	VSP 7400 Series	6,000
	VSP 8000 Series	6,000
	XA1400 Series	n/a
Total multicast routes (S,G,V) (IPv4/IPv6) (per switch)	5420 Series	4,000
	5520 Series	4,000
	VSP 4450 Series	1,000
	VSP 4900 Series	6,000
	VSP 7200 Series	6,000
	VSP 7400 Series	6,000
	VSP 8000 Series	6,000
	XA1400 Series	n/a
Total multicast routes (S,G,V) (IPv4) on an SPB-PIM Gateway configured switch	5420 Series	n/a
	5520 Series	4,000
	VSP 4450 Series	1,000
	VSP 4900 Series	3,000
	VSP 7200 Series	3,000
	VSP 7400 Series	3,000
	VSP 8000 Series	3,000
	XA1400 Series	n/a
Static multicast routes (S,G,V) (IPv4/IPv6)	5420 Series	4,000
	5520 Series	4,000
	VSP 4450 Series	512
	VSP 4900 Series	4,000
	VSP 7200 Series	4,000
	VSP 7400 Series	4,000
	VSP 8000 Series	4,000
	XA1400 Series	n/a

**Table 38: IP Multicast Maximums (continued)**

Attribute	Product	Maximum number supported
Multicast enabled Layer 2 VSN (IPv4)	5420 Series	500
	5520 Series	2,000
	VSP 4450 Series	1,000
	VSP 4900 Series	2,000
	VSP 7200 Series	2,000
	VSP 7400 Series	2,000
	VSP 8000 Series	2,000
	XA1400 Series	n/a
Multicast enabled Layer 3 VSN (IPv4)	5420 Series	64
	5520 Series	256 including mgmt VRF and GRT
	VSP 4450 Series	128 including mgmt VRF and GRT
	VSP 4900 Series	256 including mgmt VRF and GRT
	VSP 7200 Series	256 including mgmt VRF and GRT
	VSP 7400 Series	256 including mgmt VRF and GRT
	VSP 8000 Series	256 including mgmt VRF and GRT
	XA1400 Series	n/a
SPB-PIM Gateway controller S,Gs (source announcements) with MSDP (IPv4)	5420 Series	n/a
	5520 Series	6,000
	VSP 4450 Series	6,000
	VSP 4900 Series	6,000
	VSP 7200 Series	6,000
	VSP 7400 Series	6,000
	VSP 8000 Series	6,000
	XA1400 Series	n/a

**Table 38: IP Multicast Maximums (continued)**

Attribute	Product	Maximum number supported
SPB-PIM Gateway controllers per SPB fabric (IPv4)	5420 Series	n/a
	5520 Series	5
	VSP 4450 Series	5
	VSP 4900 Series	5
	VSP 7200 Series	5
	VSP 7400 Series	5
	VSP 8000 Series	5
	XA1400 Series	n/a
SPB-PIM Gateway nodes per SPB fabric (IPv4)	5420 Series	n/a
	5520 Series	64
	VSP 4450 Series	64
	VSP 4900 Series	64
	VSP 7200 Series	64
	VSP 7400 Series	64
	VSP 8000 Series	64
	XA1400 Series	n/a
SPB-PIM Gateway interfaces per BEB (IPv4)	5420 Series	n/a
	5520 Series	64
	VSP 4450 Series	64
	VSP 4900 Series	64
	VSP 7200 Series	64
	VSP 7400 Series	64
	VSP 8000 Series	64
	XA1400 Series	n/a
PIM neighbors per SPB-PIM Gateway node (IPv4)	5420 Series	n/a
	5520 Series	64
	VSP 4450 Series	64
	VSP 4900 Series	64
	VSP 7200 Series	64
	VSP 7400 Series	64
	VSP 8000 Series	64
	XA1400 Series	n/a



## Distributed Virtual Routing (DvR)



### Note

Local hosts use ARP entries and remote hosts use host entries. For information on IP ARP scaling, see [IP Unicast](#) on page 60.

**Table 39: DvR Maximums**

Attribute	Product	Maximum number supported
<b>Note:</b> <ul style="list-style-type: none"> <li>On the DvR leaf, you must enable the VRF scaling boot configuration flag if more than 24 VRFs are required in the DvR domain.</li> <li>Scaling of the VSP 4450 Series controls the scaling of the DvR domain it is in. For example, if a VSP 4450 Series switch is in a DvR domain with other platforms such as VSP 7200 Series and VSP 8000 Series, the scaling of the entire domain is limited to the scaling of the VSP 4450 Series.</li> </ul>		
DvR Virtual IP interfaces	5420 Series	247 with VIST 248 without VIST
	5520 Series	499 with vIST 500 without vIST
	VSP 4450 Series	501 with vIST 502 without vIST
	VSP 4900 Series	499 with vIST 500 without vIST
	VSP 7200 Series	501 with vIST 502 without vIST
	VSP 7400 Series	999 with vIST 1,000 without vIST
	VSP 8000 Series	VSP 8404C = 499 with vIST 500 without vIST Other VSP 8000 Series platforms = 501 with vIST 502 without vIST
	XA1400 Series	n/a

**Table 39: DvR Maximums (continued)**

Attribute	Product	Maximum number supported
DvR domains per SPB fabric	5420 Series	16
	5520 Series	16
	VSP 4450 Series	16
	VSP 4900 Series	16
	VSP 7200 Series	16
	VSP 7400 Series	16
	VSP 8000 Series	16
	XA1400 Series	n/a
Controller nodes per DvR domain with default route inject flag enabled Total number of Controllers per domain cannot exceed 8.  <b>Note:</b> A DvR domain containing only Controller nodes and no Leaf nodes can have more than 8 Controllers per domain.	5420 Series	n/a
	5520 Series	8
	VSP 4450 Series	n/a
	VSP 4900 Series	8
	VSP 7200 Series	8
	VSP 7400 Series	8
	VSP 8000 Series	8
	XA1400 Series	n/a
Leaf nodes per DvR domain	5420 Series	250
	5520 Series	250
	VSP 4450 Series	250
	VSP 4900 Series	250
	VSP 7200 Series	250
	VSP 7400 Series	250
	VSP 8000 Series	250
	XA1400 Series	n/a

**Table 39: DvR Maximums (continued)**

Attribute	Product	Maximum number supported
DvR enabled Layer 2 VSNs	5420 Series	247 with vIST 248 without vIST
	5520 Series	499 with vIST 500 without vIST
	VSP 4450 Series	501 with vIST 502 without vIST
	VSP 4900 Series	501 with vIST 502 without vIST
	VSP 7200 Series	501 with vIST 502 without vIST
	VSP 7400 Series	999 with vIST 1,000 without vIST
	VSP 8000 Series	501 with vIST 502 without vIST
	XA1400 Series	n/a
DvR host route scaling per DvR domain (scaling number includes local as well as foreign hosts of the Layer 2 VSN that are members of the domain) If DvR Layer 2 VSNs span DvR domains, and all DvR Controllers have an IP interface on the Layer 2 VSNs, then the DvR host scaling is network-wide, as DvR Controllers will consume as many host routes as there are hosts across all DvR domains.	5420 Series	16,000 for 5420F Series models
		32,000 for 5420M Series models
	5520 Series	48,000
	VSP 4450 Series	6,000
	VSP 4900 Series	32,000
	VSP 7200 Series	32,000
	VSP 7400 Series	40,000
	VSP 8000 Series	32,000
XA1400 Series	n/a	

## VXLAN Gateway

**Table 40: VXLAN Gateway Maximums**

Attribute	Product	Maximum number supported
MAC addresses in base interworking mode	5420 Series	n/a
	5520 Series	n/a
	VSP 4450 Series	n/a
	VSP 4900 Series	n/a
	VSP 7200 Series	112,000
	VSP 7400 Series	80,000
	VSP 8000 Series	112,000
	XA1400 Series	n/a
MAC addresses in full interworking mode	5420 Series	n/a
	5520 Series	n/a
	VSP 4450 Series	n/a
	VSP 4900 Series	n/a
	VSP 7200 Series	74,000
	VSP 7400 Series	50,000
	VSP 8000 Series	74,000
	XA1400 Series	n/a
VNI IDs per node	5420 Series	n/a
	5520 Series	n/a
	VSP 4450 Series	n/a
	VSP 4900 Series	n/a
	VSP 7200 Series	2,000
	VSP 7400 Series	2,000
	VSP 8000 Series	VSP 8404C = 4,000 Other VSP 8000 Series platforms = 2,000
	XA1400 Series	n/a

**Table 40: VXLAN Gateway Maximums (continued)**

Attribute	Product	Maximum number supported
VTEP destinations per node or VTEP	5420 Series	n/a
	5520 Series	n/a
	VSP 4450 Series	n/a
	VSP 4900 Series	n/a
	VSP 7200 Series	500
	VSP 7400 Series	500
	VSP 8000 Series	500
	XA1400 Series	n/a

The following table provides maximum numbers for OVSDB protocol support for VXLAN Gateway.

**Table 41: OVSDB protocol support for VXLAN Gateway Maximums**

Attribute	Product	Maximum number supported
Maximum controllers to which a single VTEP switch can connect	5420 Series	n/a
	5520 Series	n/a
	VSP 4450 Series	n/a
	VSP 4900 Series	n/a
	VSP 7200 Series	3
	VSP 7400 Series	3
	VSP 8000 Series	3
	XA1400 Series	n/a

## Filters, QoS, and Security

**Table 42: Filters, QoS, and Security Maximums**

Attribute	Product	Maximum number supported
For more information, see <a href="#">Filter Scaling</a> on page 87.		
Total IPv4 Ingress rules/ACEs (Port/VLAN/InVSN based, Security/QoS filters)	5420 Series	1,024
	5520 Series	1,024 (512 security and 512 QoS)
	VSP 4450 Series	1,020
	VSP 4900 Series	1,536
	VSP 7200 Series	766
	VSP 7400 Series	1,536
	VSP 8000 Series	VSP 8404C = 3,070 Other VSP 8000 Series platforms = 766
	XA1400 Series	500
Total IPv4 Egress rules/ACEs (Port based, Security filters)	5420 Series	336 80 if you enable the <i>ipv6-egress-filter</i> boot configuration flag
	5520 Series	336 80 if you enable the <i>ipv6-egress-filter</i> boot configuration flag
	VSP 4450 Series	255 200 if you enable the <i>ipv6-egress-filter</i> boot configuration flag
	VSP 4900 Series	248
	VSP 7200 Series	248 200 if you enable the <i>ipv6-egress-filter</i> boot configuration flag
	VSP 7400 Series	783 271 if you enable the <i>ipv6-egress-filter</i> boot configuration flag
	VSP 8000 Series	VSP 8404 and VSP 8404C = 251 Other VSP 8000 Series platforms = 252 200 if you enable the <i>ipv6-egress-filter</i> boot configuration flag
	XA1400 Series	500

**Table 42: Filters, QoS, and Security Maximums (continued)**

Attribute	Product	Maximum number supported
Total IPv6 Ingress rules/ACEs (Port/VLAN/InVSN based, Security filters)	5420 Series	512
	5520 Series	512
	VSP 4450 Series	255
	VSP 4900 Series	1024
	VSP 7200 Series	256
	VSP 7400 Series	767
	VSP 8000 Series	VSP 8404 = 511 VSP 8404C = 2,047 Other VSP 8000 Series platforms = 256
	XA1400 Series	n/a
Total IPv6 egress rules/ACEs (Port based, Security filters)	5420 Series	256
	5520 Series	256
	VSP 4450 Series	256
	VSP 4900 Series	256
	VSP 7200 Series	256
	VSP 7400 Series	511
	VSP 8000 Series	256
	XA1400 Series	n/a
EAP and NEAP (clients per port)  <b>Note:</b> The total of EAP clients plus NEAP clients per port or per switch cannot exceed 8,192.	5420 Series	1024
	5520 Series	32 for EAP 8,192 for NEAP
	VSP 4450 Series	32 for EAP 8,192 for NEAP
	VSP 4900 Series	32 for EAP 8,192 for NEAP
	VSP 7200 Series	32 for EAP 8,192 for NEAP
	VSP 7400 Series	32 for EAP 8,192 for NEAP
	VSP 8000 Series	32 for EAP 8,192 for NEAP
	XA1400 Series	n/a

## Filter Scaling

This section provides more details on filter scaling numbers for the VOSS platforms.

*5420 Series*

The switch supports the following maximum limits:

- 512 non-IPv6 ingress ACLs (inPort, inVSN, or inVlan):
  - 512 ACLs with 1 security ACE each OR
  - 256 ACLs with 1 QoS ACE each OR
  - a combination based on the following rule:
    - $(\text{num ACLs} + \text{num security ACEs}) \leq 1024$  &&  $(\text{num ACLs} + \text{num QoS ACEs}) \leq 512$

This maximum implies a VLAN member count of 1 for inVlan ACLs

- 512 IPv6 ingress ACLs (inPort):
  - 512 ACLs with 1 security ACE each OR
  - a combination based on the following rule:
    - $(\text{num ACLs} + \text{num security ACEs}) \leq 512$
- 124 egress ACLs (outPort only):
  - 124 ACLs with 1 security ACE each (one of these ACLs can have 2 ACEs) OR
  - a combination based on the following rule:
    - $(\text{num ACLs} + \text{num ACEs}) \leq 248$

This maximum implies a port member count of 1 for outPort ACLs.

- 1024 ingress ACEs:

Theoretical maximum of 1024 implies 1 ingress ACL with 512 security ACEs and 512 QoS ACEs

- Ingress ACEs supported:  $(512 (\text{security}) - \# \text{ of ACLs}) + (512 (\text{QoS}) - \# \text{ of ACLs})$ .

This maximum also implies a VLAN member count of 1 for an inVlan ACL.

- 247 egress ACEs:

Theoretical maximum of 247 implies 1 egress ACL with 247 security ACEs

- Egress ACEs supported:  $248 - \# \text{ of ACLs}$ .

This maximum also implies a port member count of 1 for the outPort ACL.

*5520 Series*

The switch supports the following maximum limits:

- 512 non-IPv6 ingress ACLs (inPort, inVSN, or inVlan):
  - 512 ACLs with 1 security ACE each OR
  - 256 ACLs with 1 QoS ACE each OR
  - a combination based on the following rule:
    - $(\text{num ACLs} + \text{num security ACEs}) \leq 1024$  &&  $(\text{num ACLs} + \text{num QoS ACEs}) \leq 512$

This maximum implies a VLAN member count of 1 for inVlan ACLs

- 512 IPv6 ingress ACLs (inPort):
  - 512 ACLs with 1 security ACE each OR



- a combination based on the following rule:
  - (num ACLs + num security ACEs) <= 512
- 124 egress ACLs (outPort only):
  - 124 ACLs with 1 security ACE each (one of these ACLs can have 2 ACEs) OR
  - a combination based on the following rule:
    - (num ACLs + num ACEs) <= 248

This maximum implies a port member count of 1 for outPort ACLs.

- 1024 ingress ACEs:

Theoretical maximum of 1024 implies 1 ingress ACL with 512 security ACEs and 512 QoS ACEs

- Ingress ACEs supported: (512 (security) - # of ACLs) + (512 (QoS) - # of ACLs).

This maximum also implies a VLAN member count of 1 for an inVlan ACL.

- 247 egress ACEs:

Theoretical maximum of 247 implies 1 egress ACL with 247 security ACEs

- Egress ACEs supported: 248 - # of ACLs.

This maximum also implies a port member count of 1 for the outPort ACL.

#### *VSP 4450 Series*

The switch supports the following maximum limits:

- 220 IPv4 ingress ACLs
- 50 IPv4 egress ACLs
- 128 IPv6 ingress ACLs
- 1,020 IPv4 ingress ACEs
- 252 IPv4 egress ACEs
- 255 IPv6 ingress ACEs
- 255 IPv6 egress ACEs

The switch supports the following maximum limits regarding ingress ACLs (inPort or inVlan):

256 ( InPort security ACE + ACL) + 256 (inVlan security ACE +ACL) + 256 (inPort QoS ACE + ACL) + 256 (inVlan QoS ACE + ACL)

#### *VSP 4900 Series*

The switch supports the following maximum limits:

- 512 non-IPv6 ingress ACLs (inPort, inVSN, or inVlan):
  - 512 ACLs with 1 security ACE each OR
  - 256 ACLs with 1 QoS ACE each OR
  - a combination based on the following rule:
    - ((num ACLs + num security ACEs) <= 1024) && ((num ACLs + num QoS ACEs) <= 512)

This maximum implies a VLAN member count of 1 for inVlan ACLs

- 512 IPv6 ingress ACLs (inPort):
  - 512 ACLs with 1 security ACE each OR
  - a combination based on the following rule:
    - $(\text{num ACLs} + \text{num security ACEs}) \leq 512$
- 124 egress ACLs (outPort only):
  - 124 ACLs with 1 security ACE each (one of these ACLs can have 2 ACEs) OR
  - a combination based on the following rule:
    - $(\text{num ACLs} + \text{num ACEs}) \leq 248$

This maximum implies a port member count of 1 for outPort ACLs.

- 1534 ingress ACEs:

Theoretical maximum of 1534 implies 1 ingress ACL with 1023 security ACEs and 511 QoS ACEs

- Ingress ACEs supported:  $(1024 (\text{security}) - \# \text{ of ACLs}) + (512 (\text{QoS}) - \# \text{ of ACLs})$ .

This maximum also implies a VLAN member count of 1 for an inVlan ACL.

- 247 egress ACEs:

Theoretical maximum of 247 implies 1 egress ACL with 247 security ACEs

- Egress ACEs supported:  $248 - \# \text{ of ACLs}$ .

This maximum also implies a port member count of 1 for the outPort ACL.

### *VSP 7400 Series*

The switch supports the following maximum limits for ACL scaling:

- 512 non-IPv6 ingress ACLs (inPort or inVlan):
  - 256 ACLs with 1 Security ACE each + 256 ACLs with 1 QoS ACE each OR
  - 384 ACLs with 1 Security ACE each and/or 1 QoS ACE each OR
  - a combination based on the following rule:
    - $\text{num ACLs} \leq 512 \ \&\& \ (\text{num ACLs} + \text{num Security ACEs}) \leq 512 \ \&\& \ (\text{num ACLs} + \text{num QoS ACEs}) \leq (512 - X)$  where  $X = \text{num IPv6 ACLs} + \text{num IPv6 ACEs}$

This maximum implies a single port on inPort ACLs, and a single VLAN on inVlan ACLs.

- 384 IPv6 ingress ACLs (inPort):
  - 384 IPv6 ACLs with 1 Security ACE each OR
  - A combination based on the following rule:
    - $\text{num IPv6 ACLs} \leq 384 \ \&\& \ (\text{num IPv6 ACLs} + \text{num Security ACEs}) \leq (768 - X)$  where  $X = \text{num non-IPv6 ACLs} + \text{num non-IPv6 QoS ACEs}$

This maximum implies a single port on inPort ACLs.

- 254 non-IPv6 egress ACLs (outPort):
  - 254 ACLs with 1 Security ACE each OR
    - A combination based on the following rule:
      - $\text{num ACLs} \leq 254 \ \&\& \ (\text{num ACLs} + \text{num Security ACEs}) \leq 508$

This maximum implies a single port on outPort ACLs.

- 256 IPv6 Egress ACLs (outPort):
  - 256 ACLs with 1 Security ACE each OR
  - A combination based on the following rule:
    - $\text{num ACLs} \leq 256 \ \&\& \ (\text{num ACLs} + \text{num Security ACEs}) \leq 512$

This maximum implies a single port on outPort ACLs.

The switch supports the following maximum limits for ACE scaling:

- 1,536 non-IPv6 ingress ACEs

This theoretical maximum implies

- 1 non-IPv6 ingress ACL with 768 Security ACEs and 768 QoS ACEs
- no IPv6 ACLs configured
- a single port on inPort ACLs, and a single VLAN on inVLAN ACLs
- 768 IPv6 ingress ACEs

This theoretical maximum implies

- 1 IPv6 ingress ACL with 768 Security ACEs
- no non-IPv6 ACLs configured
- a port member count of 1 for inPort ACLs
- 783 non-IPv6 egress ACEs.

This theoretical maximum implies

- 1 egress ACL with 783 Security ACEs
- a port member count of 1 for outPort ACLs
- Non IPv6 egress ACEs supported:  $784 - \text{num non-IPv6 egress ACLs}$
- 511 IPv6 egress ACEs

This theoretical maximum implies

- 1 egress ACL with 511 Security ACEs
- a port member count of 1 for outPort ACLs
- $511 - \text{num IPv6 egress ACLs}$

*VSP 7200 Series, VSP 8200 Series, and VSP 8404*

The switch supports the following maximum limits:

- 256 non-IPv6 ingress ACLs (inPort, inVSN, or inVlan):
  - 256 ACLs with 1 security ACE each OR
  - 128 ACLs with 1 QoS ACE each OR

- a combination based on the following rule:
  - $(\text{num ACLs} + \text{num security ACEs}) \leq 512$  &&  $(\text{num ACLs} + \text{num QoS ACEs}) \leq 256$

This maximum implies a VLAN member count of 1 for inVlan ACLs

- 256 IPv6 ingress ACLs (inPort,):
  - 256 ACLs with 1 security ACE each OR
  - 256 ACLs with 1 QoS ACE each OR
  - a combination based on the following rule:
    - $(\text{num ACLs} + \text{num security ACEs}) \leq 256$
- 124 egress ACLs (outPort only):
  - 124 ACLs with 1 security ACE each (one of these ACLs can have 2 ACEs)

This maximum implies a port member count of 1 for outPort ACLs.

- 766 ingress ACEs:

Theoretical maximum of 766 implies 1 ingress ACL with 511 security ACEs and 255 QoS ACEs

- Ingress ACEs supported:  $(512 (\text{security}) - \# \text{ of ACLs}) + (256(\text{QoS}) - \# \text{ of ACLs})$ .

This maximum also implies a VLAN member count of 1 for an inVlan ACL.

- 252 egress ACEs:

Theoretical maximum of 252 implies 1 egress ACL with 252 security ACEs

- Egress ACEs supported:  $253 - \# \text{ of ACLs}$ .

This maximum also implies a port member count of 1 for the outPort ACL.

### VSP 8404C

The switch supports a maximum 3,070 non-IPv6 ingress ACEs, 2,047 IPv6 ingress ACEs, and 251 non-IPv6 egress ACEs.

IPv6 ingress and IPv6 egress QoS ACL/Filters are not supported. If you disable an ACL, the ACL state affects the administrative state of all of the ACEs within it.

The switch supports the following maximum limits for ACL scaling:

- 1,024 non-IPv6 ingress ACLs (inPort, inVlan, or InVSN):
  - 1,024 ACLs with 1 security ACE each OR
  - a combination based on the following rule:
    - $\text{num of ACLs} \leq 1,024$  AND  $(\text{num of ACLs} + \text{Security ACEs}) \leq 2,048$  AND  $(\text{num of ACLs} + \text{QoS ACEs}) \leq 1,024$

This maximum implies a VLAN member count of 1 for inVlan ACLs.

- 1,024 IPv6 ingress ACLs (inPort):
  - 1,024 IPv6 ACLs with 1 security ACE each OR
  - a combination based on the following rule:
    - $\text{num of IPv6 ACLs} \leq 1,024$  AND  $(\text{num of IPv6 ACLs} + \text{Security ACEs}) \leq 2,048$

- 126 non-IPv6 egress ACLs (outPort):
  - 126 ACLs with 1 Security ACE each OR
  - a combination based on the following rule:
    - $\text{num ACLs} \leq 126 \text{ AND } \text{num ACLs} + \text{num security ACEs} \leq 252$

This maximum implies a port member counter of 1 for outPort ACLs.

The switch supports the following maximum limits for ACE scaling:

- 3,070 non-IPv6 ingress ACEs:

The theoretical maximum implies the following configuration:

- 1 non-IPv6 ingress ACL with 2,047 security ACEs and 1,023 QoS ACEs
- a VLAN member count of 1 for inVlan ACLs
- Non-IPv6 Ingress ACEs supported:  $[2,048(\text{security}) - (\text{num of ACLs})] + [1,024(\text{QoS}) - (\text{num of ACLs})]$
- 2,047 IPv6 ingress ACEs:

The theoretical maximum implies the following configuration:

- 1 IPv6 ingress ACL with 2,047 security ACEs
- IPv6 Ingress ACEs supported:  $[2,048(\text{security}) - (\text{num of ACLs})]$
- 251 non-IPv6 egress ACEs:

The theoretical maximum implies the following configuration:

- 1 egress ACL with 251 security ACEs
- a port member count of 1 for outPort ACLs
- Non IPv6 egress ACEs supported:  $252 - (\text{num egress ACLs})$

#### *XA1400 Series*

The switch supports the following maximum limits:

- 500 IPv4 ingress ACLs
- 500 IPv4 egress ACLs
- 500 IPv4 ingress ACEs
- 500 IPv4 egress ACEs

#### *Routed Private VLANs/E-TREES Scaling*

The number of private VLANs that you configure with an IP address influences the IPv4 Egress ACE count.

The following table lists scaling limits for Routed Private VLANs/E-TREES. Limits are not enforced; either number of private VLANs or number of private VLAN trunk ports can go beyond the recommended values.

**Table 43: Routed Private VLANs/E-TREES Maximums**

	Private VLAN trunk ports	Routed PVLANS/E-TREES	IPv4 Egress ACE rules available (No IPv6 egress filter bootflag enabled)	IPv4 Egress ACE rules available (With IPv6 egress filter bootflag enabled)
5420 Series	4	10	349	93
5520 Series	4	10	285	29
VSP 4900 Series	4	30	97	49
VSP 7200 Series	4	10	147	99
VSP 7400 Series	4	50	532	20
VSP 8200 Series	4	10	181	129
VSP 8400 Series	4	10	181	129

Use the **show io resources filter** command to verify remaining resources. This command displays the following information:

- resources consumed by Routed Private VLANs
- free entries available for either IPv4 Egress ACEs or private VLANs

The following example output displays resource usage on a VSP 7400 Series for ten Routed Private VLANs with four private trunk members each.

```
Switch:1>show io resources filter
=====
                        FILTER TABLE
=====
ACL Filter Resource Manager stats
-----
BCM CAP Group: | ICAP_SEC | ICAP_QOS | ICAP_IPv6 | ECAP_SEC | ECAP_IPv6
Group Mode:   | Double  | Triple  | Triple    | Double   | Double
-----
Total Entries : | 767    | 767    | 767      | 782     | 512
Free Entries  : | 767    | 767    | 767      | 732     | 512
In Use       : | 0      | 0      | 0        | 50      | 0
Filter table:
-----
ACL |          |Port/Vlan| Sec | QoS | All |
ID | Flags  | Members | ACE's | ACE's | ACE's | Type
-----
Filter resources used by other features:
-----
Feature | Type | Number of entries |
-----
Pvlan  | ECAP | 50                |
-----
```

## OAM and Diagnostics

**Table 44: OAM and Diagnostics Maximums**

Attribute	Product	Maximum number supported
EDM sessions	5420 Series	5
	5520 Series	5
	VSP 4450 Series	5
	VSP 4900 Series	5
	VSP 7200 Series	5
	VSP 7400 Series	5
	VSP 8000 Series	5
	XA1400 Series	5
FTP sessions (IPv4/IPv6)	5420 Series	8 8 total (4 for IPv4 and 4 for IPv6)
	5520 Series	8 total (4 for IPv4 and 4 for IPv6)
	VSP 4450 Series	8 total (4 for IPv4 and 4 for IPv6)
	VSP 4900 Series	8 total (4 for IPv4 and 4 for IPv6)
	VSP 7200 Series	8 total (4 for IPv4 and 4 for IPv6)
	VSP 7400 Series	8 total (4 for IPv4 and 4 for IPv6)
	VSP 8000 Series	8 total (4 for IPv4 and 4 for IPv6)
	XA1400 Series	4 (IPv4 only)

**Table 44: OAM and Diagnostics Maximums (continued)**

Attribute	Product	Maximum number supported
SSH sessions (IPv4/IPv6)	5420 Series	8 8 total (any combination of IPv4 and IPv6)
	5520 Series	8 total (any combination of IPv4 and IPv6)
	VSP 4450 Series	8 total (any combination of IPv4 and IPv6)
	VSP 4900 Series	8 total (any combination of IPv4 and IPv6)
	VSP 7200 Series	8 total (any combination of IPv4 and IPv6)
	VSP 7400 Series	8 total (any combination of IPv4 and IPv6)
	VSP 8000 Series	8 total (any combination of IPv4 and IPv6)
	XA1400 Series	8 (IPv4 only)
Telnet sessions (IPv4/IPv6)	5420 Series	16 16 total (8 for IPv4 and 8 for IPv6)
	5520 Series	16 total (8 for IPv4 and 8 for IPv6)
	VSP 4450 Series	16 total (8 for IPv4 and 8 for IPv6)
	VSP 4900 Series	16 total (8 for IPv4 and 8 for IPv6)
	VSP 7200 Series	16 total (8 for IPv4 and 8 for IPv6)
	VSP 7400 Series	16 total (8 for IPv4 and 8 for IPv6)
	VSP 8000 Series	16 total (8 for IPv4 and 8 for IPv6)
	XA1400 Series	8 (IPv4 only)



**Table 44: OAM and Diagnostics Maximums (continued)**

Attribute	Product	Maximum number supported
TFTP sessions (IPv4/IPv6)	5420 Series	2 total (any combination of IPv4 and IPv6)
	5520 Series	2 total (any combination of IPv4 and IPv6)
	VSP 4450 Series	2 total (any combination of IPv4 and IPv6)
	VSP 4900 Series	2 total (any combination of IPv4 and IPv6)
	VSP 7200 Series	2 total (any combination of IPv4 and IPv6)
	VSP 7400 Series	2 total (any combination of IPv4 and IPv6)
	VSP 8000 Series	2 total (any combination of IPv4 and IPv6)
	XA1400 Series	n/a
Mirrored ports (source)	5420 Series	56
	5520 Series	48-port models: 47 (up to 58 with channelization) 24-port models: 23 (up to 34 with channelization)
	VSP 4450 Series	49
	VSP 4900 Series	51 (52 ports per chassis, 48 fixed ports plus up to 4 ports on the VIMs)
	VSP 7200 Series	53 (up to 71 with channelization)
	VSP 7400 Series	31 (up to 125 with channelization) with Advanced Feature Bandwidth Reservation configured in Full Port mode
	VSP 8000 Series	83 (up to 95 with channelization)
	XA1400 Series	7

**Table 44: OAM and Diagnostics Maximums (continued)**

Attribute	Product	Maximum number supported
Mirroring ports (destination)	5420 Series	4
	5520 Series	4
	VSP 4450 Series	4
	VSP 4900 Series	4
	VSP 7200 Series	4
	VSP 7400 Series	4
	VSP 8000 Series	4
	XA1400 Series	4
Fabric RSPAN Port mirror instances per switch (Ingress only)	5420 Series	Port mirror sessions can be mapped to 24 unique I-SID offsets for Ingress Mirror. Only one I-SID offset for Egress Mirror.
	5520 Series	Port mirror sessions can be mapped to 24 unique I-SID offsets for Ingress Mirror. Only one I-SID offset for Egress Mirror.
	VSP 4450 Series	Port mirror sessions can be mapped to 24 unique I-SID offsets for Ingress Mirror. Only one I-SID offset for Egress Mirror.
	VSP 4900 Series	Port mirror sessions can be mapped to 24 unique I-SID offsets for Ingress Mirror. Only one I-SID offset for Egress Mirror.
	VSP 7200 Series	Port mirror sessions can be mapped to 24 unique I-SID offsets for Ingress Mirror. Only one I-SID offset for Egress Mirror.
	VSP 7400 Series	Port mirror sessions can be mapped to 24 unique I-SID offsets for Ingress Mirror. Only one I-SID offset for Egress Mirror.
	VSP 8000 Series	Port mirror sessions can be mapped to 24 unique I-SID offsets for Ingress Mirror. Only one I-SID offset for Egress Mirror.
	XA1400 Series	n/a

**Table 44: OAM and Diagnostics Maximums (continued)**

Attribute	Product	Maximum number supported
Fabric RSPAN Flow mirror instances per switch (Ingress only)	5420 Series	Filter ACL ACE sessions can be mapped to 24 unique I-SID offsets.
	5520 Series	Filter ACL ACE sessions can be mapped to 24 unique I-SID offsets.
	VSP 4450 Series	Filter ACL ACE sessions can be mapped to only 1 mirror I-SID offset.
	VSP 4900 Series	Filter ACL ACE sessions can be mapped to 24 unique I-SID offsets.
	VSP 7200 Series	Filter ACL ACE sessions can be mapped to 24 unique I-SID offsets.
	VSP 7400 Series	Filter ACL ACE sessions can be mapped to 24 unique I-SID offsets.
	VSP 8000 Series	Filter ACL ACE sessions can be mapped to 24 unique I-SID offsets.
	XA1400 Series	n/a
Fabric RSPAN Monitoring I-SIDs (network value)	5420 Series	500 Monitoring I-SIDs across SPB network
	5520 Series	1,000 Monitoring I-SIDs across SPB network
	VSP 4450 Series	1,000 Monitoring I-SIDs across SPB network
	VSP 4900 Series	1,000 Monitoring I-SIDs across SPB network
	VSP 7200 Series	1,000 Monitoring I-SIDs across SPB network
	VSP 7400 Series	1,000 Monitoring I-SIDs across SPB network
	VSP 8000 Series	1,000 Monitoring I-SIDs across SPB network
	XA1400 Series	n/a

**Table 44: OAM and Diagnostics Maximums (continued)**

Attribute	Product	Maximum number supported
sFlow sampling limit	5420 Series	3,100 samples per second
	5520 Series	3,100 samples per second
	VSP 4450 Series	125 samples per second
	VSP 4900 Series	3,100 samples per second
	VSP 7200 Series	3,100 samples per second
	VSP 7400 Series	9,000 samples per second
	VSP 8000 Series	3,100 samples per second
	XA1400 Series	n/a
IPFIX flows	5420 Series	9,000
	5520 Series	36,863
	VSP 4450 Series	n/a
	VSP 4900 Series	n/a
	VSP 7200 Series	n/a
	VSP 7400 Series	32,767
	VSP 8000 Series	n/a
	XA1400 Series	n/a
Application Telemetry host monitoring - maximum number of monitored hosts  <b>Note:</b> These resources are shared with the IPv4 Filter Ingress rules/ACEs.	5420 Series	382 hosts
	5520 Series	382 hosts
	VSP 4450 Series	509 hosts
	VSP 4900 Series	382 hosts
	VSP 7200 Series	382 hosts
	VSP 7400 Series	767 hosts
	VSP 8000 Series	VSP 8404C = 1,534 hosts Other VSP 8000 Series platforms = 382 hosts
	XA1400 Series	n/a

## Extreme Integrated Application Hosting Scaling



### Note

The scaling attributes in this section do not apply to the following products:

- 5420 Series
- 5520 Series
- VSP 4450 Series
- VSP 7200 Series
- VSP 8200 Series
- VSP 8400 Series
- XA1400 Series

**Table 45: Extreme Integrated Application Hosting (IAH) Maximums**

Attribute	Product	Maximum number supported
Simultaneous Virtual Machines	VSP 4900 Series	Not supported
	VSP 7400 Series	6
CPU cores available to VMs	VSP 4900 Series	2
	VSP 7400 Series	6
Memory available to VMs	VSP 4900 Series	4 GB
	VSP 7400 Series	12 GB
Storage available to VMs	VSP 4900 Series	104 GB of 120 modular SSD
	VSP 7400 Series	100 GB
Total SRIOV vports available to VMs	VSP 4900 Series	16
	VSP 7400 Series	16
Vports available to single VM	VSP 4900 Series	16
	VSP 7400 Series	16

## Fabric Scaling

This section lists the fabric scaling information.

**Table 46: Fabric Maximums**

Attribute	Product	Maximum number supported (with and without vIST)
Number of SPB IS-IS areas	5420 Series	1
	5520 Series	1
	VSP 4450 Series	1
	VSP 4900 Series	1
	VSP 7200 Series	1
	VSP 7400 Series as Interior Node	1
	VSP 7400 Series as Boundary Node	2
	VSP 8000 Series	1
	XA1400 Series	1
Number of B-VIDs	5420 Series	2
	5520 Series	2
	VSP 4450 Series	2
	VSP 4900 Series	2
	VSP 7200 Series	2
	VSP 7400 Series	2
	VSP 8000 Series	2
	XA1400 Series	2
Maximum number of Physical and Logical (Fabric Extend) NNI interfaces/adjacencies (Home and Remote area total when operating as Boundary Node)	5420 Series	50
	5520 Series	128
	VSP 4450 Series	255
	VSP 4900 Series	255, of which 64 can be with IPsec using Fabric IPsec Gateway
	VSP 7200 Series	255
	VSP 7400 Series	255, of which 64 can be with IPsec using Fabric IPsec Gateway
	VSP 8000 Series	255
	XA1400 Series	255, of which 64 can be with IPsec

**Table 46: Fabric Maximums (continued)**

Attribute	Product	Maximum number supported (with and without vIST)
SPBM enabled nodes per area (BEB + BCB)	5420 Series	800
	5520 Series	800
	VSP 4450 Series	550
	VSP 4900 Series	800
	VSP 7200 Series	800
	VSP 7400 Series as Interior Node	2,000
	VSP 7400 Series as Boundary Node	500 per area
	VSP 8000 Series	800
	XA1400 Series	550
Number of BEBs this node can share services with (Layer 2 VSNs, Layer 3 VSNs, E-Tree, Multicast, Transparent Port UNI).  <b>Note:</b> vIST clusters are counted as 3 nodes. Each Fabric Extend IS-IS adjacency or VXLAN remote VTEP reduces this number by 1.	5420 Series	500
	5520 Series	800
	VSP 4450 Series	500
	VSP 4900 Series	500
	VSP 7200 Series	500
	VSP 7400 Series	2,000
	VSP 8000 Series	500
	XA1400 Series	n/a
Maximum number of vIST/IST clusters this node can share I-SIDs with	5420 Series	500
	5520 Series	800
	VSP 4450 Series	500
	VSP 4900 Series	330
	VSP 7200 Series	330
	VSP 7400 Series	1,330
	VSP 8000 Series	330
	XA1400 Series	n/a

**Table 46: Fabric Maximums (continued)**

Attribute	Product	Maximum number supported (with and without vIST)
I-SIDs supported (local UNI present on device)	5420 Series	See <a href="#">Number of I-SIDs supported</a>
	5520 Series	See <a href="#">Number of I-SIDs supported</a>
	VSP 4450 Series	See <a href="#">Number of I-SIDs supported</a>
	VSP 4900 Series	See <a href="#">Number of I-SIDs supported</a>
	VSP 7200 Series	See <a href="#">Number of I-SIDs supported</a>
	VSP 7400 Series	See <a href="#">Number of I-SIDs supported</a>
	VSP 8000 Series	See <a href="#">Number of I-SIDs supported</a>
	XA1400 Series	See <a href="#">Number of I-SIDs supported</a>
I-SIDs supported on Boundary Nodes (no local UNI present on device)	5420 Series	n/a
	5520 Series	n/a
	VSP 4450 Series	n/a
	VSP 4900 Series	n/a
	VSP 7200 Series	n/a
	VSP 7400 Series as Boundary Node	9,600
	VSP 8000 Series	n/a
	XA1400 Series	n/a
Maximum number of Layer 2 VSNs per switch (local UNI present on device)	5420 Series	500
	5520 Series	3,580
	VSP 4450 Series	1,000
	VSP 4900 Series	4,059
	VSP 7200 Series	4,059
	VSP 7400 Series	4,000
	VSP 8000 Series	4,059
	XA1400 Series	124



**Table 46: Fabric Maximums (continued)**

Attribute	Product	Maximum number supported (with and without vIST)
Maximum number of inter-area redistributed Layer 2 VSNs (no local UNI present on Boundary Node)	5420 Series	n/a
	5520 Series	n/a
	VSP 4450 Series	n/a
	VSP 4900 Series	n/a
	VSP 7200 Series	n/a
	VSP 7400 Series as Boundary Node	9,600
	VSP 8000 Series	n/a
	XA1400 Series	n/a
Maximum number of Switched UNI I-SIDs per switch	5420 Series	See <a href="#">Number of I-SIDs supported</a>
	5520 Series	See <a href="#">Number of I-SIDs supported</a>
	VSP 4450 Series	See <a href="#">Number of I-SIDs supported</a>
	VSP 4900 Series	See <a href="#">Number of I-SIDs supported</a>
	VSP 7200 Series	See <a href="#">Number of I-SIDs supported</a>
	VSP 7400 Series	See <a href="#">Number of I-SIDs supported</a>
	VSP 8000 Series	See <a href="#">Number of I-SIDs supported</a>
	XA1400 Series	n/a

**Table 46: Fabric Maximums (continued)**

Attribute	Product	Maximum number supported (with and without vIST)
Maximum number of Transparent Port UNIs per switch	5420 Series	56
	5520 Series	48-port models: 48 24-port models: 24
	VSP 4450 Series	48
	VSP 4900 Series	52
	VSP 7200 Series	54 (up to 72 with channelization)
	VSP 7400 Series	VSP 7432CQ = 30 (up to 120 with channelization) configured in Full Port mode VSP 7400-48Y = 54 configured in Full Port mode
	VSP 8000 Series	84 (up to 96 with channelization)
	XA1400 Series	n/a
Maximum number of E-Tree PVLAN UNIs per switch	5420 Series	100
	5520 Series	200
	VSP 4450 Series	200
	VSP 4900 Series	200
	VSP 7200 Series	200
	VSP 7400 Series	200
	VSP 8000 Series	VSP 8404C = 400 Other VSP 8000 Series platforms = 200
	XA1400 Series	n/a

**Table 46: Fabric Maximums (continued)**

Attribute	Product	Maximum number supported (with and without vIST)
Maximum number of Layer 3 VSNs per switch See <a href="#">VRF Scaling</a> on page 113.	5420 Series	64
	5520 Series	256 including mgmt VRF and GRT
	VSP 4450 Series	128 including mgmt VRF and GRT
	VSP 4900 Series	256 including mgmt VRF and GRT
	VSP 7200 Series	256 including mgmt VRF and GRT
	VSP 7400 Series	256 including mgmt VRF and GRT
	VSP 8000 Series	256 including mgmt VRF and GRT
Maximum number of SPB Layer 2 multicast UNI I-SIDs	5420 Series	500 originated 800 terminated
	5520 Series	See <a href="#">Number of I-SIDs supported</a>
	VSP 4450 Series	See <a href="#">Number of I-SIDs supported</a>
	VSP 4900 Series	See <a href="#">Number of I-SIDs supported</a>
	VSP 7200 Series	See <a href="#">Number of I-SIDs supported</a>
	VSP 7400 Series	See <a href="#">Number of I-SIDs supported</a>
	VSP 8000 Series	See <a href="#">Number of I-SIDs supported</a>
	XA1400 Series	n/a

**Table 46: Fabric Maximums (continued)**

Attribute	Product	Maximum number supported (with and without vIST)
Maximum number of SPB Layer 3 multicast UNI I-SIDs	5420 Series	500 originated 800 terminated
	5520 Series	Maximum 4,000 for a BEB: Due to internal resource sharing IP Multicast scaling depends on network topology. Switch will issue warning when 85 and 90% of available resources are reached.
	VSP 4450 Series	Maximum 1,000 for a BEB: Due to internal resource sharing IP Multicast scaling depends on network topology. Switch will issue warning when 85 and 90% of available resources are reached.
	VSP 4900 Series	Maximum 6,000 for a BEB: Due to internal resource sharing IP Multicast scaling depends on network topology. Switch will issue warning when 85 and 90% of available resources are reached.
	VSP 7200 Series	Maximum 6,000 for a BEB: Due to internal resource sharing IP Multicast scaling depends on network topology. Switch will issue warning when 85 and 90% of available resources are reached.
	VSP 7400 Series	Maximum 6,000 for a BEB: Due to internal resource sharing IP Multicast scaling depends on network topology. Switch will issue warning when 85 and 90% of available resources are reached.
	VSP 8000 Series	Maximum 6,000 for a BEB: Due to internal

**Table 46: Fabric Maximums (continued)**

Attribute	Product	Maximum number supported (with and without vIST)
		resource sharing IP Multicast scaling depends on network topology. Switch will issue warning when 85 and 90% of available resources are reached.
	XA1400 Series	n/a
Maximum number of FA ISID/VLAN assignments per port	5420 Series	94
	5520 Series	94
	VSP 4450 Series	94
	VSP 4900 Series	94
	VSP 7200 Series	94
	VSP 7400 Series	94
	VSP 8000 Series	94
Maximum number of IP multicast S,Gs when operating as a BCB (intra-area)	5420 Series	16,000
	5520 Series	16,000
	VSP 4450 Series	1,000
	VSP 4900 Series	16,000
	VSP 7200 Series	16,000
	VSP 7400 Series	50,000
	VSP 8000 Series	16,000
Maximum number of IP multicast S,Gs when operating as a Boundary Node (inter-area)	5420 Series	n/a
	5520 Series	n/a
	VSP 4450 Series	n/a
	VSP 4900 Series	n/a
	VSP 7200 Series	n/a
	VSP 7400 Series as Boundary Node	4,800
	VSP 8000 Series	n/a
	XA1400 Series	n/a

## Number of I-SIDs Supported for the Number of Configured IS-IS Interfaces and Adjacencies (NNIs)

The number of I-SIDs supported depends on the number of IS-IS interfaces and adjacencies (NNIs) configured.

The following table shows the number of UNI I-SIDs supported per BEB. UNI I-SIDs are used for Layer 2 VSN, Layer 3 VSN, Transparent-UNI, E-Tree, Switched-UNI and S, G for Multicast.

Number of IS-IS interfaces (NNIs)	Product	I-SIDs with vIST configured on the platform	I-SIDs without vIST configured on the platform
4	5420 Series	564	564
	5520 Series	4,000	4,000
	VSP 4450 Series	1,000	1,000
	VSP 4900 Series	4,000	4,000
	VSP 7200 Series	4,000	4,000
	VSP 7400 Series	4,000	4,000
	VSP 8000 Series	4,000	4,000
	XA1400 Series	n/a	150
6	5420 Series	564	564
	5520 Series	3,500	4,000
	VSP 4450 Series	1,000	1,000
	VSP 4900 Series	3,500	4,000
	VSP 7200 Series	3,500	4,000
	VSP 7400 Series	3,500	4,000
	VSP 8000 Series	3,500	4,000
	XA1400 Series	n/a	150
10	5420 Series	564	564
	5520 Series	2,900	4,000
	VSP 4450 Series	650	1,000
	VSP 4900 Series	2,900	4,000
	VSP 7200 Series	2,900	4,000
	VSP 7400 Series	2,900	4,000
	VSP 8000 Series	2,900	4,000
	XA1400 Series	n/a	150

Number of IS-IS interfaces (NNIs)	Product	I-SIDs with vIST configured on the platform	I-SIDs without vIST configured on the platform
20	5420 Series	564	564
	5520 Series	2,000	4,000
	VSP 4450 Series	350	700
	VSP 4900 Series	2,000	4,000
	VSP 7200 Series	2,000	4,000
	VSP 7400 Series	2,000	4,000
	VSP 8000 Series	2,000	4,000
	XA1400 Series	n/a	150
48	5420 Series	564	564
	5520 Series	1,000	2,000
	VSP 4450 Series	n/a	n/a
	VSP 4900 Series	1,000	2,000
	VSP 7200 Series	1,000	2,000
	VSP 7400 Series	1,000	2,000
	VSP 8000 Series	1,000	2,000
	XA1400 Series	n/a	150
72	5420 Series	n/a	n/a
	5520 Series	750	1,500
	VSP 4450 Series	n/a	n/a
	VSP 4900 Series	750	1,500
	VSP 7200 Series	750	1,500
	VSP 7400 Series	750	1,500
	VSP 8000 Series	750	1,500
	XA1400 Series	n/a	150
100	5420 Series	n/a	n/a
	5520 Series	550	1,100
	VSP 4450 Series	n/a	n/a
	VSP 4900 Series	550	1,100
	VSP 7200 Series	550	1,100
	VSP 7400 Series	550	1,100
	VSP 8000 Series	550	1,100
	XA1400 Series	n/a	150

Number of IS-IS interfaces (NNIs)	Product	I-SIDs with vIST configured on the platform	I-SIDs without vIST configured on the platform
128	5420 Series	n/a	n/a
	5520 Series	450	900
	VSP 4450 Series	n/a	n/a
	VSP 4900 Series	450	900
	VSP 7200 Series	450	900
	VSP 7400 Series	450	900
	VSP 8000 Series	450	900
	XA1400 Series	n/a	150
250	5420 Series	n/a	n/a
	5520 Series	n/a	n/a
	VSP 4450 Series	n/a	n/a
	VSP 4900 Series	240	480
	VSP 7200 Series	240	480
	VSP 7400 Series	240	480
	VSP 8000 Series	240	480
	XA1400 Series	n/a	150

## Interoperability Considerations for IS-IS External Metric

BEBs running VOSS 5.0 can advertise routes into IS-IS with the metric type as external. They can also correctly interpret route advertisements with metric type external received via IS-IS. In an SPB network with a mix of products running different versions of software releases, you must take care to ensure that turning on the ability to use metric-type external does not cause unintended loss of connectivity.

Note the following before turning on IS-IS external metric if the SPB network has switches running a release prior to VOSS 5.0:

- There are no special release or product type implications if the switch does not have IP Shortcuts or Layer 3 VSN enabled. For example, this applies to Layer 2 only BEBs and BCBs.
- There are no special release or product type implications if the Layer 3 VSN in which routes are being advertised with a metric-type of external is not configured on the switch.
- If a switch running a VOSS release that is prior to VOSS 5.0 but VOSS 4.2.1 or later, it will treat all IS-IS routes as having metric-type internal, regardless of the metric-type (internal or external) used by the advertising BEB in its route advertisement.
- Switches running VSP 9000 Series release 4.1.0.0 or later will treat all IS-IS routes as having metric-type internal, regardless of the metric-type (internal or external) used by the advertising BEB in its route advertisement.
- Switches running VOSS releases prior to 4.2.1.0 might not correctly install IS-IS routes in a Layer 3 VSN if any routes advertised with metric-type external are advertised in that Layer 3 VSN by other BEBs in the network. Layer 3 VSNs in which there are no routes with an external metric-type will not be impacted. Similar note applies to the GRT.



- Switches running VSP 9000 Series releases prior to 4.1.0.0 might not correctly install IS-IS routes in a Layer 3 VSN if any routes advertised with metric-type external are advertised in that Layer 3 VSN by other BEBs in the network. Layer 3 VSNs in which there are no routes with an external metric-type will not be impacted. Similar note applies to GRT.
- Switches running any ERS 8800 release might not correctly install IS-IS routes in a Layer 3 VSN if any routes advertised with metric-type external are advertised in that Layer 3 VSN by other BEBs in the network. Layer 3 VSNs in which there are no routes with an external metric-type will not be impacted. Similar note applies to GRT.

## Recommendations

This section provides recommendations that affect feature configuration.

Pay special attention to the expected scaling of routes in the network and the number of OSPF neighbors in a single VRF when you select configuration values for the **isis ll-hellointerval** and **isis ll-hello-multiplier** commands on IS-IS interfaces. The default values for these commands work well for most networks, including those using moderately-scaled routes.

*5420 Series, 5520 Series, VSP 4900 Series, VSP 7200 Series, VSP 7400 Series, and VSP 8000 Series*

The default values work well for 16,000 routes and 64 OSPF neighbors in a single VRF. However, in highly-scaled networks, you might need to configure higher values for these commands.

For example, if the total number of non IS-IS routes on a given BEB exceeds 16,000 in combination with approximately 128 OSPF neighbors in a single VRF, you should configure a value of 12 for **isis ll-hellomultiplier**, instead of using the default value of 3.

*VSP 4450 Series*

If the total number of non IS-IS routes on a given BEB exceeds 25,000 in combination with approximately 60,000 IS-IS routes that the BEB receives from other BEBs in the network, you should configure a value of 12 for **isis ll-hellomultiplier**, instead of using the default value of 3.

## VRF Scaling

By default, the system reserves VLAN IDs 4060 to 4094 for internal use.

If you enable both the VRF scaling and the SPBM mode boot configuration flags, the system reserves additional VLAN IDs (3500 to 3998) for internal use.

By default, VRF scaling is disabled and SPBM mode is enabled. When VRF scaling is disabled, you can have a maximum of 24 VRFs.



## Important Notices

---

- [ExtremeCloud IQ Support for VOSS Devices on page 114](#)
- [Duplicate system-ids Between IS-IS Areas on page 115](#)
- [Using Ping or IP Traceroute for Hosts in the DvR-One-IP Subnet on page 115](#)
- [100BASE-FX Support on VSP 4450 Series on page 116](#)
- [AES-GCM SSH Connection with Open SSH on page 116](#)
- [Auto Negotiation Settings on page 116](#)
- [clock set on page 116](#)
- [dos-chkdisk on page 116](#)
- [Base MAC Address Assignment for 5520 Series and 5420 Series Switches on page 116](#)
- [Feature-Based Licensing in VOSS on page 117](#)
- [Supported Browsers on page 117](#)
- [System Name Prompt vs. IS-IS Host Name on page 118](#)
- [Feature Differences on page 118](#)
- [Memory Usage on VOSS Switches on page 118](#)
- [VSP 4450 Series Connecting to an ERS 8800 Interoperability Notes on page 118](#)
- [VSP 4450 Series Notes on Combination Ports on page 118](#)

Unless specifically stated otherwise, the notices in this section apply to all VOSS platforms.

### ExtremeCloud IQ Support for VOSS Devices

---

ExtremeCloud™ IQ provides cloud-managed networking, and delivers unified, full-stack management of wireless access points, switches, and routers. It enables onboarding, configuration, monitoring, troubleshooting, reporting, and more. Using innovative machine learning and artificial intelligence technologies, ExtremeCloud IQ analyzes and interprets millions of network and user data points, from the network edge to the data center, to power actionable business and IT insights, and to deliver new levels of network automation and intelligence.

ExtremeCloud IQ supports the following platforms:

- 5420 Series
- 5520 Series
- VSP 4900 Series
- VSP 7400 Series
- XA1400 Series

For the most current information on switches supported by ExtremeCloud IQ, see [ExtremeCloud™ IQ Learning What's New](#).

VOSS supports a zero touch connection to ExtremeCloud IQ. Zero touch deployment is used to deploy and configure a switch using ExtremeCloud IQ.

VOSS integrates with ExtremeCloud IQ using IQAgent.

For more information, see [VOSS User Guide](#).

For more information about ExtremeCloud IQ, go to <https://www.extremenetworks.com/support/documentation/extremecloud-iq/>.

---

## Duplicate system-ids Between IS-IS Areas

---

Duplicate system IDs between adjacent IS-IS areas are not supported.

If a duplicate system ID exists between adjacent areas, the boundary node logs an event like the following:

```
1 2021-09-21T02:08:44.734-04:00 GB12 CP1 - 0x001dc705 - 00000000
GlobalRouter ISIS WARNING Duplicate System ID 0022.2222.2415 detected on
Boundary Node between HostName:B15 Chassis MAC:b0:ad:aa:41:c0:00 (HOME
area) and HostName:B14 Chassis MAC:b0:ad:aa:41:b8:00 (REMOTE area)
```

To recover from this event and ensure the information on the boundary node is correctly updated, you must perform the following tasks:

1. Change the system ID on one of the nodes.
2. Disable and re-enable IS-IS on the other node.

For more information about the preceding tasks, see [VOSS User Guide](#).

Delete errors can display on the boundary node but they have no functional impact.

---

## Using Ping or IP Traceroute for Hosts in the DvR-One-IP Subnet

---

To use DvR-One-IP, a circuitless IP (CLIP) must exist in the VRF to which the DvR-One-IP interface belongs. If the DvR-One-IP interface is part of the global router (GRT), a CLIP must exist in the GRT and it must be configured as the IS-IS **ip-source-address**. If these CLIPs exist, pinging hosts in the DvR-One-IP subnet from the DvR Controller works as expected.

If the CLIPs do not exist, pinging hosts in the DvR-One-IP subnet is not possible from DvR Controllers. The ping attempt times out and the switch displays the following warning message: **Warning: For DVR one IP a loopback IP must be configured on the VRF.** If you provide a source IP address with the **ping** command, the switch does not display the warning message but the ping attempt fails.

This same restriction also applies to IP traceroute.

---

## 100BASE-FX Support on VSP 4450 Series

---

VSP 4450 Series supports 100BASE-FX transceivers (AA14019074-E6) on the VSP 4450GSX model in SFP ports only. This model does not support 100BASE-FX in SFP+ ports.

---

## AES-GCM SSH Connection with Open SSH

---

Switch side encryption and authentication type must be set to the AES-GCM-128/256 methods and needs at least one hmac method in the authentication list in addition for the connection to work.

---

## Auto Negotiation Settings

---

VOSS 4.1 and later software requires the same auto negotiation settings on link partners to avoid incorrect declaration of link status. Mismatched settings can cause the links to stay down as well as unpredictable behavior. Ensure the auto negotiation settings between local ports and their remote link partners match before upgrading software to VOSS 4.1 or later.

---

## clock set

---

Configuring time using the **clock set** command on a switch that also uses NTP can cause ports from going up.

As a best practice, do not configure time using the **clock set** command. Instead, rely on NTP to synchronize the internal clocks.

---

## dos-chkdisk

---

If at the end of the **dos-chkdisk WORD<1-99>** command output you see the following choice:

- 1) Correct
- 2) Don't correct

Then, you should run the **dos-chkdisk WORD<1-99> repair** command.

---

## Base MAC Address Assignment for 5520 Series and 5420 Series Switches

---

When running ExtremeXOS, 5520 Series and 5420 Series switches uses a base MAC address at offset 0 for both the default management port and in-band VLAN utilizing DHCP, for example, 00:c0:cc:8b:68:00. When the switch runs VOSS, it uses a base MAC at offset 0x81 for the default management port (for example, 00:c0:cc:8b:68:81) and offset 256 for the in-band VLAN (for example, 00:c0:cc:8b:69:00).



### Note

The address assignment for the in-band VLAN assumes that the VLAN has a mac-offset value of 0 assigned. If a different mac-offset value is assigned, the MAC address changes accordingly. For example, if mac-offset is 10, then the associated MAC address is 00:c0:cc:8b:69:0A.

When using a DHCP client on the switch, the switch sends a common DHCP client identifier equal to the base MAC address of the switch that is printed on the switch label. Because of this, assuming a standard DHCP pool configuration, the DHCP server always recognizes the switch by the same IP address, regardless of whether EXOS or VOSS is running on the switch.

If you want to statically assign IP addresses on the DHCP server, assign them based upon the DHCP client ID. This will ensure that the bindings do not change when the switch alternates between EXOS and VOSS. If you assign the DHCP IP addresses based on MAC addresses, you will need to configure multiple entries – one for the 0 offset and one for the 0x81 offset – to account for the different ways in which the two operating systems assign base MAC addresses.

## Feature-Based Licensing in VOSS

The following table provides information on the feature-licensing models available for VOSS products. For more information about licensing including feature inclusion, order codes, and how to load a license file, see [VOSS User Guide](#).

**Table 47: License models**

Product	License model
5420 Series and 5520 Series	Support a perpetual licensing model that includes Base, Premier, and MACsec licenses. Premier and MACsec licenses enable advanced features not available in the Base License. Because the hardware supports more than one Network Operating System (NOS) personality, it uses a licensing scheme that is NOS agnostic.
VSP 4450 Series VSP 4900 Series VSP 7200 Series VSP 7400 Series VSP 8200 Series VSP 8400 Series	Support a perpetual licensing model that includes Base and Premier licenses. Premier licenses enable advanced features not available in the Base License.  <b>Note:</b> VSP 7200 Series supports an additional Port license.
XA1400 Series	Supports a subscription-based licensing model, in 1, 3, and 5 year durations, for two bandwidth tiers. All subscription licenses support all features on the switch, plus software upgrades and technical support services entitlement during the license term.

## Supported Browsers

Use the following browser versions to access Enterprise Device Manager (EDM):

- Microsoft Edge 80+
- Microsoft Internet Explorer 11+
- Mozilla Firefox 85+

- Google Chrome 88+
- Safari 14+

For optimal performance, use Mozilla Firefox or Google Chrome.

---

## System Name Prompt vs. IS-IS Host Name

Beginning with VOSS 6.1.2, the software no longer allows spaces in the system name prompt, but it still allows spaces in the IS-IS host name. When you upgrade, the software replaces spaces in the system name with underscores while leaving the IS-IS host name unchanged.

---

## Feature Differences

Extreme Networks has implemented feature parity between the VOSS platforms with a few exceptions. Some features are supported on one platform and not another to maintain compatibility with previous releases. In other cases, the difference is between of the role of the switch in the network.

For information about feature support across all VOSS platforms, see [VOSS Feature Support Matrix](#).

---

## Memory Usage on VOSS Switches

VOSS switches intentionally reboot when memory usage on the switch reaches 95%.

---

## VSP 4450 Series Connecting to an ERS 8800 Interoperability Notes

- For customers running ERS 8800 version 7.1.x:
  - The minimum software release is 7.1.3.1, however the recommended ERS 8800 software release is 7.1.5.4 or later.
  - On switches using 8612 XLRs or 8812XL modules for the links connecting to the VSP 4450 Series, the minimum software version is 7.1.5.4.
  - The “spbm version” on the ERS 8800 must be “802.1aq”.
- For customers running ERS 8800 version 7.2.x:
  - The minimum software release is 7.2.0.2, however the recommended ERS 8800 software release is 7.2.1.1 or later.
  - On switches using 8612 XLRs or 8812XL modules for the links connecting to the VSP 4450 Series switch, the minimum software version is 7.2.1.1.
- Diffserv is enabled in the VSP 4450 Series port settings, and is disabled in the ERS 8800 port settings, by default.

---

## VSP 4450 Series Notes on Combination Ports

When the VSP 4450 Series is reset, the peer connections for all ports, including combination ports 47 and 48 on VSP 4450GTX-HT-PWR+, will transition down. During the reset, the fiber ports remain down, but only the copper ports 47 and 48 come up periodically throughout the reset. The copper ports 47 and 48 come up approximately 15 seconds into the reset, remain up for approximately 60 seconds, and then transition down until the boot sequence is complete and all ports come back up.

The following is an example of the status of the combination ports during reset.

```
CP1 [03/18/70 09:55:35.890] 0x0000c5e7 00300001.238 DYNAMIC SET
GlobalRouter HW INFO Link Down(1/47)

CP1 [03/18/70 09:55:35.903] 0x0000c5e7 00300001.239 DYNAMIC SET
GlobalRouter HW INFO Link Down(1/48)

CP1 [03/18/70 09:55:49.994] 0x0000c5ec 00300001.239 DYNAMIC CLEAR
GlobalRouter HW INFO Link Up(1/48)

CP1 [03/18/70 09:55:50.322] 0x0000c5ec 00300001.238 DYNAMIC CLEAR
GlobalRouter HW INFO Link Up(1/47)

CP1 [03/18/70 09:56:43.131] 0x0000c5e7 00300001.238 DYNAMIC SET
GlobalRouter HW INFO Link Down(1/47)

CP1 [03/18/70 09:56:43.248] 0x0000c5e7 00300001.239 DYNAMIC SET
GlobalRouter HW INFO Link Down(1/48)
```

## Cabled Connections for Both Copper and Fiber Ports

The following limitations apply when the combination ports have cabled connections for both the copper and fiber ports.

Do not use the fiber port and do not insert an SFP into the optical module slot in the following situations:

- a copper speed setting of either 10M or 100M is required
- a copper duplex setting of half-duplex is required



### Note

These limitations apply only when auto-negotiation is disabled. To avoid this limitation, use auto-negotiation to determine the speed to 10/100/1000 and to determine the duplex.

The 100M-FX SFP requires auto-negotiation to be disabled. Therefore, auto-negotiation will also be disabled for the copper port. Configure the peer switch to disable auto-negotiation.



# Known Issues and Restrictions

---

[Known Issues](#) on page 120

[Restrictions and Expected Behaviors](#) on page 142

This section details the known issues and restrictions found in this release. Where appropriate, use the workarounds provided.

## Known Issues

---

This section identifies the known issues in this release.

### Known Issues for VOSS 8.5

Issue number	Description	Workaround
	HTTPS connection fails for CA-signed certificate with certificate inadequate type error on FF.	Ensure End-Entity, Intermediate CA and Root CA certificates are all SHA256 based and RSA2048 key signed, and Extended key usage field is set to TLS webservice Auth only for subject and root. For intermediate, it must be set with other required bits to avoid this issue. Add the root, intermediate CAs in the trust store of the browser for accessing the EDM with HTTPS.
	VRF provisioning is restricted to 127 VRFs on VSP 4450 Series.	None.
VOSS-1265	On the port that is removed from a T-UNI LACP MLT, non T-UNI configuration is blocked as a result of T-UNI consistency checks.	When a port is removed from a T-UNI LACP MLT, the LACP key of the port must be set to default.
VOSS-1278	SLA Mon tests fail (between 2% and 8% failure) between devices when you have too many agents involved with scaled configurations.	This happens only in a scaled scenario with more than seven agents, otherwise the failure does not occur. The acceptable failure percentage is 5%, but you could see failures of up to 8%.



Issue number	Description	Workaround
VOSS-1280	The following error message occurs when performing shutdown/no-shutdown commands continuously: IO1 [05/02/14 06:59:55.178:UTC] 0x0011c52500000000 GlobalRouter COP-SW ERROR vsp4kTxEnable Error changing TX disable for SFP module: 24, code: -8	None. When this issue occurs, the port in question can go down, then performs a shutdown/no-shutdown of the port to bring it up and resumes operation.
VOSS-1285	CAKs are not cleared after setting the device to factory-default.	None. Currently this is the default behavior and does not affect functionality of the MACsec feature.
VOSS-1288	Shutting down the T1 link from one end of the link does not shut down the link at the remote end. You could experience traffic loss if the remote side of the link is not shut down.	This issue occurs only when a T1 SFP link from one end is shutdown. Enable a dynamic link layer protocol such as LACP or VLACP on both ends to shut the remote end down too. As an alternative, administratively disable both ends of the T1 SFP link to avoid the impact.
VOSS-1289	On a MACsec-enabled port, you can see delayed packets when the MACsec port is kept running for more than 12 hours. This delayed packet counter can also increment when there is complete reordering of packets so that the application might receive a slow response. But in this second case, it is a marginal increase in the packet count, which occurs due to PN mismatch sometimes only during Key expiry, and does not induce any latency.	None.
VOSS-1309	You cannot use EDM to issue <b>ping</b> or <b>traceroute</b> commands for IPv6 addresses.	Use CLI to initiate <b>ping</b> and <b>traceroute</b> commands.
VOSS-1310	You cannot use EDM to issue <b>ping</b> or <b>traceroute</b> commands for IPv4 addresses.	Use CLI to initiate <b>ping</b> and <b>traceroute</b> commands.
VOSS-1312	On the 40-gigabit ports, the small metallic fingers that surround the ports are fragile and can bend out of shape during removal and insertion of the transceivers. When the fingers are bent, they prevent the insertion of the QSFP+ transceiver.	Insert the QSFP+ carefully. If the port becomes damaged, it needs to be repaired.

Issue number	Description	Workaround
VOSS-1335	<p>In an IGMP snoop environment, after dynamically downgrading the IGMP version to version 2 (v2), when you revert back to version 3 (v3), the following is observed:</p> <ul style="list-style-type: none"> <li>• The multicast traffic does not flow.</li> <li>• The sender entries are not learned on the local sender switch.</li> <li>• The Indiscard packet count is incremented on the <b>show int gig error</b> statistics command.</li> </ul>	Use a v3 interface as querier in a LAN segment that has snoop-enabled v2 and v3 interfaces.
VOSS-1344	In EDM, you cannot select multiple 40 gigabit ports or a range of ports that includes 40 gigabit ports to graph or edit. You need to select them and edit them individually.	None.
VOSS-1349	On EDM, the port LED for channelized ports only shows the status of sub-port #1, but not the rest of the sub-ports. When you remove sub-port #1, and at least one other sub-port is active and online, the LED color changes to amber, when it should be green because at least one other sub-ports is active and online. The LED only shows the status of sub-port #1.	None.
VOSS-1354	An intermittent link-flap issue can occur in the following circumstance for the copper ports. If you use a crossover cable and disable auto-negotiation, the port operates at 100 Mbps. A link flap issue can occur intermittently and link flap detect will shut down the port.	Administratively shutdown, and then re-enable the port. Use auto-negotiation. Disabling auto-negotiation on these ports is not a recommended configuration.
VOSS-1358	Traffic is forwarded to IGMP v2 SSM group, even after you delete the IGMP SSM-map entry for the group.	If you perform the delete action first, you can recreate the SSM-map record, and then disable the SSM-map record. The disabled SSM-map record causes the receiver to timeout because any subsequent membership reports that arrive and match the disabled SSM-map record are dropped. You can delete the SSM-map record after the receivers time out.
VOSS-1359	The 4 byte AS confederation identifier and peers configuration are not retained across a reboot. This problem occurs when 4 Byte AS is enabled with confederation.	Reconfigure the 4 byte AS confederation identifier and peers on the device, and reboot.

Issue number	Description	Workaround
VOSS-1360	<p>After you enable enhanced secure mode, and log in for the first time, the system prompts you to enter a new password. If you do not meet the minimum password requirements, the system displays the following message: Password should contain a minimum of 2 upper and lowercase letters, 2 numbers and 2 special characters like !@#\$%^&amp;*(). Password change aborted. Enter the New password:</p> <p>The system output message does not display the actual minimum password requirements you need to meet, which are configured on your system. The output message is an example of what the requirements need to meet. The actual minimum password requirements you need to meet are configured on your system by the administrator.</p>	None.
VOSS-1367	The configuration file always includes the router ospf entry regardless of whether OSPF is configured. This line does not perform any configuration and has no impact on the running software.	None.
VOSS-1368	When you use Telnet or SSH to connect to the switch, it can take up to 60 seconds for the log in prompt to appear. However, this situation is very unlikely to happen, and it does not appear in a standard normal operational network.	Do not provision DNS servers on a switch to avoid this issue altogether.
VOSS-1370	If you configure egress mirroring on NNI ports, you do not see the MAC-in-MAC header on captured packets.	Use an Rx mirror on the other end of the link to see the packets.
VOSS-1371	A large number of IPv6 VRRP VR instances on the same VLAN can cause high CPU utilization.	Do not create more than 10 IPv6 VRRP VRs on a single VLAN.
VOSS-1389	If you disable IPv6 on one RSMLT peer, the switch can intermittently display COP-SW ERROR and RCIP6 ERROR error messages. This issue has no impact.	None.
VOSS-1390	If you delete the SPBM configuration and re-configure SPBM using the same nickname but a different IS-IS system ID without rebooting, the switch displays an error message.	Reboot the switch after you delete the SPBM configuration.
VOSS-1403	EDM displays the user name as Admin, even though you log in using a different user name.	None.

Issue number	Description	Workaround
VOSS-1406	When you re-enable insecure protocols in the CLI SSH secure mode, the switch does not display a warning message.	None.
VOSS-1418	EDM displays the IGMP group entry that is learned on a vIST MLT port as TX-NNI.	Use CLI to view the IGMP group entry learned on a vIST MLT port.
VOSS-1428	When port-lock is enabled on the port and re-authentication on the EAP client fails, the port is removed from the RADIUS-assigned VLAN. This adds the port to the default VLAN and displays an error message. This issue has no impact.	The error message is incorrect and can be ignored.
VOSS-1433	When you manually enable or disable IS-IS on 40 Gbps ports with CR4 direct attach cables (DAC), the port bounces one time.	Configure IS-IS during the maintenance period. Bring the port down, configure the port and then bring the port up.
VOSS-1438	In a rare scenario in Simplified vIST configuration when vIST state is toggled immediately followed by vIST MLT ports are toggled, one of the MLT ports will go into blocking state resulting in failure to process data packets hashing to that link.	Before enabling vIST state ensure all vIST MLT ports are shut and re-enabled after vIST is enabled on the DUT.
VOSS-1440 VOSS-1441	When you configure a scaled Layer 3 VSN (24 Layer 3 VSN instances), route leaking from GRT to VRF on the local DUT does not happen. The switch displays an incorrect error message: <code>Only 24 Layer 3 VSNs can be configured.</code>	None.
VOSS-1463 VOSS-1471	When you use Fabric Extend over IP (FE-IP) and Fabric Extend over Layer 2 VLAN (FE-VID) solution, if you change the ingress and egress .1p map, packets cannot follow correct internal QoS queues for FE tunnel to FE tunnel, or FE tunnel to regular NNI traffic.	Do not change the default ingress and egress .1p maps when using Fabric Extend. With default ingress and egress .1p maps, packets follow the correct internal QoS when using the Fabric Extend feature.
VOSS-1473	If the I-SID associated with a Switched UNI or Fabric Attach port does not have a platform VLAN association and you disable Layer 2 Trusted, then the non IP traffic coming from that port does not take the port QoS and still uses the .1p priority in the packet.	None.
VOSS-1530	If you improperly close an SSH session, the session structure information does not clear and the client can stop functioning.	Disable and enable SSH.
VOSS-1584	The <code>show debug-file all</code> command is missing.	None.

Issue number	Description	Workaround
VOSS-1585	The system does not generate a log message, either in the log file or on screen, when you run the <b>flight-recorder</b> command.	None.
VOSS-1608	If you use an ERS 4850 FA Proxy with a VOSS FA Server, a mismatch can exist in the show output for tagged management traffic. The ERS device always sends traffic as tagged. The VOSS FA Server can send both tagged and untagged. For untagged, the VOSS FA Server sends VLAN ID 4095 in the management VLAN field of the FA element TLV. The ERS device does not recognize this VLAN ID and so still reports the traffic as tagged.	There is no functional impact.
VOSS-1706	EAPOL: Untagged traffic is not honoring the port QOS for Layer 2 trusted/ Layer 3 untrusted. This issue is only seen on EAPOL-enabled ports.	None.
VOSS-2014	IPv6 MLD Group is learned for Link-Local Scope Multicast Addresses. This displays additional entries in the Multicast routing tables.	None.
VOSS-2033	<p>The following error messages appear when you use the <b>shutdown</b> and <b>no shutdown</b> commands on the MLT interface with ECMP and BGP+ enabled:</p> <pre> CP1 [01/23/16 11:10:16.474:UTC] 0x00108628 00000000 GlobalRouter RCIP6 ERROR rcIpReplaceRouteNotifyIpv6:FA IL ReplaceTunnelRec conn_id 2 CP1 [12/09/15 12:27:02.203:UTC] 0x00108649 00000000 GlobalRouter RCIP6 ERROR ifyRpcOutDelFibEntry: del FIB of Ipv6Route failed with 0: ipv6addr: 201:6:604:0:0:0:0:0, mask: 96, nh: 0:0:0:0:0:0:0:0 cid 6657 owner BGP CP1 [12/09/15 12:20:30.302:UTC] 0x00108649 00000000 GlobalRouter RCIP6 ERROR ifyRpcOutDelFibEntry: del FIB of Ipv6Route failed with 0: ipv6addr: 210:6:782:0:0:0:0:0, mask: 96, nh: fe80:0:0:0:b2ad:aaff:fe55:508 8 cid 2361 owner OSPF </pre>	Disable the alternate path.

Issue number	Description	Workaround
VOSS-2036	IPsec statistics for the management interface do not increment for inESPFailures or InAHFailures.	None.
VOSS-2117	If you configure static IGMP receivers on an IGMPv3 interface and a dynamic join and leave are received on that device from the same destination VLAN or egress point, the device stops forwarding traffic to the static receiver group after the dynamic leave is processed on the device. The end result is that the IGMP static groups still exist on the device but traffic is not forwarded.	Disable and re-enable IGMP Snooping on the interface.
VOSS-2128	EAP Security and Authentication EDM tabs display additional information with internal values populated, which is not useful for the end user.	There is no functional impact. Ignore the additional information in EDM. Use the CLI command <b>show eapol port interface</b> to see port status.
VOSS-2207	You cannot configure an SMTP server hostname that begins with a digit. The system displays the following error: <b>Error: Invalid IP Address or Hostname for SMTP server</b>	None.
VOSS-2208	While performing CFM Layer 2 traceroute between two BEBs via a transit BCB, the transit BCB hop is not seen, if the transit BCB has ISIS adjacencies over FE I3core with both source BEB and destination BEB.	None.
VOSS-2253	Trace level command does not list module IDs when '?' is used.	To get the list of all module IDs, type <b>trace level</b> , and then press <b>Enter</b> .
VOSS-2285	When on BEB, continuously pinging IPv6 neighbor address using CLI command <b>ping -s</b> , ping packets do not drop, but instead return no answer messages.	Restart the ping. Avoid intensive CPU processing.
VOSS-2333	Layer 2 ping to Virtual BMAC (VBMAC) fails, if the VBMAC is reachable via Layer 2 core.	None.
VOSS-2418	When you configure and enable the SLA Mon agent, the SLA Mon server is able to discover it but the agent registration on the switch does not occur.	None.
VOSS-2422	When a BGP Neighbor times out, the following error message occurs: <b>CP1 [03/11/16 13:43:39.084:EST] 0x000b45f2 00000000 GlobalRouter SW ERROR ip_rtdeleteVrf: orec is NULL!</b>	There is no functional impact. Ignore the error message.

Issue number	Description	Workaround
VOSS-2859	You cannot modify the port membership on a protocol-based VLAN using EDM, after it has been created.	Use CLI to provision the port membership on the protocol-based VLAN or delete the protocol-based VLAN, and then re-create it with the correct port member setting.
VOSS-3393	When the SLA Mon agent IP is created on a CLIP interface, the switch provides the CLIP-id as the agent MAC.	There is no functional impact. Use different CLIP IDs to differentiate the SLA Mon agents from the SLA Mon server.
VOSS-4255	If you run IP traceroute from one end host to another end host with a DvR Leaf in between, an intermediate hop will appear as not responding because the Leaf does not have an IP interface to respond. The IP traceroute to the end host will still work.	None.
VOSS-4728	If you remove and recreate an IS-IS instance on an NNI port with auto-negotiation enabled in addition to vIST and R/SMLT enabled, it is possible that the NNI port will briefly become operationally down but does recover quickly. This operational change can lead to a brief traffic loss and possible reconvergence if non-ISIS protocols like OSPF or BGP are also on the NNI port.	If you need to remove and recreate an IS-IS instance on an auto-negotiation enabled NNI port that also has non-ISIS traffic, do so during a maintenance window to minimize possible impact to other non-ISIS traffic.
VOSS-4840	If you run the <b>show fulltech</b> command in an SSH session, do not disable SSH on the system. Doing so can block the SSH session.	None.
VOSS-4912	The VSP 4450 Series does not advertise an LLDP Management TLV.	None.
VOSS-5130	Disabling and immediately enabling IS-IS results in the following log message: <code>PLSBFIB ERROR: /vob/cb/nd_protocols/plsb/lib/plsbFib.cpp(line 1558) unregisterLocalInfo() local entry does not exist. key(0xfda010000fffa40)</code>	There is no functional impact. Ignore the error message.
VOSS-5159 & VOSS-5160	If you use a CLIP address as the management IP address, the switch sends out 127.1.0.1 as the source IP address in both SMTP packets and TACACS+ packets.	None.
VOSS-5173	A device on a DvR VLAN cannot authenticate using RADIUS if the RADIUS server is on a DvR VLAN on a DvR Leaf using an in-band management IP address.	Place the RADIUS server in a non-DvR VLAN off a DvR Leaf or DvR Controller.

Issue number	Description	Workaround
VOSS-5331	When you enable FHS ND inspection on a VLAN, and an IPv6 interface exists on the same VLAN, the IPv6 host client does not receive a ping response from the VLAN.	None.
VOSS-5603	In a scaled DvR environment (scaled DvR VLANs), you could see a higher CPU utilization while deleting a DvR leaf node from the DvR domain (no dvr leaf). The CPU utilization stays higher for several minutes on that node only and then returns to normal after deleting all the internal VLANs on the leaf node.	It is recommended to use a maintenance window when removing leaf(s) from a DvR domain.
VOSS-5627	The system does not currently restrict the number of VLANs on which you can simultaneously configure NLB and Directed Broadcast, resulting in resource hogging.	Ensure that you configure NLB and Directed Broadcast on not more than 100 VLANs simultaneously, assuming one NLB cluster for each VLAN. Also, ensure that you configure NLB on a VLAN first, and then Directed Broadcast, so as to not exhaust the NLB and Directed Broadcast shared resources. The shared resources are NLB interfaces and VLANs with Directed Broadcast enabled. The permissible limit for the shared resources is 200.
VOSS-6189	When you connect to EDM using HTTPS in Microsoft Edge or Mozilla Firefox, the configured values for the RADIUS KeepAliveTimer and CFM SBM Mepld do not appear.	Use Internet Explorer when using an HTTPS connection.
VOSS-6822	If the IPsec/IKE software used in the Radius server side is strongSwan, there is a compatibility issue between VOSS and strongSwan in terms of IPv6 Digicert (IKEv1/v2) authentication.	None.
VOSS-6928	On VSP 8000 Series platforms, IPv4 Filters with redirect next hop action do not forward when a default route is not present or a VLAN common to ingress VLAN of the filtered packet is not present.	Configure a default route if possible.
VOSS-7139	DHCPv6 Snooping is not working in an SPB network as the DHCPv6 Snooping entries are not being displayed.	Administrator should add manual entries.
VOSS-7457	The switch can experience an intermittent traffic loss after you disable a Fabric Extend tunnel.	Bounce the tunnel between the devices.



Issue number	Description	Workaround
VOSS-7472	EDM shows incorrect guidance for ACL TCP flag mask. EDM reports 0...63 as hexadecimal. CLI correctly shows <0-0x3F   0-63> Mask value <Hex   Decimal>. This is a display issue only with no functional impact.	Use CLI to see the correct unit values.
VOSS-7495	The VSP 4450 Series CLI Help text shows an incorrect port for <b>boot config flags linerate-directed-broadcast</b> . The Help text shows 1/48. The correct port is 1/46.	None
VOSS-8424	A fragmented ping from an external device to a switch when the VLAN IP interface is tied to a non-default VRF fails.	None.
VOSS-8516	Secure Copy (SCP) cannot use 2048-bit public DSA keys from Windows.	Use 1024/2048-bit RSA keys or 1024-bit DSA keys.
VOSS-9516	When you connect to EDM using HTTPS, you can see multiple <code>SSL negotiation with client successful</code> messages during your EDM session. The system displays this message, each time a successful <code>SSL_Handshake</code> occurs between the web browser and the web server. The log file cannot show as many messages as the console and the timing between messages can be different because logging does not occur in real time.	None.
VOSS-9589	Dynamic Nickname Assignment is not supported over Fabric Extend tunnels.	None.
VOSS-9621	For VOSS products, 1G Copper Pluggable auto-negotiation is always enabled after a reboot, despite configuration settings.	If you do not want to use auto-negotiation, disable it after the reboot.
VOSS-9921	Bootup redirection timeout is longer than the UNI port (SMLT) unlock timer. If both vIST nodes boot together in factory default configuration fabric mode or without a nickname, the vIST ports will not enable for up to 4 minutes. During the delay the nickname server is unreachable and vIST is not online.	None.
VOSS-10380	If you enable and configure IPv6 Source Guard and EAPoL on a port, and create and configure a Guest VLAN on the same port without DHCP Snooping and ND-inspection, no error is shown. The port is not added to the Guest VLAN.	None.

Issue number	Description	Workaround
VOSS-10381	If you enable and configure IPv6 Source Guard and EAPoL MSHA on a port, and create and configure RAVs for Non-EAP clients on the same port without DHCP Snooping and ND-inspection, no error is shown. The client displays as authenticated into RAV, even when port is not a member of RAV.	None.
VOSS-10412	Removal of the QSFP+ to SFP+ adapter with a 10G pluggable is not detected on the VSP 8404 and VSP 8404C when in non channelized mode.	The QSFP+ to SFP+ adapter and detection works only on ports with channelization enabled.
VOSS-10574	IS-IS sys-name output is not truncated for <b>show isis spbm nick-name</b> or <b>show ip route</b> commands. If a long character sys-name is in use, the full sys-name display can cause misalignment of the output columns.	None.
VOSS-10815	DvR over SMLT: Traffic is lost at failover on SMLT towards EXOS switches. DvR hosts are directly connected to the DvR controllers vIST pair on SMLT LAG and switched-UNIs are dynamically added using Fabric Attach. Only occurs when the access SMLT is LACP MLT and all the ports in the MLT are down. When all ports in the MLT down and an ARP request is received over an NNI link, there is no physical port that can be associated with the ARP request. The ARP entry is learned against NNI link, and MAC syncs from vIST peer or from a non-vIST peer when bouncing vIST.	None.
VOSS-10891	DvR leaf vIST: Wrong rarSmltCheckSmltPeerMac MLT warning displays when the peer vIST MAC address is learned from local	None. rarSmltCheckSmltPeerMac MLT warning has no functional impact. You can ignore the error message.
VOSS-11895	In a vIST SMLT environment where streams are both local and remote, if source and receiver port links are removed and reinserted several times, eventually traffic will not be forwarded to local single-homed receivers on one peer if the traffic is ingressing from the vIST peer over the NNI link. If the stream ingresses locally, it is received by the local UNI receivers.	Disable and re-enable Fabric Multicast ( <b>spbm &lt;1-100&gt; multicast enable</b> ) on the source VLAN to be able to delete the streams and come back in properly.

Issue number	Description	Workaround
VOSS-11943	This release does not support per-port configuration of Application Telemetry. Because the feature is enabled globally and VSP 7432CQ supports 32 100 Gbps ports, an undesirable condition could be encountered when an exceeded amount of Application Telemetry mirrored packets are sent to the collector.	None.
VOSS-12330	When accessing the on-switch RESTCONF API documentation in a web browser, the page does not render correctly.	Ensure you include the trailing slash (/) in the URL: <code>http(s)://&lt;ip-address&gt;:8080/apps/restconfdoc/</code> . For more information, see <a href="#">VOSS User Guide</a> .
VOSS-12405	To reach a VM, all front panel traffic must travel through an Insight port, which is a 10 Gbps port. If front panel port traffic is over 10 Gbps, this situation represents an over subscription on the Insight port and some of the packets will be dropped. As a result, Extreme Management Center or ExtremeCloud IQ - Site Engine can lose connectivity to the Analytics engine if Application Telemetry is enabled.	None.
VOSS-13159	The ixgbevf Ethernet device driver within the TPVM does not correctly handle the interface MTU setting. Specifically, if you configure the interface in SR-IOV mode, packets larger than the MTU size are allowed.	To avoid this problem, configure the desired MTU size on both the relevant front-panel port and Insight port from VOSS.
VOSS-13463	Out port statistics for MLT port interfaces are not accurate.	Use the command <code>show io nic-counters</code> to display detailed port stats and error info on XA1400 Series.
VOSS-13667	An intermittent issue in SMLT environments, where ARPs or IPv6 neighbors are resolved with delay can cause a transient traffic loss for the affected IPv6 neighbors. The situation auto-corrects.	None.
VOSS-13680	Interface error statistics display is inaccurate in certain scenarios.	Use the command <code>show io nic-counters</code> to display detailed port stats and error info on XA1400 Series.
VOSS-13681	QoS: show qos cosq-stats cpu-port command output is not supported.	Use the command <code>show io cpu-cosq-counters</code> to display detailed cosq-stats on XA1400 Series.

Issue number	Description	Workaround
VOSS-13693	QoS: Traffic can egress out of the queue at a different ratio than the default configuration. After the guaranteed traffic rate is served to all egress port queues, any excess bandwidth is shared equally to all queues instead of distributing on weight assigned to each queue.	None.
VOSS-13702	Do not use the ACE actions of <i>deny</i> and <i>mirror-to-isid</i> together on VSP 7400 Series.	None.
VOSS-13717 VOSS-14393 VOSS-14972	Link on remote side doesn't go down after admin shut on XA1400 while using 10G DAC or a 4x10 - 40 G breakout DAC. On the XA1400 side link goes down but Link LED shows as up. Both 10G and 4x10G DAC are not fully supported because of this issue	None for DAC and breakout cables. Because of this issue, the following optical transceivers are not supported: <ul style="list-style-type: none"> <li>• AA1404036-E6</li> <li>• AA1404042-E6</li> <li>• C9799X4-5M</li> </ul>
VOSS-13794	You cannot use SFTP to transfer files larger than 2 GB to a VSP switch.	Use SCP.
VOSS-13904 VOSS-13932 VOSS-16503	VSP 4900 Series has 2 GB memory in a 64-bit system so the RESTCONF VLAN scaling number is smaller than on VSP 7400 Series, which has 16 GB physical memory. Using RESTCONF on VSP4900-48P or VSP4900-24S reduces the number of port-based VLANs on those platforms: <ul style="list-style-type: none"> <li>• 2,000 for VSP4900-48P with RESTCONF</li> <li>• 1,000 for VSP4900-24S with RESTCONF</li> </ul>	None.
VOSS-13947	After you enable MSTP-Fabric Connect Multi Homing ( <b>spbm 1 stp-multi-homing enable</b> ), you cannot view the configuration, role, or statistics for the STP virtual port.	None.
VOSS-13974	When an 8408QQ ESM has more than two channelized ports and is rebooted, the MKA MACsec sessions on the other cards in the same box could toggle. This issue is not seen if one or two ports are channelized on the same card.	None.
VOSS-14150	CLI remote console might stop wrapping text after some usage.	Reset the CLI window or open a new remote console window.

Issue number	Description	Workaround
VOSS-14391	On an VSP 8404C switch using an 8424XT ESM, on a port with MACsec connectivity, if you set Auto-Negotiation advertisements to 1000-full, and then subsequently set the advertisement to 10000-full, the link will not come up.	To avoid this issue, set the Auto-Negotiation advertisements directly to 10000-full. If you have experienced the issue, shut the port down and bring it back up.
VOSS-14494	Layer 2 VSN and Layer 3 VSN UNI to NNI traffic between two Backbone Edge Bridges does not hash to different ports of a MLT network-to-network interface. MLT hashing for XA1400 devices occurs after the mac-in-mac encapsulation is done. The hash keys used are the Backbone destination and Backbone source MAC addresses (BMAC DA and BMAC SA) in the Mac-in-Mac header. Even for the Transit BCB case on XA 1400 devices for NNI to NNI traffic, the MLT hash keys used are the Backbone destination and Backbone source MAC addresses (BMAC DA and BMAC SA) in the Mac-in-Mac header.	None.
VOSS-14515	<p>Console output errors and warnings are shown during an XA1400 Series reboot, such as:</p> <ul style="list-style-type: none"> <li>• error: no such device: ((hd0,gpt1)/EFI/BOOT)/EFI/BOOT/grub.cfg.</li> <li>error: file `/EFI/BOOT/grubenv' not found</li> <li>• error: no suitable video mode found.</li> <li>• [0.727012] ACPI: No IRQ available for PCI Interrupt Link [LNKS]. Try pci=noacpi or acpi=off</li> <li>• exportfs: can't open /etc/exports for reading</li> <li>• KCORE: WARNING can't find /boot/b/ulmage-gemini.bin. No kexec kernel will be configured.</li> </ul>	None. The errors or warnings are host OS or guest OS related with no functional impact and can be ignored.
VOSS-14597	Ping (originated from local CP) fails for jumbo frames on Layer 3 VSN interface.	None.
VOSS-14616	Seeing Queue buffer usage logs when changing the logical interface source IP with 64 tunnels. When changing the source IP with 64 tunnels, seeing "GlobalRouter CPU INFO CPP: 60 percent of fbufs are in use: 0 in Tx queue,1843 in RxQueue0 0 in RxQueue1 0 in RxQueue2 0 in RxQueue3 0 in RxQueue4 0 in RxQueue5 0 in RxQueue6 0 in RxQueue7".	None.

Issue number	Description	Workaround
VOSS-14805 VOSS-15305	The following transceivers are not supported on XA1400 Series switches: <ul style="list-style-type: none"> <li>10 Gb Bidirectional 40 km SFP+ Module (10GB-BX40-D and 10GBBX40-U)</li> <li>1000BASE-BX10 Bidirectional 10 km DDI SFP Modules (AA1419069-E6 and AA1419070-E6)</li> </ul>	Use only supported transceivers.
VOSS-15079	The Extreme Networks 10 meter SFP+ passive copper DAC (Model Number 10307) does not function on ports 2/3 and 2/4 of the VIM5-4X.	Use the Extreme Networks SFP+ active optical DAC (Model Number AA1403018-E6) with the VIM5-4X.
VOSS-15112	BFD sessions associated with static routes could flap one time before remaining up, when shutting down and bringing back up a BFD peer port.	None. Ignore the extra BFD session flap.
VOSS-15313	On an VSP 8404C switch using an 8424XT ESM, on a link with MACsec connectivity on both ends, and Auto-Negotiation advertisements set to 10000-full, the link will not come back up if the ESM is hot-swapped or the slot is reset.	To avoid this issue, disable MACsec prior to the hot swap or reset, and then re-enable. If you have experienced the issue, shut either one of the link ports down and bring it back up.
VOSS-15391	An SNMP walk on the <b>rcIgmpSnoopTraceTable</b> table will fail with an <b>OID not increasing</b> error. CLI and EDM are unaffected by this issue.	None.
VOSS-15463	XA1440 and XA1480 switches could experience intermittent Link Up and Link Down transitions on the 10/100/1000BASE-T Ethernet ports upon booting.	No workaround, but there is no functional impact.
VOSS-15541	You could experience temporary traffic loss when shutting down an LACP SMLT port (and therefore causing the local SMLT to go down), in a network with scaled Multicast traffic over an SPB cloud, while the datapath processes all dpm letter messages during LCAP recovery. This slow LACP recovery situation is only seen with scaled Multicast traffic over an SPB cloud.	Use static MLTs.
VOSS-15605	When you delete the VLAN IDs from the assigned I-SID of two vIST peers, the second VLAN ID deletion triggers log report <b>0x0013851e</b> from the first peer, indicating that a Layer 3 MAC address deletion has failed.	No workaround, but there is no functional impact—the MAC address was deleted when the VLAN:ISID association was deleted.

Issue number	Description	Workaround
VOSS-15812	L3VSN IPv4 BGP (and static) routes having their next-hops resolved via IS-IS routes could result in traffic loss.	<p>Choose the following workarounds, based on your deployment and needs:</p> <ul style="list-style-type: none"> <li>• Use static routes to reach the loopbacks used as BGP peers, (static routes having better preference than IS-IS); use static routes with next-hops reachable on the UNI side (L2VSN).</li> <li>• Use OSPF to reach the loopbacks used as BGP peers, but take care to ensure that the OSPF route towards the BGP peer is chosen as the “best route” (as IS-IS has a better preference than OSPF). There are several ways to accomplish this— either don’t redistribute that route in IS-IS if it is not needed, or control the redistribution with a route-map, etc.</li> <li>• Have BGP peers reachable directly via a C-VLAN; do not use loopback interfaces as BGP peer addresses.</li> <li>• If none of the above workaround scenarios are suitable for your deployment, do not use internal Border Gateway Protocol (iBGP) peering.</li> </ul>
VOSS-15878	VSP 4900 Series and VSP 7400 Series do not boot with just the serial console cable connected and no terminating device, for example, a terminal server, PC, or Mac.	Either attach terminal equipment or disconnect the console cable.
VOSS-16221	Layer 2 ping is not working for packets larger than 1300 on an XA1400 Series.	Use Layer 2 ping with packets smaller than 1300 bytes.
VOSS-16365	Running the command <b>show pluggable-optical-module detail</b> on an XA1400 Series device is highly CPU intensive to read and reply with the EEPROM details. Due to a delay in ethtool response, a watchdog miss event can occur and the event is recorded in the /intflash/wd_stats/1/wd_stats.ssio.1.log file. This scenario occurs more often if 10Gb SFP+ optics with DDM capability are installed.	None. The high CPU usage and response delay for this command is expected and cannot be resolved. No console log is generated. When the scenario occurs, the Watchdog outage is approximately 5 seconds.
VOSS-16436	Using the console connection on an XA1400 Series device while running a show command with large data output can result in drops of processing control packets.	Use Telnet or SSH connectivity instead of console connection.

Issue number	Description	Workaround
VOSS-16951	On a VSP4900-48P, VSP4900-24S and VSP 7400 Series devices, if you run the <b>show boot config sio</b> CLI command before you have configured the baud rate, the output of the command is empty.	Configure the baud rate before you run the <b>show boot config sio</b> command. The only supported baud rate for these devices is 115200.
VOSS-16971	On VSP4900-24S, VSP4900-24XE, and VSP4900-12MXU-12XE devices, and on the VIM5-4XE, if a copper SFP is plugged in with the cable inserted and the remote end is also plugged in, the peer box could see a link flap and take 6-8 seconds to link up.	First, plug in the SFP, and then insert the cable. The link up then happens in 3-4 seconds.
VOSS-17002	For ingress packets that are larger than the system MTU size on XA1400 Series ports 1/1 through 1/4, error counters do not increment in the <b>show interfaces gigabitethernet error</b> CLI command.	Use the <b>show io nic-counters</b> CLI command to verify if the tx_error counters are getting incremented. If they are getting incremented, the packets are getting dropped at egress. If they are not getting incremented, the packets are getting forwarded.
VOSS-17429	For XA1400 Series devices connected to an FE tunnel over IPsec in a dual NAT scenario, if the IPsec responder is rebooted continuously multiple times, the tunnel cannot come back up.	Manually disable and then re-enable IPsec under the Initiator's ISIS logical interface.
VOSS-17478	On 1 G-capable VSP 4900 Series devices, the platform MACsec statistics cannot match the port Interface statistics after Key expiry.	No Workaround. This is a Statistics data issue where the expired SA Packets Counts are removed and not accounted. There is no packet loss, and no errors.
VOSS-17523	If an FE tunnel goes down between two connected XA1400 Series devices, an MTU Warning console message is logged if a ping request is issued while the tunnel is down.	You can safely ignore this warning message.
VOSS-17567	Do not use the inter-vrf /32 static routes defined with a next-hop IP address, that resides in a different destination next-hop-vrf context.	None.



Issue number	Description	Workaround
VOSS-18023	<p>The management port on the 5520 switch does not support Auto-MDIX (the automatic detection of transmit and received twisted pairs). It is recommended that the default auto-negotiation setting on the management port remain enabled. Because the management port does not support Auto-MDIX, when auto-negotiation is disabled, a crossover cable might be necessary in order to have the port link up and pass traffic.</p> <p><b>Note:</b> If the peer device supports Auto-MDIX, then either a straight through or crossover will work. The issue occurs only if both ends of the connection do not support Auto-MDIX.</p>	None.
VOSS-18238	<p>When a management VLAN with DHCP is used to reach a RADIUS server, and the RADIUS server cannot be reached, the system waits for 15 minutes before attempting to reach the RADIUS server again. This is true even if the RADIUS server becomes reachable before the 15 minutes have elapsed.</p>	None.
VOSS-18278	<p>On the 5520 switch, when you make any change relating to port speed, the port statistics are cleared. This applies to all front panel fiber and copper ports as well as VIM ports.</p> <p>The following are examples of changes relating to port speed:</p> <ul style="list-style-type: none"> <li>• Changing the auto-negotiation configuration settings on a copper port</li> <li>• Different negotiated speed on a copper port</li> <li>• Changing out an optical device for one having a different speed, for example changing from 1 Gb to 10 Gb</li> </ul>	None.
VOSS-18360	<p>This is an intermittent issue on the VSP 7400 Series with no impact to functionality, ISIS is disabled while the <b>show fulltech</b> command is running on a telnet session. Due to this the fulltech command will not find the expected I-SID value, as it is removed by the <b>no isis</b> command.</p>	None.

Issue number	Description	Workaround
VOSS-18477	On the VSP 4900 Series, an intermittent traffic loss over the FE tunnels, in SMLT contexts, occurs for a few seconds, when you read ports to the SMLT trunk.	None.
VOSS-19212	After upgrading a VSP 7432CQ switch to VOSS 8.2.5 and rebooting, the presence of a faulty power supply unit will cause the system to terminate. A message in the debug log will report that the software could not read the contents of the power supply's EEPROM ( <i>carbonatelib_ps_read_eeprom</i> operation).	Replace the power supply unit in the switch.
VOSS-19253	On 5520 switches, authentication is not allowed for requesters that use the switch's MAC address as destination rather than using the 802.1x reserved MAC address.	None.
VOSS-19260	Port mirroring does not work on port 1/s1 of VSP 7400-48Y if the connection type is OVS/SR-IOV.	Use a connection type of VT-d for port 1/s1.
VOSS-19364	If you use a Windows client to create a direct SSH session with the Fabric IPsec Gateway virtual machine (VM) and make configuration changes, the VM does not display the running configuration after the SSH session drops. This issue does not affect existing configuration or traffic; only new configuration or show commands are affected.	Use the <b>reboot</b> command to reboot the VM. The VM loads the configuration as normal but services are temporarily impacted during the reboot.
VOSS-19827	LLDP IPv6 neighbors do not display in EDM. LLDP IPv6 is only supported in CLI.	To display LLDP IPv6 neighbors, use the <b>show lldp neighbor summary</b> command.
VOSS-20115	You cannot change the management VLAN interface discovered on XA1400 Series in Extreme Management Center or ExtremeCloud IQ - Site Engine as part of Zero Touch Provisioning Plus (ZTP+). XA1400 Series does not support the OOB interface. You can only use the discovered interface and change other configuration values.	On XA1400 Series, use the discovered interface within Extreme Management Center or ExtremeCloud IQ - Site Engine for basic onboarding. Use either Extreme Management Center or ExtremeCloud IQ - Site Engine or CLI to complete the remaining configuration.

Issue number	Description	Workaround
VOSS-20200	For VSP 8404C, if you remove and insert an Ethernet Switch Module (ESM), which has NNI ports that are members in an LACP-dynamic MLT, some ports are intermittently missing in the dynamic MLT after the ESM insertion. Traffic is affected for streams that need to exit the NNI links over the dynamic MLT for the missing ports. Rebooting the switch returns the ports to the dynamic MLT.	None.
VOSS-20227	On XA1400 Series, the VOSS OS time does not synchronize to the real time clock (RTC) after system reboot. After the switch completely boots, NTP synchronization occurs and the VOSS OS has the correct time. The OS time can be incorrect for up to two minutes after system reboot.	None.
VOSS-20455	<p>As the switch starts, it can display the following log messages due to incomplete initialization of the management stack when trying to send the first RADIUS packet:</p> <ul style="list-style-type: none"> <li>• 1 2021-02-17T23:32:16.810+01:00 DIST-H9-E3.1-01 CP1 - 0x000a45ae - 00000000 GlobalRouter RADIUS ERROR rad_sendRequest: unable to send a UDP packet. error 51, S_errno_ENETUNREACH</li> <li>• 1 2021-02-17T23:32:16.811+01:00 DIST-H9-E3.1-01 CP1 - 0x000a45ac - 00000000 GlobalRouter RADIUS ERROR rad_processPendingRequest: unable to send request</li> </ul>	None. This issue has no functional impact.
VOSS-20456	Although the Management Router is not supported in VOSS, you can add a static route for VRF 512 using EDM. The route does not become active even if the next-hop address is reachable from the OOB management interface.	None. This issue has no functional impact.
VOSS-21097	In Multi-Area where vIST peers are boundary nodes, vIST can briefly flap during connection formation when IS-IS is disabled and then reenabled on both vIST peers.	None.
VOSS-21123	Routers on UNIs of VSP7400 vIST peers cannot ping each other.	Add a static ARP for the Brouter of the VIST peer.

Issue number	Description	Workaround
VOSS-21233	Clearing DVR host entries in a highly scaled Multi-Area DVR environment may trigger DBSYNC WARNING messages (0x00390606 - 00000000 GlobalRouter DBSYNC WARNING Message queue length from DB Sync to tMain reached warning threshold) but these can be expected in a scaled environment and are not a malfunction.	None.
VOSS-21432	When the <b>show trace file</b> command output is saved to a file, non-ASCII characters display at the end of the string.	None.
VOSS-21607	In scaled Multi-area SPB networks, Layer 3 VSN traffic loss can occur on VSP 8600 Series vIST peers from the Remote Area connected to two VSP 7400 Series switches in the Home Area after the remote area virtual node System ID is changed on VSP 7400 Series Boundary Nodes manually (for instance, in this order: IS-IS remote instance is disabled, virtual node system ID is changed to a new value, and IS-IS remote instance is re-enabled).	This issue is not seen if the Virtual node system ID is automatically derived.
VOSS-21663	EAP LLDP authentication (RADIUS bypass) does not work with Cisco IP Phone 7821. With Auto-sense, the authentication of the phone seems to complete successfully and is reachable, but after a while when it is de-authenticated, the phone is also not reachable. This is because Cisco is not encoding its MAC in LLDP packets, but VOSS expects the MAC address in the LLDP packets.	None.
VOSS-21842	Under some circumstances after reboot of a 5520 Series switch with a specific configuration, the SPB nickname fails to be assigned. The specific configuration includes Fabric Attach using a Universal Ethernet port configured as a channelized MLT.	Disable and re-enable IS-IS on the MLT interface.
VOSS-21964	When using Windows SCP application on a switch running VOSS software to transfer a file, an error message displays even if a file transfers successfully.	
VOSS-22255	Ping, which originates from a local CP, fails for ICMP packets bigger than 1500 sent from Layer 3 VSN interface.	Initiate ping with packets size smaller than 1500.

Issue number	Description	Workaround
VOSS-22264	Sending traffic from duplicate DvR hosts over a long period of time can cause errors.	Remove duplicate DvR hosts from the network.
VOSS-22281	An ICMP echo packet reply is not sent for jumbo ICMP echo requests between 9568 and 9600 bytes over a MACsec connection to 5420 Series.	Configure MTU to less than 9568 bytes on neighboring devices.
VOSS-22522	RESTCONF is delayed in a scaled setup with 2,000 VLANs.	None.
VOSS-22824	When an IPv6 multicast entry is learned in a PIM over IPv6 environment on the 5420 Series, an error message displays.	None.
VOSS-22848	Host entry displays at the original location when you migrate a DvR host to another domain.	Clear DvR host entries. This also recovers when the affected controller receives another ARP request or Layer 2 packet originated by the host.
VOSS-22858	LLDP neighbor should not be discovered with mismatch in MKA MACsec on 5520 Series ports.	Disable MKA on both sides or shut down the port on both sides.
VOSS-22917	You cannot add non-private VLAN ports to a platform VLAN that already has a private-VLAN member.	Add non-private VLAN ports to a platform VLAN before you create a Switched UNI for the isolated or promiscuous port in the platform VLAN.
VOSS-23018	DEI marked packets drop when traffic egresses from an untagged port. The DEI bit is configured when traffic is marked yellow by a policer. The drop happens on the switch that is downstream from the switch with the policer.	Choose one of the following: <ul style="list-style-type: none"> <li>• Disable ingress policer and port rate limiter functionality.</li> <li>• Do not configure packets as yellow traffic.</li> </ul>
VOSS-23043	5520 Series does not filter traffic sent with CRC errors.	None.
VOSS-23146	Multi-area DvR/SPBM configuration: <code>Timeout: No response</code> message is returned during snmpwalk on one of the DvR controllers.	Run the snmpwalk command with an increased timeout. You can also run snmpwalk for a specific object.
VOSS-23216	If you do not enable the DvR interface when you configure a dvr-one-ip interface, the dvr-one-ip interface does not display when you issue the <b>show dvr interfaces</b> command.	Enable the DvR interface.
VOSS-23229	In an E-Tree scenario, IPv6 packets are forwarded between isolated ports on 5520 Series, 5420 Series, and VSP 7400 Series.	None.

Issue number	Description	Workaround
VOSS-23241	Configured static IP routes do not clear after you configure a switch as a DvR Leaf node.	Choose one of the following to remove static route configuration: <ul style="list-style-type: none"> <li>• If your switch is already configured as a DvR Leaf node, use the <b>no ip route</b> and <b>save config</b> commands.</li> <li>• Before you configure your switch as a DvR Leaf node, use the <b>clear IP routes</b> or the <b>clear ipv6 route static</b> command.</li> </ul>
VOSS-24771	When you configure the <b>macsec connectivity-association name</b> to the maximum of 16 characters using CLI, the connectivity association name attached to the port or interface does not display in EDM.	Configure the <b>macsec connectivity-association name</b> to a maximum of 15 characters in CLI.
VOSS-24777	In the following port configurations on 5520 Series, 5420 Series, VSP 4900 Series, VSP 7200 Series, VSP 7400 Series, VSP 8200 Series, and VSP 8400 Series, inVSN ACL entries match ingressing packets that have the same VID as the VLAN associated with the ACL I-SID even if the ACL inVSN I-SID is different: <ul style="list-style-type: none"> <li>• on an S-UNI port without a platform VLAN</li> <li>• on a T-UNI port VLAN</li> </ul>	None.
VOSS-25001	When you configure IPv6 on the same DvR-enabled VLAN, IPv6 connectivity might be lost between vIST peers when you add an MLT in that VLAN.	None.

## Restrictions and Expected Behaviors

This section lists known restrictions and expected behaviors that can first appear to be issues.

For Port Mirroring considerations and restrictions, see [VOSS User Guide](#).

## General Restrictions and Expected Behaviors

The following table provides a description of the restriction or behavior.

**Table 48: General restrictions**

Issue number	Description	Workaround
—	If you access the Extreme Integrated Application Hosting virtual machine using <b>virtual-service tpvm console</b> and use the Nano text editor inside the console access, the command <b>^o&lt;cr&gt;</b> does not write the file to disk.	None.
VOSS-7	Even when you change the LLDP mode of an interface from CDP to LLDP, if the remote side sends CDP packets, the switch accepts them and refreshes the existing CDP neighbor entry.	Disable LLDP on the interface first, and then disable CDP and re-enable LLDP.
VOSS-687	EDM and CLI show different local preference values for a BGP IPv6 route. EDM displays path attributes as received and stored in the BGP subsystem. If the attribute is from an eBGP peer, the local preference displays as zero. CLI displays path attributes associated with the route entry, which can be modified by a policy. If a route policy is not configured, the local preference shows the default value of 100.	None.
VOSS-1954	After you log in to EDM, if you try to refresh the page by clicking on the refresh button in the browser toolbar, it will redirect to a blank page. This issue happens only for the very first attempt and only in Firefox.	To refresh the page and avoid this issue, use the EDM refresh button instead of the browser refresh button. If you do encounter this issue, place your cursor in the address bar of the browser, and press <b>Enter</b> . This will return you to the EDM home page.
VOSS-2166	The IPsec security association (SA) configuration has a NULL Encryption option under the <b>Encrypt-algo</b> parameter. Currently, you must fill the <b>encryptKey</b> and <b>keyLength</b> sub-parameters to set this option; however, these values are not used for actual IPsec processing as it is a NULL encryption option. The NULL option is required to interoperate with other vendors whose IPsec solution only supports that mode for encryption.	There is no functional impact due to this configuration and it only leads to an unnecessary configuration step. No workaround required.

**Table 48: General restrictions (continued)**

Issue number	Description	Workaround
VOSS-21946	When you create a vrf using the POSTMAN API platform, special characters, such as \\ \\ \\ and ### included in the URL are ignored.	None.
VOSS-2185	MAC move of the client to the new port does not automatically happen when you move a Non-EAP client authenticated on a specific port to another EAPoL or Non-EAP enabled port.	As a workaround, perform one of the following tasks: <ul style="list-style-type: none"> <li>• Clear the non-EAP session on the port that the client is first authenticated on, before you move the client to another port.</li> <li>• Create a VLAN on the switch with the same VLAN ID as that dynamically assigned by the RADIUS server during client authentication. Use the command <b>vlan create &lt;2-4059&gt; type port-mstprstp &lt;0-63&gt;</b>. Ensure that the new port is a member of this VLAN.</li> </ul>
VOSS-5197	A BGP peer-group is uniquely identified by its name and not by its index. It is possible that the index that is configured for a peer-group changes between system reboots; however this has no functional impact.	None.
VOSS-7553	Option to configure the default queue profile rate-limit and weight values are inconsistent between EDM and CLI. Option to configure default values is missing in EDM.	None.
VOSS-7640	The same route is learned via multiple IPv6 routing protocols (a combination of two of the following : RIPng, OSPFv3 and BGPv6). In this specific case, an eBGP (current best - preference 45) route is replaced by and iBGP (preference 175) which in turn is replaced by and OSPFv3 (external 2) route (preference 125).	None.
VOSS-7647	With peer group configuration, you cannot configure Update Source interface with IPv6 loopback address in EDM.	Use CLI.
VOSS-9174	OVSDDB remote VTEP and MAC details can take between 5 to 10 minutes to populate and display after a HW-VTEP reboots.	Known issue in VMware NSX 6.2.4. You can upgrade to NSX 6.4 to resolve this issue.



**Table 48: General restrictions (continued)**

Issue number	Description	Workaround
VOSS-9462	OVSDB VNID I-SID MAC bindings are not populated on HW-VTEPs after configuration changes.	Known issue in VMware NSX 6.2.4. You can upgrade to NSX 6.4 to resolve this issue.
VOSS-10168	The system CLI does not prevent you from using the same IP address for the VXLAN Gateway hardware VTEP replication remote peer IP and OOB Management IP.	Manually check the IP configured as the OOB Management IP. Do not use the OOB Management IP address as the replication remote peer IP address.
VOSS-11817	The OVS connect-type for virtual service Vports is designed in such a way that it connects to any generic virtual machine (VM) guest OS version using readily available Ethernet device drivers. This design approach provides initial connectivity to the VM in a consistent manner. A consequence of this approach is that Vports created with connect-type OVS will show up as 1 Gbps interfaces in the VM even though the underlying Ethernet connection supports 10 Gbps .	If additional performance is desired, upgrade the VM guest OS with an Ethernet device driver that supports 10 Gbps interfaces.
VOSS-12151	If logical switch has only hardware ports binding, and not VM behind software VTEP, Broadcast, Unknown Unicast, and Multicast (BUM) traffic does not flow between host behind two hardware VTEP. The NSX replicator node handles the BUM traffic. NSX does not create the replicator node unless a VM is present. In an OVSDB topology, it is expected that at least one VM connects to the software VTEP. This issue is an NSX-imposed limitation.	After you connect the VM to the software VTEP, the issue is not seen.
VOSS-12395	You cannot use the following cables on 10 Gb fiber interfaces, or 40 Gb channelized interfaces, with the QSA28 adapter: <ul style="list-style-type: none"> <li>• 1, 3, and 5 meter QSFP28 25 Gb DAC</li> <li>• 20 meter QSFP28 25 Gb AOC</li> </ul>	n/a
VOSS-17871	Starting with VOSS 8.1.5, internal system updates have resulted in a more accurate accounting of memory utilization. This can result in a higher baseline memory utilization reported although actual memory usage is not impacted.	Update any network management alarms that are triggered by value with the new baseline.

**Table 48: General restrictions (continued)**

Issue number	Description	Workaround
VOSS-18523	When you configure a port using Zero Touch Provisioning Plus (ZTP+) with Extreme Management Center or ExtremeCloud IQ - Site Engine, the port cannot be part of both a tagged VLAN and an untagged VLAN.	n/a
VOSS-18409	On the XA1400 Series switches, only one Central Processing Unit (CPU) core is assigned for control plane protocol processing. In a highly scaled scenario, a port toggling or negative scenario keeps the CPU core busy in updating the software datapath entries. Similarly, some show CLI commands that require a lot of data gathering keep the CPU core busy. In such a scenario, the main task which is responsible for handling protocol packets like Bidirectional Forwarding Detection, Intermediate-System-to-Intermediate-System, Virtual Link Aggregation Control Protocol, and so on is busy.	For scaled scenarios on XA1400 Series switches, the CLI commands that have large sections of output, for example, show fulltech, show io spb tables, and show tech, the output must be redirected into a file.
VOSS-18774	SSL negotiation fails when using OpenSSL client version 1.1.1. With OpenSSL 1.1.1, the server-name extension is used. This extension needs to equal the domain name in the server certificate, otherwise the certificate lookup on the server fails since the FIPS 140-2 certified cryptographic module processes the server-name extension.	Can connect using: <code>bash# openssl s_client -connect &lt;domain-name&gt;:443</code>
VOSS-18851	Do not define a static route in which the NextHop definition uses an Inter-VRF redistributed route. Such a definition would require the system to perform a double lookup. When you attempt to define a static route in this way, an error message is generated.	Define the static route in such a way that it does not require Inter-VRF redistributed routing.
VOSS-18910	On the 5520 platform in Release 8.2.5, the maximum number of forwarding Layer 2 VSNs is 3580.	n/a

**Table 48: General restrictions (continued)**

Issue number	Description	Workaround
VOSS-21620	When interior nodes are running software earlier than Release 8.4 and a Multi-area takeover occurs between the boundary nodes (when the non-designated boundary node transitions to designated) in the network, the interior nodes might detect a false duplicate case between the stale LSP of the old virtual node and the new virtual node. This has no functional impact in the network.	n/a
wi01068569	The system displays a warning message that routes will not inject until the apply command is issued after the enable command. The warning applies only after you enable redistribution, and not after you disable redistribution. For example: <b>Switch:1(config)#isis apply redistribute direct vrf 2</b>	n/a
wi01112491	IS-IS enabled ports cannot be added to an MLT. The current release does not support this configuration.	n/a
wi01122478	Stale SNMP server community entries for different VRFs appear after reboot with no VRFs. On a node with a valid configuration file saved with more than the default vrf0, SNMP community entries for that VRF are created and maintained in a separate text file, <code>snmp_comm.txt</code> , on every boot. The node reads this file and updates the SNMP communities available on the node. As a result, if you boot a configuration that has no VRFs, you can still see SNMP community entries for VRFs other than the globalRouter vrf0 .	n/a
wi01137195	A static multicast group cannot be configured on a Layer 2 VLAN before enabling IGMP snooping on the VLAN. After IGMP snooping is enabled on the Layer 2 VLAN for the first time, static multicast group configuration is allowed, even when IGMP snooping is disabled later on that Layer 2 VLAN.	n/a

**Table 48: General restrictions (continued)**

Issue number	Description	Workaround
wi01141638	When a VLAN with 1000 multicast senders is deleted, the console or Telnet session stops responding and SNMP requests time out for up to 2 minutes.	n/a
wi01142142	When a multicast sender moves from one port to another within the same BEB or from one vIST peer BEB to another, with the old port operationally up, the source port information in the output of the <b>show ip igmp sender</b> command is not updated with new sender port information.	<p>You can perform one of the following workarounds:</p> <ul style="list-style-type: none"> <li>On an IGMP snoop-enabled interface, you can flush IGMP sender records.</li> </ul> <p><b>Caution:</b> Flushing sender records can cause a transient traffic loss.</p> <ul style="list-style-type: none"> <li>On an IGMP-enabled Layer 3 interface, you can toggle the IGMP state.</li> </ul> <p><b>Caution:</b> Expect traffic loss until IGMP records are built after toggling the IGMP state.</p>
wi01145099	IP multicast packets with a time-to-live (TTL) equal to 1 are not switched across the SPB cloud over a Layer 2 VSN. They are dropped by the ingress BEB.	To prevent IP multicast packets from being dropped, configure multicast senders to send traffic with TTL greater than 1.
wi01159075	VSP 4450GTX-HT-PWR+: Mirroring functionality is not working for RSTP BPDUs.	None.
wi01171670	Telnet packets get encrypted on MACsec enabled ports.	None.
wi01198872	On VSP 4450 Series, a loss of learned MAC addresses occurs in a vIST setup beyond 10k addresses. In a SPB setup the MAC learning is limited to 13k MAC addresses, due to the limitation of the internal architecture when using SPB. Moreover, as vIST uses SPB and due to the way vIST synchronizes MAC addresses with a vIST pair, the MAC learning in a vIST setup is limited to 10K Mac addresses.	None.
wi01210217	The command <b>show eapol auth-stats</b> displays LAST-SRC-MAC for NEAP sessions incorrectly.	n/a

**Table 48: General restrictions (continued)**

Issue number	Description	Workaround
wi01211415	In addition to the fan modules, each power supply also has a fan. The power supply stops working if a power supply fan fails, but there is no LED or software warning that indicates this failure.	Try to recover the power supply fan by resetting the switch. If the fan does not recover, then replace the faulty power supply.
wi01212034	When you disable EAPoL globally: <ul style="list-style-type: none"> <li>Traffic is allowed for static MAC configured on EAPoL enabled port without authentication.</li> <li>Static MAC config added for authenticated NEAP client is lost.</li> </ul>	n/a
wi01212247	BGP tends to have many routes. Frequent additions or deletions impact network connectivity. To prevent frequent additions or deletions, reflected routes are not withdrawn from client 2 even though they are withdrawn from client 1. Disabling route-reflection can create a black hole in the network.	Bounce the BGP protocol globally.
wi01212585	LED blinking in EDM is representative of, but not identical to, the actual LED blinking rates on the switch.	n/a
wi01213040	When you disable auto-negotiation on both sides, the 10 Gbps copper link does not come up.	n/a
wi01213066 wi01213374	EAP and NEAP are not supported on brouter ports.	n/a
wi01213336	When you configure tx mode port mirroring on T-UNI and SPBM NNI ports, unknown unicast, broadcast and multicast traffic packets that ingress these ports appear on the mirror destination port, although they do not egress the mirror source port. This is because tx mode port mirroring happens on the mirror source port before the source port squelching logic drops the packets at the egress port.	n/a
wi01219658	The command <b>show khi port-statistics</b> does not display the count for NNI ingress control packets going to the CP.	n/a
wi01219295	SPBM QOS: Egress UNI port does not follow port QOS with ingress NNI port and Mac-in-Mac incoming packets.	n/a

**Table 48: General restrictions (continued)**

Issue number	Description	Workaround
wi01223526	ISIS logs duplicate system ID only when the device is a direct neighbor.	n/a
wi01223557	Multicast outage occurs on LACP MLT when simplified vIST peer is rebooted.	You can perform one of the following workarounds: <ul style="list-style-type: none"> <li>• Enable PIM on the edge.</li> <li>• Ensure that IST peers are either RP or DR but not both.</li> </ul>
wi01224683 wi01224689	Additional link bounce can occur on 10 Gbps ports when toggling links or during cable re-insertion. Additional link bounce can occur with 40 Gbps optical cables and 40 Gbps break-out cables, when toggling links or during cable re-insertion.	n/a
wi01229417	Origination and termination of IPv6 6-in-4 tunnel is not supported on a node with vIST enabled.	None.
wi01232578	When SSH keyboard-interactive-auth mode is enabled, the server generates the password prompt to be displayed and sends it to the SSH client. The server always sends an expanded format of the IPv6 address. When SSH keyboard-interactive-auth mode is disabled and password-auth is enabled, the client itself generates the password prompt, and it displays the IPv6 address format used in the <b>ssh</b> command.	None.
wi01234289	HTTP management of the ONA is not supported when it is deployed with a VSP 4450 Series device.	None.

## VSP 4450GTX-HT-PWR+ Restrictions



### Caution

The VSP 4450GTX-HT-PWR+ has operating temperature and power restrictions. For safety and optimal operation of the device, ensure that the prescribed thresholds are strictly adhered to.

The following table provides a description of the restriction or behavior and the work around, if one exists.

**Table 49: VSP 4450GTX-HT-PWR+ restrictions**

Behavior	Description	Workaround
For high-temperature threshold	The VSP 4450GTX-HT-PWR+ supports a temperature range of 0°C to 70°C. In the alpha release, power supply does not shut down at an intended over-temperature threshold of 79°C.	To prevent equipment damage, ensure that the operating temperature is within the supported temperature range of 0°C to 70°C.
For power supply wattage threshold	Software functionality to reduce the POE power budget based on the number of operational power supplies and operating temperature is not available in the Alpha SW image.	Ensure that the POE device power draw is maintained at the following when the device is at temperatures between 61°C and 70°C: <ul style="list-style-type: none"> <li>• 400W — with 1 operational power supply</li> <li>• 832W — with 2 operational power supplies</li> </ul>
For inoperable external USB receptacle	The VSP 4450GTX-HT-PWR+ has an empty external USB receptacle that was not available in GTS models. Software to support the use of the external USB receptacle is not yet available in the Alpha SW image. Therefore the USB port is inoperable.	No workarounds are provided with the alpha image.

## SSH Connections

VOSS 4.1.0.0 and VOSS 4.2.0.0 SSH server and SSH client support password authentication mode.

VOSS 4.2.1.0 changed the SSH server from password authentication to keyboard-interactive. VOSS 4.2.1.0 changed the SSH client to automatically support either password authentication or keyboard-interactive mode.

In VOSS 4.2.1.0, you cannot configure the SSH server to support password authentication. This limitation creates a backward compatibility issue for SSH clients that do not support keyboard-interactive mode, including SSH clients that are part of pre-VOSS 4.2.1.0 software releases. For example, VOSS 4.1.0.0 SSH clients, VOSS 4.2.0.0 SSH clients, and external SSH clients that only support password authentication cannot connect to VOSS 4.2.1.0 SSH servers.

This issue is addressed in software release VOSS 4.2.1.1 and later. The default mode of the SSH server starting from VOSS 4.2.1.1 is changed back to password authentication. Beginning with VOSS 5.0, you can use a CLI command to change the SSH server mode to keyboard-interactive.

For more information about how to configure the SSH server authentication mode, see [VOSS User Guide](#).

See the following table to understand SSH connections between specific client and server software releases.

**Table 50: SSH connection support**

Client software release	Server software release	Support
VOSS 4.1.0.0	VOSS 4.2.0.0	Supported
VOSS 4.1.0.0	VOSS 4.2.1.0	Not supported
VOSS 4.2.0.0	VOSS 4.2.1.0	Not supported
VOSS 4.1.0.0	VOSS 4.2.1.1	Supported
VOSS 4.2.0.0	VOSS 4.2.1.1	Supported

## Fabric Extend IP over ELAN/VPLS

This feature allows multiple switches running Fabric Extend IP to be directly connected over a Layer 2 broadcast domain without the need for loopback VRFs in Release 6.0 or later.

Releases earlier than 6.0 have a single next hop/ARP restriction that require the use of loopback VRFs to deploy Fabric Extend IP over ELAN/VPLS.

For more information, see [VOSS User Guide](#).

## Redirect Next-hop Filter Restrictions

This feature does not behave the same way on all platforms:

- VSP 4450 Series and VSP 7400 Series

The redirect next-hop filter redirects packets with a time-to-live (TTL) of 1 rather than sending them to the CPU where the CPU would generate ICMP TTL expired messages. IP Traceroute does not correctly report the hop. For more information, see [VOSS User Guide](#).

- VSP 7200 Series and VSP 8000 Series

The redirect next-hop filter does not redirect packets with a time-to-live (TTL) of 1 nor does it send them to the CPU where the CPU would generate ICMP TTL expired messages. IP Traceroute reports a timeout for the hop. For more information, see [VOSS User Guide](#).

## IP Source Guard Restrictions

If you enable Application Telemetry, IPv6 Source Guard commands and configurations are blocked and not available on VSP 4450 Series, VSP 7200 Series, and VSP 8000 Series switches.



## Filter Restrictions

The following table identifies known restrictions.

**Table 51: ACL restrictions**

Applies To	Restriction
All platforms	Only port-based ACLs are supported on egress. VLAN-based ACLs are not supported.
All platforms	IPv6 ingress and egress QoS ACL/filters are not supported.
All platforms	Control packet action is not supported on InVSN Filter or IPv6 filters generally.
All platforms	IPv4/IPv6 VLAN based ACL filters will be applied on traffic received on all the ports if it matches VLAN ID associated with the ACL.
VSP 7200 Series VSP 7400 Series VSP 8000 Series	VLAN ID and VLAN_DOT1p attributes for untagged traffic are not supported for ingress/egress filters.
All platforms	Scaling numbers are reduced for IPv6 filters.
All platforms	The InVSN Filter does supports IP Shortcut traffic only on both UNI and NNI ports, but does not support IP Shortcut traffic on UNI ports only and NNI ports only.
All platforms	The InVSN Filter does not filter packets that arrive on NNI ingress ports but are bridged to other NNI ports or are for transit traffic.
All platforms	You can insert an InVSN ACL type for a Switched UNI only if the Switched UNI I-SID is associated with a platform VLAN.

**Table 52: ACE restrictions**

Applies To	Restriction
All platforms	When an ACE with action count is disabled, the statistics associated with the ACE are reset.
All platforms	Only security ACEs are supported on egress. QoS ACEs are not supported.
All platforms	ICMP type code qualifier is supported only on ingress filters.
All platforms	For port-based ACLs, you can configure VLAN qualifiers. Configuring port qualifiers are not permitted.
All platforms	For VLAN-based ACLs, you can configure port qualifiers. Configuring VLAN qualifiers are not permitted.
All platforms	Egress QoS filters are not supported for IPv6 filters.
All platforms	Ingress QoS filters are not supported for IPv6 filters.
All platforms	Source/Destination MAC addresses cannot be added as attributes for IPv6 filters ACEs.
VSP 4450 Series VSP 7200 Series VSP 8000 Series	If more than 256 IPv6 filters are configured, the number of IPv4 filters is reduced.
VSP 4450 Series VSP 7200 Series VSP 8000 Series	If you enable Application Telemetry, IPv6 security filter commands and configurations are blocked and not available.



## Resolved Issues in VOSS 8.5

VOSS 8.5 incorporates all fixes from prior releases, up to and including VOSS 8.4.3:

Issue number	Description
VOSS-9917	The log message <code>INFO Switch Externally Rebooted with CoreDump</code> does not consistently appear on the console port before reboot when you select the <b>softResetCoreDump</b> option from EDM.
VOSS-19141	VOSS 8.1.7.0: Switch is not forwarding traffic and L2 pings via established FE tunnel.
VOSS-19721	VOSS: Egress Q7 overrun impacts entire Fabric when replacing a unit in the stack.
VOSS-20634	VSP 7400 Series 8.2.7.0: CPLD version to be displayed in CLI command <b>show sys-info cpld</b> output.
VOSS-21204	Incorrect Operate speed displays for some ports in Device Physical View in EDM for Segmented Management Interface.
VOSS-21241	For VSP 4450 Series, only one EAP/NEAP MAC is learned on a port configured with MAC FDB limit.
VOSS-21314	EDM disconnects after exceeding inactivity-timeout even if there is activity.
VOSS-21315	When the 5520 Series boots with factory default configuration (or with the default auto negotiation configuration) and the port is admin enabled, the 5520-VIM-4YE versatile interface module (VIM) might not operate when the SFP28 is inserted in the port for the first time.
VOSS-21630	VSP 8404: Specific inter vrf traffic outage after upgrading from 6.1.1.0 to 7.1.X and then 8.1.9.
VOSS-21815	VSP 7400 Series: DVR Controller inconsistency in alternative routes (direct interfaces are not always learned).
VOSS-22033	The time set by clock command does not properly change the time.
VOSS-22335	Considerable drift between BFD In and out packets in a scaled setup.
VOSS-22364	VSP 7200 Series: Switch is not reachable via SSH when is the VRRP Master.
VOSS-22461	In a scaled Multi-area SPB topology with a large number of multicast streams, a loss of multicast traffic can occur when restarting IS-IS on a designated boundary node.

Issue number	Description
VOSS-22468	The following DBSYNC warning message displays in a Multi-area SPB topology with a large number of distributed DVR host routes when DVR controllers are bounced in different areas: 1 2021-09-03T07:33:50.780Z VSP7432-2 CP1 - 0x00390602 - 00000000 GlobalRouter DBSYNC WARNING TLV not found in local DB Sync data base, deletion failed! TLV: Type: BB_HOSTROUTE   Len: 37   Rsvd: 0x00   L3ISID: 0   L2ISID: 30   IPv4: 10.30.44.20/32   BDA MAC: 12:00:02:ff:ff:f0   CDA MAC: 00:00:52:44:da:f1   DomainId: 9999   dvrCtrlSysId: 12:00:02:ff:ff:f0
VOSS-22537	5520 Series: SSH session hangs when switch tries to send packet with TCP MSS 1460 bytes over logical interface.
VOSS-22560	Sys software commit-time does not change the confirm-time.
VOSS-22566	5520 Series: Traffic arrived on fabric extend over ELAN on Sec BEB (vist node) does not reach the primary BEB (vist peer) due to being not encapsulated with spb header.
VOSS-22631	VSP 4900 Series and 5520 Series: SNMP Walk 1.3.6.1.4.1.2272.1.4.8 timeout for about 60 seconds.
VOSS-22635	Unexpected reboot of a VSP 4450GSX-PWR+.
VOSS-22678	Log Error 0x000e460b: IP Address format in Reverse Canonical Order.
VOSS-22682	Traffic flows between Private VLAN isolated ports.
VOSS-22691	The result of <b>show pluggable-optical-modules detail</b> have lack of information.
VOSS-22743	5520 Series: POE: default 802.3at+legacy pd detection mode is not being applied on bootup.
VOSS-22745	VOSS 8.4.1.1: lacp trace 59 not showing critical diagnostics info including system id, lacp key as we could see on ERS 8600 or VSP 8600.
VOSS-22750	VOSS: E-Tree allows traffic between isolated ports machines.
VOSS-22758	Dynamic Nickname not received by VSP 4900 Series without a reboot.
VOSS-22780	TZ: zoneinfo files need to be updated to reflect changes in daylight savings time around the world.
VOSS-22867	SPB nickname is not assigned when ISIS authentication is used.
VOSS-22890	VSP 7400 Series 8.3.1.0: The feature "fragment-before-encrypt" can be added incorrectly without an error message returned.
VOSS-22894	VOSS: Unable to assign IP address to VLAN 1 via EDM.
VOSS-22898	Tagged DHCP packets are leaking on routed DHCP relay VLANs.
VOSS-22921	VSP 7400 Series 8.2.7: Connecting to external google time servers (iqagent disabled)
VOSS-22922	After XIQ integration, unable to login into VOSS switch after reboot using configured user credentials.
VOSS-22947	VOSS CLI commands introduced to provision FIGW needs helper file and documentation.

Issue number	Description
VOSS-22986	OCSP checks should not be performed when AIA OCSP URL is missing in the certificate (nonESM).
VOSS-23003	VOSS 8.4.2: Default auto-sense wait time (35 seconds) makes EAPoL authentication of Windows clients impossible.
VOSS-23014	VSP 7200 Series rollback with coredump while upgrading from 7.1.10 to 8.1.10
VOSS-23016	Log "MLT WARNING smltTick: The ISIS peer adjacency failed to come up" appeared even when the adjacency was UP.
VOSS-23071	VSP 4900 Series, VSP 7400 Series, 5520 Series, and 5420 Series 8.4.2.x: CPU vs MAC sensor OID read change.
VOSS-23089	VSP 7254XSQ 8.2.8.0: BFD packets from Palo Alto FW getting copied to CPU with qos=6 going into VRRP queue when traversing L2VSN.
VOSS-23090	PSU 1 details shows blank on U5420F on VOSS Code.
VOSS-23140	VOSS 8.4: RADIUS reachability password gets appended to the username if username exceeds 15 characters.
VOSS-23144	VSP 4850 Series/VSP 4450 Series have "show int gig loop-detected" cmd even though loop-detect cmd does not exist.
VOSS-23173	VOSS: Statically configured LLDP MED Voice parameters not sending to Alcatel Lucent phone.
VOSS-23244	Connectivity to the VRRP IP on other switches gets lost after removing VLAN IP address or VRRP config one switch.
VOSS-23371	VSP 7400 Series: Tx and Rx Actual Value is not visible on EDM.
VOSS-24743	Switch core-dumps when installing offline certificate.



# Related Information

[MIB Changes on page 157](#)

## MIB Changes

### Deprecated MIBs

**Table 53: Common**

Object Name	Object OID	Deprecated in VOSS Release
rcCliMaxTelnetSessions	1.3.6.1.4.1.2272.1.19.11	8.2
rcSyslogGlobalHeader	1.3.6.1.4.1.2272.1.22.1.4	8.2
rcNtpGlobalVersion	1.3.6.1.4.1.2272.1.33.1.7	8.2
rcIsmGlobalMgmtIpAddr	1.3.6.1.4.1.2272.1.63.1.21	8.2
rcKhiCppProtocolDropsRshCnt	1.3.6.1.4.1.2272.1.85.12.5.16	8.2
rcKhiCppProtocolDropsRloginCnt	1.3.6.1.4.1.2272.1.85.12.5.58	8.2
rc2kBootConfigEnableRloginServer	1.3.6.1.4.1.2272.1.100.5.1.17	8.2
rcCloudIqNotificationEnable	1.3.6.1.4.1.2272.1.230.1.1.10	8.2
rcIsmServiceOrigin	1.3.6.1.4.1.2272.1.87.2.1.7	8.3
rcIsmElanEndPointOrigin	1.3.6.1.4.1.2272.1.87.4.1.6	8.3
rcSyslogRootCertificateTable	1.3.6.1.4.1.2272.1.22.5	8.3.100
rcSyslogRootCertificateEntry	1.3.6.1.4.1.2272.1.22.5.1	8.3.100
rcSyslogRootCertificateFilename	1.3.6.1.4.1.2272.1.22.5.1.1	8.3.100
rcSyslogRootCertificateAction	1.3.6.1.4.1.2272.1.22.5.1.2	8.3.100
rcSyslogRootCertificateRowStatus	1.3.6.1.4.1.2272.1.22.5.1.3	8.3.100
rcDigitalCertTable	1.3.6.1.4.1.2272.1.222.1.1.4	8.3.100
rcDigitalCertStoreTable	1.3.6.1.4.1.2272.1.222.1.1.5	8.3.100
rcDigitalCertKeyTable	1.3.6.1.4.1.2272.1.222.1.1.2	8.3.100
rcIsmInterfaceOrigin	1.3.6.1.4.1.2272.1.87.5.1.6	8.3
rcIsmBgpGeneralGroupRoutePolicyIn	1.3.6.1.4.1.2272.1.8.101.1.22	8.5

**Table 53: Common (continued)**

Object Name	Object OID	Deprecated in VOSS Release
rcIpBgpGeneralGroupRoutePolicyOut	1.3.6.1.4.1.2272.1.8.101.1.23	8.5
rcIpConfOspfRfc1583Compatibility	1.3.6.1.4.1.2272.1.8.1.4.5	8.5

**Table 54: XA1400 Series**

Object Name	Object OID	Deprecated in VOSS Release
rcIscGlobalTcpAdjustMssEnable	1.3.6.1.4.1.2272.1.63.1.27	8.3.1
rcIscGlobalTcpAdjustMssStatus	1.3.6.1.4.1.2272.1.63.1.28	8.3.1
rcIscGlobalTcpAdjustMssType	1.3.6.1.4.1.2272.1.63.1.29	8.3.1
rcIscGlobalTcpAdjustMssValue	1.3.6.1.4.1.2272.1.63.1.30	8.3.1
rcIscLogicalInterfaceEncryptionKeyLength	1.3.6.1.4.1.2272.1.63.26.1.18	8.3.1

## Modified MIBs

**Table 55: Common**

Object Name	Object OID	Modified in VOSS Release	Modification
rcPortType	1.3.6.1.4.1.2272.1.4.10.1.1.2	8.1	ADD_ENUM: 195-212
rcVossSystemVimAdminSpeed	1.3.6.1.4.1.2272.1.101.1.1.1.3	8.1	ADD_ENUM: unsupported(3)
rcVossSystemCardLedId	1.3.6.1.4.1.2272.1.101.1.1.5.1.2	8.1	CHANGE_RANGE: Changed the range from 1.5 to 1.9
rcSysDnsServerListType	1.3.6.1.4.1.2272.1.1.64.1.1	8.1.60	Added the following fields to support dynamic servers: <ul style="list-style-type: none"> <li>primaryDynamic</li> <li>secondaryDynamic</li> <li>tertiaryDynamic</li> </ul>
rcNlsMgmtIpRouteType	1.3.6.1.4.1.2272.1.223.8.1.7	8.1.60	Added the following value: <ul style="list-style-type: none"> <li>dhcp(4)</li> </ul>
SnpxChassisType		8.2.5	ADD ENUM: m552048TVOSS, m552048WVOSS, m552012MW36WVOSS, m552024TVOSS, m552024WVOSS, m552024XVOSS, m552048SEVOSS

**Table 55: Common (continued)**

Object Name	Object OID	Modified in VOSS Release	Modification
rcChasType	1.3.6.1.4.1.2272.1.4.1	8.2.5	ADD ENUM: a552024TVOSS, a552024WVOSS, a552048TVOSS, a552048WVOSS, a552012MW36WVOSS, a552048SEVOSS, a552024XVOSS
rc2kCardFrontType	1.3.6.1.4.1.2272.1.100.6.1.2	8.2.5	ADD ENUM: voss5520x24T, voss5520x24W, voss5520x48T, voss5520x48W, voss5520x12MW36W, voss5520x48SE, voss5520x24X, voss5520x4X
rcLicenseLicenseType	1.3.6.1.4.1.2272.1.56.4	8.2.5	ADD_ENUM: macsec(15)
rc2kPowerConsumptionInfoCardDescription	1.3.6.1.4.1.2272.1.100.17.1.7	8.4	CHANGE_RANGE: Changed the range from 0..20 to 0..24
rcDvrGlobalRole	1.3.6.1.4.1.2272.1.219.1.2	8.4	OTHER: parameter controller is not supported on 5420

**Table 56: 5420 Series**

Object Name	Object OID	Modified in VOSS Release	Modification
rcVossSystemCardLedStatus	1.3.6.1.4.1.2272.1.101.1.1.5.1.4	8.4	ADD_NEW_VALUE: blueBlinking(8)
rc2kChassisPortLed3Status	1.3.6.1.4.1.2272.1.100.1.14	8.4	OTHER: Add 5420 in description, it behaves as 5520.
rcVlanNlbMode	1.3.6.1.4.1.2272.1.3.2.1.46	8.4	NOT_SUPPORT: nlb feature unsupported on platform
rcVlanPimGatewayEnable	1.3.6.1.4.1.2272.1.3.2.1.73	8.4	NOT_SUPPORT: pim gateway feature unsupported on platform
rcIpConfPimGatewayEnable	1.3.6.1.4.1.2272.1.8.1.1.30	8.4	NOT_SUPPORT: pim gateway feature unsupported on platform
rcIpSpbPimGw	1.3.6.1.4.1.2272.1.8.114	8.4	NOT_SUPPORT: spb pim gateway feature unsupported on this platform
rcIsisPlsbMcastSpbPimGwControllerEnable	1.3.6.1.4.1.2272.1.63.4.1.15	8.4	NOT_SUPPORT: pim gateway feature unsupported on platform

**Table 56: 5420 Series (continued)**

Object Name	Object OID	Modified in VOSS Release	Modification
rcIshPbMcastSpbPimGwGatewayEnable	1.3.6.1.4.1.2272.1.63.4.1.16	8.4	NOT_SUPPORT: pim gateway feature unsupported on platform
rcDvrBackboneEntriesAdvControllerName	1.3.6.1.4.1.2272.1.219.8.1.8	8.4	NOT_SUPPORT: dvr controller feature unsupported on platform
rcDvrBackboneEntriesAdvController	1.3.6.1.4.1.2272.1.219.8.1.9	8.4	NOT_SUPPORT: dvr controller feature unsupported on platform
rcPortAutoNegAd	1.3.6.1.4.1.2272.1.4.10.1.1.62	8.5	ADD_NEW_VALUE: advertise25000Full(13)

**Table 57: 5520 Series**

Object Name	Object OID	Modified in VOSS Release	Modification
bnIfExtnPoweredDeviceDetectType	1.3.6.1.4.1.45.1.6.15.1.1.1.6	8.2.5	ADD_ENUM: compliantWith802dot3btType 3(5), compliantWith802dot3btType 4(6)
bspePethPsePortExtPowerLimit	1.3.6.1.4.1.45.5.8.1.1.1.5	8.2.5	CHANGE_RANGE: from 64 to 98
bspePethPsePortExtMeasuredCurrent	1.3.6.1.4.1.45.5.8.1.1.1.6	8.2.5	CHANGE_RANGE: from 1200 to 1920
bspePethPsePortExtMeasuredPower	1.3.6.1.4.1.45.5.8.1.1.1.7	8.2.5	CHANGE_RANGE: from 64000 to 98000
rc2kChassisPortLed3Status	1.3.6.1.4.1.2272.1.100.1.14	8.2.5	ADD_NEW_VALUES: Add values for speed and activity for VSP5520
rcMACSecConnectivityAssociationTxKeyParity	1.3.6.1.4.1.2272.1.88.1.1.6	8.2.5	REMOVED none(1) value



**Table 57: 5520 Series (continued)**

Object Name	Object OID	Modified in VOSS Release	Modification
rcSysActionL	1.1.3.6.1.4.1.2272.1.1.86	8.2.5	ADD_ENUM: revokeLicensePremier(12), revokeLicenseMacsec(12)
rcPortAutoNegAd	1.3.6.1.4.1.2272.1.4.10.1.1.62	8.5	ADD_NEW_VALUE: advertise25000Full(13)

**Table 58: XA1400 Series**

Object Name	Object OID	Modified in VOSS Release	Modification
rcIsglobalIpTunnelMtu	1.3.6.1.4.1.2272.1.63.1.20.0	8.1	CHANGE_RANGE: Changed the range from 750..1950 to 750..9000
rcIsgLogicalInterfaceShapingRate	1.3.6.1.4.1.2272.1.63.26.1.16	8.1	CHANGE_RANGE: Changed the range from 0..5000 to 0..1000. Changed the type from Integer32 to INTEGER.
rcCfmTransmitL2IpPingIpAddrType	1.3.6.1.4.1.2272.1.69.37.1.1	8.1.1	Supports only Ipv4 address type.
rcCfmTransmitL2IpPingIpAddr	1.3.6.1.4.1.2272.1.69.37.1.2	8.1.1	Supports only ipv4 address.
rcIpsecPolicyDstAddressType	1.3.6.1.4.1.2272.1.213.1.1.2	8.1.1	Supports only Ipv4 address type.
rcIpsecPolicyDstAddress	1.3.6.1.4.1.2272.1.213.1.1.3	8.1.1	Supports only ipv4 address.
rcIpsecPolicySrcAddressType	1.3.6.1.4.1.2272.1.213.1.1.4	8.1.1	Supports only Ipv4 address type.
rcIpsecPolicySrcAddress	1.3.6.1.4.1.2272.1.213.1.1.5	8.1.1	Supports only ipv4 address.
rcIpsecPolicyL4Protocol	1.3.6.1.4.1.2272.1.213.1.1.9	8.1.1	Supports only tcp(6), udp(17) and icmp(1) values.
rcIpRedistributeInterVrfProtocol	1.3.6.1.4.1.2272.1.8.100.22.1.2	8.1.1	Supports only ospf(1), bgp(2), isis(3), vrf-ext(4) and rip(6) values.
rcIpRedistributeInterVrfRouteSource	1.3.6.1.4.1.2272.1.8.100.22.1.4	8.1.1	Supports only direct(1), static(2), rip(3), ospf(4), bgp(5) and isis(13) values.
rcCfmTransmitL2IpTracelpAddrType	1.3.6.1.4.1.2272.1.69.39.1.1	8.1.1	Supports only ipv4 address type.
rcCfmTransmitL2IpTracelpAddr	1.3.6.1.4.1.2272.1.69.39.1.2	8.1.1	Supports only ipv4 address.
rcPortIngressRateLimit	1.3.6.1.4.1.2272.1.4.10.1.1.85	8.1.50	Supports 10000000 maximum value.

**Table 58: XA1400 Series (continued)**

Object Name	Object OID	Modified in VOSS Release	Modification
rmon	1.3.6.1.2.1.16	8.2	REACTIVATE: Supports RMON2 on MicroVSP.
rc2kChassisPortLed3Status	1.3.6.1.4.1.2272.1.100.1.14	8.2	ADD_NEW_VALUES: Add values for speed and activity for XA1400.

**Table 59: VSP 4900 Series**

Object Name	Object OID	Modified in VOSS Release	Modification
rcPortAutoNegAd	1.3.6.1.4.1.2272.1.4.10.1.1.62	8.5	ADD_NEW_VALUE: advertise25000Full(13)

**Table 60: VSP 7400 Series**

Object Name	Object OID	Modified in VOSS Release	Modification
rcPortAutoNegAd	1.3.6.1.4.1.2272.1.4.10.1.1.62	8.5	ADD_NEW_VALUE: advertise25000Full(13)

**Table 61: VSP 8200 Series**

Object Name	Object OID	Modified in VOSS Release	Modification
rcPortAutoNegAd	1.3.6.1.4.1.2272.1.4.10.1.1.62	8.5	ADD_NEW_VALUE: advertise25000Full(13)

## New MIBs

**Table 62: Common**

Object Name	Object OID	New in VOSS Release
entLogicalTable	1.3.6.1.2.1.47.1.2.1	8.4
entLogicalEntry	1.3.6.1.2.1.47.1.2.1.1	8.4
entLogicalIndex	1.3.6.1.2.1.47.1.2.1.1.1	8.4
entLogicalDescr	1.3.6.1.2.1.47.1.2.1.1.2	8.4
entLogicalType	1.3.6.1.2.1.47.1.2.1.1.3	8.4
entLogicalCommunity	1.3.6.1.2.1.47.1.2.1.1.4	8.4
entLogicalTAddress	1.3.6.1.2.1.47.1.2.1.1.5	8.4
entLogicalTDomain	1.3.6.1.2.1.47.1.2.1.1.6	8.4
entLogicalContextEngineID	1.3.6.1.2.1.47.1.2.1.1.7	8.4
entLogicalContextName	1.3.6.1.2.1.47.1.2.1.1.8	8.4

**Table 62: Common (continued)**

Object Name	Object OID	New in VOSS Release
rcStatOspfIflClearStats	1.3.6.1.4.1.2272.1.12.5.1.20	8.4
rcDigitalCertCaSubjTable	1.3.6.1.4.1.2272.1.222.1.1.7	8.3.100
rcDigitalCertCaSubjectName	1.3.6.1.4.1.2272.1.222.1.1.3.1.14	8.3.100
rcDigitalCertificateTable	1.3.6.1.4.1.2272.1.222.1.1.8	8.3.100
rcDigitalCertificateStoreTable	1.3.6.1.4.1.2272.1.222.1.1.9	8.3.100
rcDigitalCertificateKeyTable	1.3.6.1.4.1.2272.1.222.1.1.10	8.3.100
rcIkeScalars	1.3.6.1.4.1.2272.1.86.7	8.3.100
rcIkeCertIdentitySubjectName	1.3.6.1.4.1.2272.1.86.7.1	8.3.100
rcWebCertSubjectName	1.3.6.1.4.1.2272.1.18.36	8.3.100
rcWebCertCAName	1.3.6.1.4.1.2272.1.18.37	8.3.100
rcSshGlobalX509AuthEnable	1.3.6.1.4.1.2272.1.34.1.25	8.3.100
rcSshGlobalX509AuthRevocationCheckMethod	1.3.6.1.4.1.2272.1.34.1.26	8.3.100
rcSshGlobalX509AuthUsernameOverride	1.3.6.1.4.1.2272.1.34.1.27	8.3.100
rcSshGlobalX509AuthUsernameStripDomain	1.3.6.1.4.1.2272.1.34.1.28	8.3.100
rcSshGlobalX509AuthUsernameUseDomain	1.3.6.1.4.1.2272.1.34.1.29	8.3.100
rcSshGlobalX509AuthCertSubjectName	1.3.6.1.4.1.2272.1.34.1.30	8.3.100
rcSshGlobalX509AuthCertCAName	1.3.6.1.4.1.2272.1.34.1.31	8.3.100
rcSyslogCertificateTable	1.3.6.1.4.1.2272.1.22.6	8.3.100
rcSyslogCertificateEntry	1.3.6.1.4.1.2272.1.22.6.1	8.3.100
rcSyslogCertificateCaCommonName	1.3.6.1.4.1.2272.1.22.6.1.1	8.3.100
rcSyslogCertificateAction	1.3.6.1.4.1.2272.1.22.6.1.2	8.3.100
rcSyslogCertificateRowStatus	1.3.6.1.4.1.2272.1.22.6.1.3	8.3.100
ospfRFC1583Compatibility	1.3.6.1.2.1.14.1.15	8.5
ospfOpaqueLsaSupport	1.3.6.1.2.1.14.1.16	8.5
ospfReferenceBandwidth	1.3.6.1.2.1.14.1.17	8.5
ospfRestartSupport	1.3.6.1.2.1.14.1.18	8.5
ospfRestartInterval	1.3.6.1.2.1.14.1.19	8.5
ospfRestartStrictLsaChecking	1.3.6.1.2.1.14.1.20	8.5
ospfRestartStatus	1.3.6.1.2.1.14.1.21	8.5
ospfRestartAge	1.3.6.1.2.1.14.1.22	8.5
ospfRestartExitReason	1.3.6.1.2.1.14.1.23	8.5
ospfAsLsaCount	1.3.6.1.2.1.14.1.24	8.5

**Table 62: Common (continued)**

Object Name	Object OID	New in VOSS Release
ospfAsLsaCksumSum	1.3.6.1.2.1.14.1.25	8.5
ospfStubRouterSupport	1.3.6.1.2.1.14.1.26	8.5
ospfStubRouterAdvertisement	1.3.6.1.2.1.14.1.27	8.5
ospfDiscontinuityTime	1.3.6.1.2.1.14.1.28	8.5
spfAreaNssaTranslatorRole	1.3.6.1.2.1.14.2.1.11	8.5
ospfAreaNssaTranslatorState	1.3.6.1.2.1.14.2.1.12	8.5
ospfAreaNssaTranslatorStabilityInterval	1.3.6.1.2.1.14.2.1.13	8.5
ospfAreaNssaTranslatorEvents	1.3.6.1.2.1.14.2.1.14	8.5
ospfHostCfgAreaID	1.3.6.1.2.1.14.6.1.6	8.5
ospflfLsaCount	1.3.6.1.2.1.14.7.1.21	8.5
ospflfLsaCksumSum	1.3.6.1.2.1.14.7.1.22	8.5
ospflfDesignatedRouterId	1.3.6.1.2.1.14.7.1.23	8.5
ospflfBackupDesignatedRouterId	1.3.6.1.2.1.14.7.1.24	8.5
ospfVirtIfLsaCount	1.3.6.1.2.1.14.9.1.12	8.5
ospfVirtIfLsaCksumSum	1.3.6.1.2.1.14.9.1.13	8.5
ospfNbrRestartHelperStatus	1.3.6.1.2.1.14.10.1.12	8.5
ospfVirtNbrRestartHelperAge	1.3.6.1.2.1.14.11.1.10	8.5
ospfVirtNbrRestartHelperExitReason	1.3.6.1.2.1.14.11.1.11	8.5
ospfAreaAggregateExtRouteTag	1.3.6.1.2.1.14.14.1.7	8.5
ospfLocalLsdbTable	1.3.6.1.2.1.14.17	8.5
ospfLocalLsdbEntry	1.3.6.1.2.1.14.17.1	8.5
ospfLocalLsdbIpAddress	1.3.6.1.2.1.14.17.1.1	8.5
ospfLocalLsdbAddressLessIf	1.3.6.1.2.1.14.17.1.2	8.5
ospfLocalLsdbType	1.3.6.1.2.1.14.17.1.3	8.5
ospfLocalLsdbLsid	1.3.6.1.2.1.14.17.1.4	8.5
ospfLocalLsdbRouterId	1.3.6.1.2.1.14.17.1.5	8.5
ospfLocalLsdbSequence	1.3.6.1.2.1.14.17.1.6	8.5
ospfLocalLsdbAge	1.3.6.1.2.1.14.17.1.7	8.5
ospfLocalLsdbChecksum	1.3.6.1.2.1.14.17.1.8	8.5
ospfLocalLsdbAdvertisement	1.3.6.1.2.1.14.17.1.9	8.5
ospfVirtLocalLsdbTable	1.3.6.1.2.1.14.18	8.5
ospfVirtLocalLsdbEntry	1.3.6.1.2.1.14.18.1	8.5
ospfVirtLocalLsdbTransitArea	1.3.6.1.2.1.14.18.1.1	8.5
ospfVirtLocalLsdbNeighbor	1.3.6.1.2.1.14.18.1.2	8.5

**Table 62: Common (continued)**

Object Name	Object OID	New in VOSS Release
ospfVirtLocalLsdbType	1.3.6.1.2.1.14.18.1.3	8.5
ospfVirtLocalLsdbLsid	1.3.6.1.2.1.14.18.1.4	8.5
ospfVirtLocalLsdbRouterId	1.3.6.1.2.1.14.18.1.5	8.5
ospfVirtLocalLsdbSequence	1.3.6.1.2.1.14.18.1.6	8.5
ospfVirtLocalLsdbAge	1.3.6.1.2.1.14.18.1.7	8.5
ospfVirtLocalLsdbChecksum	1.3.6.1.2.1.14.18.1.8	8.5
ospfVirtLocalLsdbAdvertisement	1.3.6.1.2.1.14.18.1.9	8.5
ospfAsLsdbTable	1.3.6.1.2.1.14.19	8.5
ospfAsLsdbEntry	1.3.6.1.2.1.14.19.1	8.5
ospfAsLsdbType	1.3.6.1.2.1.14.19.1.1	8.5
ospfAsLsdbLsid	1.3.6.1.2.1.14.19.1.2	8.5
ospfAsLsdbRouterId	1.3.6.1.2.1.14.19.1.3	8.5
ospfAsLsdbSequence	1.3.6.1.2.1.14.19.1.4	8.5
ospfAsLsdbAge	1.3.6.1.2.1.14.19.1.5	8.5
ospfAsLsdbChecksum	1.3.6.1.2.1.14.19.1.6	8.5
ospfAsLsdbAdvertisement	1.3.6.1.2.1.14.19.1.7	8.5
ospfAreaLsaCountTable	1.3.6.1.2.1.14.20	8.5
ospfAreaLsaCountEntry	1.3.6.1.2.1.14.20.1	8.5
ospfAreaLsaCountAreald	1.3.6.1.2.1.14.20.1.1	8.5
ospfAreaLsaCountLsaType	1.3.6.1.2.1.14.20.1.2	8.5
ospfAreaLsaCountNumber	1.3.6.1.2.1.14.20.1.3	8.5
rcIpfPimGlobalSptInfiniteThreshold	1.3.6.1.4.1.2272.1.8.16.1.13	8.5
rcIpfv6PimGlobalSptInfiniteThreshold	1.3.6.1.4.1.2272.1.8.112.1.1.12	8.5

**Table 63: 5520 Series**

Object Name	Object OID	New in VOSS Release
bspePethPsePortPowerClassifications	1.3.6.1.4.1.45.5.8.1.1.15	8.2.5
rcIpfixAgingIntervalV2	1.3.6.1.4.1.2272.1.66.1.1.5	8.2.5
rcVossSystemUBootGroup	1.3.6.1.4.1.2272.1.101.1.1.1.6	8.2.5
rcVossSystemUBootDefaultVersion	1.3.6.1.4.1.2272.1.101.1.1.1.6.1	8.2.5
rcVossSystemUBootAlternateVersion	1.3.6.1.4.1.2272.1.101.1.1.1.6.2	8.2.5
rcVossSystemUBootVersionUsed	1.3.6.1.4.1.2272.1.101.1.1.1.6.3	8.2.5
rcVossSystemUBootTrustedDeliveryStatus	1.3.6.1.4.1.2272.1.101.1.1.1.6.4	8.2.5

**Table 63: 5520 Series (continued)**

Object Name	Object OID	New in VOSS Release
rcCloudIq	1.3.6.1.4.1.2272.1.230	8.2.5
rcCloudIqObjects	1.3.6.1.4.1.2272.1.230.1	8.2.5
rcCloudIqScalars	1.3.6.1.4.1.2272.1.230.1.1	8.2.5
rcCloudIqAgentEnable	1.3.6.1.4.1.2272.1.230.1.1.1	8.2.5
rcCloudIqAgentVersion	1.3.6.1.4.1.2272.1.230.1.1.2	8.2.5
rcCloudIqServerAddressType	1.3.6.1.4.1.2272.1.230.1.1.3	8.2.5
rcCloudIqServerAddress	1.3.6.1.4.1.2272.1.230.1.1.4	8.2.5
rcCloudIqProxyAddressType	1.3.6.1.4.1.2272.1.230.1.1.5	8.2.5
rcCloudIqProxyAddress	1.3.6.1.4.1.2272.1.230.1.1.6	8.2.5
rcCloudIqProxyTcpPort	1.3.6.1.4.1.2272.1.230.1.1.7	8.2.5
rcCloudIqProxyUserName	1.3.6.1.4.1.2272.1.230.1.1.8	8.2.5
rcCloudIqProxyPassword	1.3.6.1.4.1.2272.1.230.1.1.9	8.2.5
rcCloudIqNotificationEnable	1.3.6.1.4.1.2272.1.230.1.1.10	8.2.5
rcCloudIqOperStatus	1.3.6.1.4.1.2272.1.230.1.1.11	8.2.5
rcCloudIqAssociationUrl	1.3.6.1.4.1.2272.1.230.1.1.12	8.2.5
rcCloudIqPollUrl	1.3.6.1.4.1.2272.1.230.1.1.13	8.2.5
rcCloudIqMonitorFreq	1.3.6.1.4.1.2272.1.230.1.1.14	8.2.5
rcCloudIqPollFreq	1.3.6.1.4.1.2272.1.230.1.1.15	8.2.5
rcCloudIqLastOnboardTime	1.3.6.1.4.1.2272.1.230.1.1.16	8.2.5
rcCloudIqLastPollStatus	1.3.6.1.4.1.2272.1.230.1.1.17	8.2.5
rcCloudIqLastPollTime	1.3.6.1.4.1.2272.1.230.1.1.18	8.2.5
rcCloudIqLastMonitorStatus	1.3.6.1.4.1.2272.1.230.1.1.19	8.2.5
rcCloudIqLastMonitorTime	1.3.6.1.4.1.2272.1.230.1.1.20	8.2.5
rcCloudIqLastHealthStatus	1.3.6.1.4.1.2272.1.230.1.1.21	8.2.5
rcCloudIqLastHealthTime	1.3.6.1.4.1.2272.1.230.1.1.22	8.2.5
rcnCloudIqUpTrap	1.3.6.1.4.1.2272.1.21.0.357	8.2.5
rcnCloudIqDownTrap	1.3.6.1.4.1.2272.1.21.0.358	8.2.5
rcAutoSense	1.3.6.1.4.1.2272.1.231	8.5
rcAutoSenseMib	1.3.6.1.4.1.2272.1.231.1	8.5
rcAutoSenseNotifications	1.3.6.1.4.1.2272.1.231.1.0	8.5
rcAutoSenseObjects	1.3.6.1.4.1.2272.1.231.1.1	8.5
rcAutoSenseScalars	1.3.6.1.4.1.2272.1.231.1.1.1	8.5
rcAutoSenseAccessDiffservEnable	1.3.6.1.4.1.2272.1.231.1.1.1.1	8.5
rcAutoSenseDatalsid	1.3.6.1.4.1.2272.1.231.1.1.1.2	8.5

**Table 63: 5520 Series (continued)**

Object Name	Object OID	New in VOSS Release
rcAutoSenseEapolVoiceLldpAuthEnable	1.3.6.1.4.1.2272.1.231.1.1.3	8.5
rcAutoSenseFaMsgAuthEnable	1.3.6.1.4.1.2272.1.231.1.1.4	8.5
rcAutoSenseFaAuthenticationKey	1.3.6.1.4.1.2272.1.231.1.1.5	8.5
rcAutoSenseSisisHelloAuthType	1.3.6.1.4.1.2272.1.231.1.1.6	8.5
rcAutoSenseSisisHelloAuthKey	1.3.6.1.4.1.2272.1.231.1.1.7	8.5
rcAutoSenseOnboardingsid	1.3.6.1.4.1.2272.1.231.1.1.8	8.5
rcAutoSenseQos8021pOverrideEnable	1.3.6.1.4.1.2272.1.231.1.1.9	8.5
rcAutoSenseVoicesid	1.3.6.1.4.1.2272.1.231.1.1.10	8.5
rcAutoSenseVoiceCvid	1.3.6.1.4.1.2272.1.231.1.1.11	8.5
rcAutoSenseSisisHelloAuthKeyId	1.3.6.1.4.1.2272.1.231.1.1.12	8.5
rcAutoSenseDhcpDetection	1.3.6.1.4.1.2272.1.231.1.1.13	8.5
rcAutoSenseFaCameraSid	1.3.6.1.4.1.2272.1.231.1.1.14	8.5
rcAutoSenseFaProxyMgmtSid	1.3.6.1.4.1.2272.1.231.1.1.15	8.5
rcAutoSenseFaProxyMgmtCvid	1.3.6.1.4.1.2272.1.231.1.1.16	8.5
rcAutoSenseFaProxyNoAuthSid	1.3.6.1.4.1.2272.1.231.1.1.17	8.5
rcAutoSenseFaVirtualSwitchSid	1.3.6.1.4.1.2272.1.231.1.1.18	8.5
rcAutoSenseFaWapTypeSid	1.3.6.1.4.1.2272.1.231.1.1.19	8.5
rcAutoSenseFaCameraEapolStatus	1.3.6.1.4.1.2272.1.231.1.1.20	8.5
rcAutoSenseFaEapolOVSSStatus	1.3.6.1.4.1.2272.1.231.1.1.21	8.5
rcAutoSenseFaEapolWap1Status	1.3.6.1.4.1.2272.1.231.1.1.22	8.5
rcAutoSenseWaitInterval	1.3.6.1.4.1.2272.1.231.1.1.23	8.5
rcPortAutoSenseDataSid	1.3.6.1.4.1.2272.1.4.10.1.1.136	8.5
rcNlsMgmtInterfaceDropIcmpFragEnable	1.3.6.1.4.1.2272.1.223.1.1.16	8.5
rcNlsMgmtInterfaceDropIcmpv6FragEnable	1.3.6.1.4.1.2272.1.223.1.1.17	8.5
rcNlsMgmtSid	1.3.6.1.4.1.2272.1.223.1.1.18	8.5
rcIpConfGlobalTcpAdjustMssEnable	1.3.6.1.4.1.2272.1.8.1.6.29	8.5
rcIpConfGlobalTcpAdjustMssStatus	1.3.6.1.4.1.2272.1.8.1.6.30	8.5

**Table 63: 5520 Series (continued)**

Object Name	Object OID	New in VOSS Release
rcIpConfGlobalTcpAdjustMssType	1.3.6.1.4.1.2272.1.8.1.6.31	8.5
rcIpConfGlobalTcpAdjustMssValue	1.3.6.1.4.1.2272.1.8.1.6.32	8.5

**Table 64: 5420 Series**

Object Name	Object OID	New in VOSS Release
rcAutoSense	1.3.6.1.4.1.2272.1.231	8.5
rcAutoSenseMib	1.3.6.1.4.1.2272.1.231.1	8.5
rcAutoSenseNotifications	1.3.6.1.4.1.2272.1.231.1.0	8.5
rcAutoSenseObjects	1.3.6.1.4.1.2272.1.231.1.1	8.5
rcAutoSenseScalars	1.3.6.1.4.1.2272.1.231.1.1.1	8.5
rcAutoSenseAccessDiffServEnable	1.3.6.1.4.1.2272.1.231.1.1.1.1	8.5
rcAutoSenseDatalsid	1.3.6.1.4.1.2272.1.231.1.1.1.2	8.5
rcAutoSenseEapolVoiceLldpAuthEnable	1.3.6.1.4.1.2272.1.231.1.1.1.3	8.5
rcAutoSenseFaMsgAuthEnable	1.3.6.1.4.1.2272.1.231.1.1.1.4	8.5
rcAutoSenseFaAuthenticationKey	1.3.6.1.4.1.2272.1.231.1.1.1.5	8.5
rcAutoSenseSisHelloAuthType	1.3.6.1.4.1.2272.1.231.1.1.1.6	8.5
rcAutoSenseSisHelloAuthKey	1.3.6.1.4.1.2272.1.231.1.1.1.7	8.5
rcAutoSenseOnboardingIsid	1.3.6.1.4.1.2272.1.231.1.1.1.8	8.5
rcAutoSenseQos8021pOverrideEnable	1.3.6.1.4.1.2272.1.231.1.1.1.9	8.5
rcAutoSenseVoicelsid	1.3.6.1.4.1.2272.1.231.1.1.1.10	8.5
rcAutoSenseVoiceCvid	1.3.6.1.4.1.2272.1.231.1.1.1.11	8.5
rcAutoSenseSisHelloAuthKeyId	1.3.6.1.4.1.2272.1.231.1.1.1.12	8.5
rcAutoSenseDhcpDetection	1.3.6.1.4.1.2272.1.231.1.1.1.13	8.5
rcAutoSenseFaCameraIsid	1.3.6.1.4.1.2272.1.231.1.1.1.14	8.5
rcAutoSenseFaProxyMgmtIsid	1.3.6.1.4.1.2272.1.231.1.1.1.15	8.5
rcAutoSenseFaProxyMgmtCvid	1.3.6.1.4.1.2272.1.231.1.1.1.16	8.5
rcAutoSenseFaProxyNoAuthIsid	1.3.6.1.4.1.2272.1.231.1.1.1.17	8.5
rcAutoSenseFaVirtualSwitchIsid	1.3.6.1.4.1.2272.1.231.1.1.1.18	8.5
rcAutoSenseFaWapTypeIsid	1.3.6.1.4.1.2272.1.231.1.1.1.19	8.5
rcAutoSenseFaCameraEapolStatus	1.3.6.1.4.1.2272.1.231.1.1.1.20	8.5
rcAutoSenseFaEapolOVSSStatus	1.3.6.1.4.1.2272.1.231.1.1.1.21	8.5
rcAutoSenseFaEapolWap1Status	1.3.6.1.4.1.2272.1.231.1.1.1.22	8.5
rcAutoSenseWaitInterval	1.3.6.1.4.1.2272.1.231.1.1.1.23	8.5



**Table 64: 5420 Series (continued)**

Object Name	Object OID	New in VOSS Release
rcPortAutoSenseDatalsid	1.3.6.1.4.1.2272.1.4.10.1.1.136	8.5
rcNlsMgmtInterfaceDropIcmpFragEnable	1.3.6.1.4.1.2272.1.223.1.1.16	8.5
rcNlsMgmtInterfaceDropIcmpv6FragEnable	1.3.6.1.4.1.2272.1.223.1.1.17	8.5
rcNlsMgmtIpsid	1.3.6.1.4.1.2272.1.223.1.1.18	8.5
rcIpConfGlobalTcpAdjustMssEnable	1.3.6.1.4.1.2272.1.8.1.6.29	8.5
rcIpConfGlobalTcpAdjustMssStatus	1.3.6.1.4.1.2272.1.8.1.6.30	8.5
rcIpConfGlobalTcpAdjustMssType	1.3.6.1.4.1.2272.1.8.1.6.31	8.5
rcIpConfGlobalTcpAdjustMssValue	1.3.6.1.4.1.2272.1.8.1.6.32	8.5

**Table 65: VSP 4450 Series**

Object Name	Object OID	New in VOSS Release
rcEapMultihostStatusSwUniBindings	1.3.6.1.4.1.2272.1.57.4.1.7	8.3
rcEapPortRadiusSwUniBindings	1.3.6.1.4.1.2272.1.57.6.1.7	8.3
rcEapMultiHostStatusIpsidSource	1.3.6.1.4.1.2272.1.57.4.1.8	8.3
rcEapPortRadiusIpsidSource	1.3.6.1.4.1.2272.1.57.6.1.8	8.3
rcIpsidElanEndPointMacBased	1.3.6.1.4.1.2272.1.87.4.1.7	8.3
rcLdpCallServer	1.3.6.1.4.1.2272.1.220.1.3	8.3
rcLdpCallServerTable	1.3.6.1.4.1.2272.1.220.1.3.1	8.3
rcLdpCallServerEntry	1.3.6.1.4.1.2272.1.220.1.3.1.1	8.3
rcLdpCallServerNum	1.3.6.1.4.1.2272.1.220.1.3.1.1.1	8.3
rcLdpCallServerRowStatus	1.3.6.1.4.1.2272.1.220.1.3.1.1.2	8.3
rcLdpCallServerAddressType	1.3.6.1.4.1.2272.1.220.1.3.1.1.3	8.3
rcLdpCallServerAddress	1.3.6.1.4.1.2272.1.220.1.3.1.1.4	8.3
rcLdpFileServer	1.3.6.1.4.1.2272.1.220.1.4	8.3
rcLdpFileServerTable	1.3.6.1.4.1.2272.1.220.1.4.1	8.3
rcLdpFileServerEntry	1.3.6.1.4.1.2272.1.220.1.4.1.1	8.3
rcLdpFileServerNum	1.3.6.1.4.1.2272.1.220.1.4.1.1.1	8.3
rcLdpFileServerRowStatus	1.3.6.1.4.1.2272.1.220.1.4.1.1.2	8.3
rcLdpFileServerAddressType	1.3.6.1.4.1.2272.1.220.1.4.1.1.3	8.3
rcLdpFileServerAddress	1.3.6.1.4.1.2272.1.220.1.4.1.1.4	8.3
rcEapPortRadiusNonEapAuthType	1.3.6.1.4.1.2272.1.57.6.1.9	8.3
rcIpsidCircuitOrigin	1.3.6.1.4.1.2272.1.63.2.1.12	8.3
rcIpsidCircuitPlsbOrigin	1.3.6.1.4.1.2272.1.63.5.1.9	8.3

**Table 65: VSP 4450 Series (continued)**

Object Name	Object OID	New in VOSS Release
rcPortAutoSense	1.3.6.1.4.1.2272.1.4.10.1.1.130	8.3
rcPortAutoSenseKeepAutoConfig	1.3.6.1.4.1.2272.1.4.10.1.1.131	8.3
rcVlanPortOrigin	1.3.6.1.4.1.2272.1.3.3.1.25	8.3
rcIsideInterfaceMacBased	1.3.6.1.4.1.2272.1.87.5.1.9	8.3
avFabricAttachPortOrigin	1.3.6.1.4.1.45.5.46.1.6.1.9	8.3
rcPrFilterAclOrigin	1.3.6.1.4.1.2272.1.202.1.1.2.3.1.1.21	8.3
rcEapGlobalAutolsidOffset	1.3.6.1.4.1.2272.1.57.1.13	8.3
rcEapGlobalAutolsidOffsetEnable	1.3.6.1.4.1.2272.1.57.1.14	8.3
rcEapPortGuestIside	1.3.6.1.4.1.2272.1.57.2.1.20	8.3
rcEapPortFailOpenIside	1.3.6.1.4.1.2272.1.57.2.1.21	8.3
rcEapPortFlexUniStatus	1.3.6.1.4.1.2272.1.57.2.1.22	8.3
rcEapPortAdminTrafficControl	1.3.6.1.4.1.2272.1.57.2.1.23	8.3
rcEapPortOperTrafficControl	1.3.6.1.4.1.2272.1.57.2.1.24	8.3
rcEapPortLldpAuthEnabled	1.3.6.1.4.1.2272.1.57.2.1.25	8.3
rcEapPortOrigin	1.3.6.1.4.1.2272.1.57.2.1.26	8.3
rcEapPortDynamicMHSAEnabled	1.3.6.1.4.1.2272.1.57.2.1.27	8.3
rcEapPortRadiusAcld	1.3.6.1.4.1.2272.1.57.6.1.10	8.3
rcEapPortRadiusAceldList	1.3.6.1.4.1.2272.1.57.6.1.11	8.3
rcEapMultiHostStatusAcld	1.3.6.1.4.1.2272.1.57.4.1.9	8.3
rcEapMultiHostStatusAceldList	1.3.6.1.4.1.2272.1.57.4.1.10	8.3
rcIsidePlsbBVlanOrigin	1.3.6.1.4.1.2272.1.63.4.1.18	8.3
rcLldpPortCdpRemCallServers	1.3.6.1.4.1.2272.1.220.1.2.2.1.13	8.3
rcLldpPortCdpRemFileServers	1.3.6.1.4.1.2272.1.220.1.2.2.1.14	8.3
rcPlsbGlobalNicknameServerPrefix	1.3.6.1.4.1.2272.1.78.1.10	8.3
rcIsideServiceOriginBitMap	1.3.6.1.4.1.2272.1.87.2.1.10	8.3
rcIsideElanEndPointOriginBitMap	1.3.6.1.4.1.2272.1.87.4.1.8	8.3
rcIsideInterfaceOriginBitMap	1.3.6.1.4.1.2272.1.87.5.1.10	8.3
rcPortLinkDebounce	1.3.6.1.4.1.2272.1.4.10.1.1.135	8.4.2
rcAutoSense	1.3.6.1.4.1.2272.1.231	8.5
rcAutoSenseMib	1.3.6.1.4.1.2272.1.231.1	8.5
rcAutoSenseNotifications	1.3.6.1.4.1.2272.1.231.1.0	8.5
rcAutoSenseObjects	1.3.6.1.4.1.2272.1.231.1.1	8.5
rcAutoSenseScalars	1.3.6.1.4.1.2272.1.231.1.1.1	8.5
rcAutoSenseAccessDiffservEnable	1.3.6.1.4.1.2272.1.231.1.1.1.1	8.5

**Table 65: VSP 4450 Series (continued)**

Object Name	Object OID	New in VOSS Release
rcAutoSenseDatalsid	1.3.6.1.4.1.2272.1.231.1.1.1.2	8.5
rcAutoSenseEapolVoiceLldpAuthEnable	1.3.6.1.4.1.2272.1.231.1.1.1.3	8.5
rcAutoSenseFaMsgAuthEnable	1.3.6.1.4.1.2272.1.231.1.1.1.4	8.5
rcAutoSenseFaAuthenticationKey	1.3.6.1.4.1.2272.1.231.1.1.1.5	8.5
rcAutoSenseSisHelloAuthType	1.3.6.1.4.1.2272.1.231.1.1.1.6	8.5
rcAutoSenseSisHelloAuthKey	1.3.6.1.4.1.2272.1.231.1.1.1.7	8.5
rcAutoSenseOnboardingsid	1.3.6.1.4.1.2272.1.231.1.1.1.8	8.5
rcAutoSenseQos8021pOverrideEnable	1.3.6.1.4.1.2272.1.231.1.1.1.9	8.5
rcAutoSenseVoicesid	1.3.6.1.4.1.2272.1.231.1.1.1.10	8.5
rcAutoSenseVoiceCvid	1.3.6.1.4.1.2272.1.231.1.1.1.11	8.5
rcAutoSenseSisHelloAuthKeyId	1.3.6.1.4.1.2272.1.231.1.1.1.12	8.5
rcAutoSenseDhcpDetection	1.3.6.1.4.1.2272.1.231.1.1.1.13	8.5
rcAutoSenseFaCameraId	1.3.6.1.4.1.2272.1.231.1.1.1.14	8.5
rcAutoSenseFaProxyMgmtId	1.3.6.1.4.1.2272.1.231.1.1.1.15	8.5
rcAutoSenseFaProxyMgmtCvid	1.3.6.1.4.1.2272.1.231.1.1.1.16	8.5
rcAutoSenseFaProxyNoAuthId	1.3.6.1.4.1.2272.1.231.1.1.1.17	8.5
rcAutoSenseFaVirtualSwitchId	1.3.6.1.4.1.2272.1.231.1.1.1.18	8.5
rcAutoSenseFaWapTypeId	1.3.6.1.4.1.2272.1.231.1.1.1.19	8.5
rcAutoSenseFaCameraEapolStatus	1.3.6.1.4.1.2272.1.231.1.1.1.20	8.5
rcAutoSenseFaEapolOVSSStatus	1.3.6.1.4.1.2272.1.231.1.1.1.21	8.5
rcAutoSenseFaEapolWap1Status	1.3.6.1.4.1.2272.1.231.1.1.1.22	8.5
rcAutoSenseWaitInterval	1.3.6.1.4.1.2272.1.231.1.1.1.23	8.5
rcPortAutoSenseDatalsid	1.3.6.1.4.1.2272.1.4.10.1.1.136	8.5
rcNlsMgmtInterfaceDropIcmpFragEnable	1.3.6.1.4.1.2272.1.223.1.1.16	8.5
rcNlsMgmtInterfaceDropIcmpv6FragEnable	1.3.6.1.4.1.2272.1.223.1.1.17	8.5
rcNlsMgmtId	1.3.6.1.4.1.2272.1.223.1.1.18	8.5

**Table 66: VSP 4900 Series**

Object Name	Object OID	New in VOSS Release
rcIpConfGlobalTcpAdjustMssEnable	1.3.6.1.4.1.2272.1.8.1.6.29	8.3.1
rcIpConfGlobalTcpAdjustMssStatus	1.3.6.1.4.1.2272.1.8.1.6.30	8.3.1
rcIpConfGlobalTcpAdjustMssType	1.3.6.1.4.1.2272.1.8.1.6.31	8.3.1
rcIpConfGlobalTcpAdjustMssValue	1.3.6.1.4.1.2272.1.8.1.6.32	8.3.1

**Table 66: VSP 4900 Series (continued)**

Object Name	Object OID	New in VOSS Release
rcVirtualServiceApplicationPackageAppName	1.3.6.1.4.1.2272.1.101.1.1.11.1.6	8.3.1
rcVirtualServiceApplicationPackageAppVersion	1.3.6.1.4.1.2272.1.101.1.1.11.1.7	8.3.1
rcVirtualServiceCopySourceFile	1.3.6.1.4.1.2272.1.101.1.1.12.4	8.3.1
rcVirtualServiceCopyDestinationFile	1.3.6.1.4.1.2272.1.101.1.1.12.5	8.3.1
rcVirtualServiceCopyAction	1.3.6.1.4.1.2272.1.101.1.1.12.6	8.3.1
rcVirtualServiceScalarsName	1.3.6.1.4.1.2272.1.101.1.1.12.7	8.3.1
rcVirtualServiceExecuteCommand	1.3.6.1.4.1.2272.1.101.1.1.12.8	8.3.1
rcVirtualServiceUser	1.3.6.1.4.1.2272.1.101.1.1.12.9	8.3.1
rcVirtualServicePassword	1.3.6.1.4.1.2272.1.101.1.1.12.10	8.3.1
rcPortLinkDebounce	1.3.6.1.4.1.2272.1.4.10.1.1.135	8.4.2
rcAutoSense	1.3.6.1.4.1.2272.1.231	8.5
rcAutoSenseMib	1.3.6.1.4.1.2272.1.231.1	8.5
rcAutoSenseNotifications	1.3.6.1.4.1.2272.1.231.1.0	8.5
rcAutoSenseObjects	1.3.6.1.4.1.2272.1.231.1.1	8.5
rcAutoSenseScalars	1.3.6.1.4.1.2272.1.231.1.1.1	8.5
rcAutoSenseAccessDiffservEnable	1.3.6.1.4.1.2272.1.231.1.1.1.1	8.5
rcAutoSenseDatalsid	1.3.6.1.4.1.2272.1.231.1.1.1.2	8.5
rcAutoSenseEapolVoiceLldpAuthEnable	1.3.6.1.4.1.2272.1.231.1.1.1.3	8.5
rcAutoSenseFaMsgAuthEnable	1.3.6.1.4.1.2272.1.231.1.1.1.4	8.5
rcAutoSenseFaAuthenticationKey	1.3.6.1.4.1.2272.1.231.1.1.1.5	8.5
rcAutoSenseSisisHelloAuthType	1.3.6.1.4.1.2272.1.231.1.1.1.6	8.5
rcAutoSenseSisisHelloAuthKey	1.3.6.1.4.1.2272.1.231.1.1.1.7	8.5
rcAutoSenseOnboardingsid	1.3.6.1.4.1.2272.1.231.1.1.1.8	8.5
rcAutoSenseQos8021pOverrideEnable	1.3.6.1.4.1.2272.1.231.1.1.1.9	8.5
rcAutoSenseVoicelsid	1.3.6.1.4.1.2272.1.231.1.1.1.10	8.5
rcAutoSenseVoiceCvid	1.3.6.1.4.1.2272.1.231.1.1.1.11	8.5
rcAutoSenseSisisHelloAuthKeyId	1.3.6.1.4.1.2272.1.231.1.1.1.12	8.5
rcAutoSenseDhcpDetection	1.3.6.1.4.1.2272.1.231.1.1.1.13	8.5
rcAutoSenseFaCameraId	1.3.6.1.4.1.2272.1.231.1.1.1.14	8.5
rcAutoSenseFaProxyMgmtId	1.3.6.1.4.1.2272.1.231.1.1.1.15	8.5
rcAutoSenseFaProxyMgmtCvid	1.3.6.1.4.1.2272.1.231.1.1.1.16	8.5
rcAutoSenseFaProxyNoAuthId	1.3.6.1.4.1.2272.1.231.1.1.1.17	8.5
rcAutoSenseFaVirtualSwitchId	1.3.6.1.4.1.2272.1.231.1.1.1.18	8.5

**Table 66: VSP 4900 Series (continued)**

Object Name	Object OID	New in VOSS Release
rcAutoSenseFaWapType1sid	1.3.6.1.4.1.2272.1.231.1.1.19	8.5
rcAutoSenseFaCameraEapolStatus	1.3.6.1.4.1.2272.1.231.1.1.20	8.5
rcAutoSenseFaEapolOVSSStatus	1.3.6.1.4.1.2272.1.231.1.1.21	8.5
rcAutoSenseFaEapolWap1Status	1.3.6.1.4.1.2272.1.231.1.1.22	8.5
rcAutoSenseWaitInterval	1.3.6.1.4.1.2272.1.231.1.1.23	8.5
rcPortAutoSenseDatalsid	1.3.6.1.4.1.2272.1.4.10.1.1.136	8.5
rcNlsMgmtInterfaceDropIcmpFragEnable	1.3.6.1.4.1.2272.1.223.1.1.16	8.5
rcNlsMgmtInterfaceDropIcmpv6FragEnable	1.3.6.1.4.1.2272.1.223.1.1.17	8.5
rcNlsMgmtIsid	1.3.6.1.4.1.2272.1.223.1.1.18	8.5

**Table 67: VSP 7200 Series**

Object Name	Object OID	New in VOSS Release
rcSysDnsDomainNameOrigin	1.3.6.1.4.1.2272.1.1.128	8.2
rcSysDnsAdvertisedHostName	1.3.6.1.4.1.2272.1.1.129	8.2
rcVlanIsidName	1.3.6.1.4.1.2272.1.3.2.1.80	8.2
rcIpAdEntName	1.3.6.1.4.1.2272.1.8.2.1.13	8.2
rcIpStaticRouteName	1.3.6.1.4.1.2272.1.8.15.2.1.11	8.2
rcnCloudIqUpTrap	1.3.6.1.4.1.2272.1.21.0.357	8.2
rcnCloudIqDownTrap	1.3.6.1.4.1.2272.1.21.0.358	8.2
rcIcmpStreamTimeout	1.3.6.1.4.1.2272.1.30.11.7.0	8.2
rcIcmpv6StaticRouteName	1.3.6.1.4.1.2272.1.62.1.1.6.1.10	8.2
rcIcmpGlobalMgmtCliIpAddr	1.3.6.1.4.1.2272.1.63.1.26	8.2
rcIcmpLogicalInterfaceBfdEnable	1.3.6.1.4.1.2272.1.63.26.1.20	8.2
rcIcmpGlobalNameTable	1.3.6.1.4.1.2272.1.87.6	8.2
rcPrFilterAcelpShowRoutedOnly	1.3.6.1.4.1.2272.1.202.1.1.2.4.26.1.20	8.2
rcPrFilterAcelpv6ShowRoutedOnly	1.3.6.1.4.1.2272.1.202.1.1.2.4.32.1.13	8.2
rcPrFilterAcelpRoutedTable	1.3.6.1.4.1.2272.1.202.1.1.2.4.40	8.2
rcPrFilterAcelpv6RoutedTable	1.3.6.1.4.1.2272.1.202.1.1.2.4.41	8.2
rcVrfIpVpnIsidName	1.3.6.1.4.1.2272.1.203.1.1.4.1.10	8.2
rcVrfIpVpnIsidName	1.3.6.1.4.1.2272.1.203.1.1.7.1.8	8.2
rcIcmpServiceName	1.3.6.1.4.2272.1.87.2.1.8	8.2
rcCloudIq	1.3.6.1.4.1.2272.1.230	8.2
rcCloudIqObjects	1.3.6.1.4.1.2272.1.230.1	8.2

**Table 67: VSP 7200 Series (continued)**

Object Name	Object OID	New in VOSS Release
rcCloudIqScalars	1.3.6.1.4.1.2272.1.230.1.1	8.2
rcCloudIqAgentEnable	1.3.6.1.4.1.2272.1.230.1.1.1	8.2
rcCloudIqAgentVersion	1.3.6.1.4.1.2272.1.230.1.1.2	8.2
rcCloudIqServerAddressType	1.3.6.1.4.1.2272.1.230.1.1.3	8.2
rcCloudIqServerAddress	1.3.6.1.4.1.2272.1.230.1.1.4	8.2
rcCloudIqProxyAddressType	1.3.6.1.4.1.2272.1.230.1.1.5	8.2
rcCloudIqProxyAddress	1.3.6.1.4.1.2272.1.230.1.1.6	8.2
rcCloudIqProxyTcpPort	1.3.6.1.4.1.2272.1.230.1.1.7	8.2
rcCloudIqProxyUserName	1.3.6.1.4.1.2272.1.230.1.1.8	8.2
rcCloudIqProxyPassword	1.3.6.1.4.1.2272.1.230.1.1.9	8.2
rcCloudIqNotificationEnable	1.3.6.1.4.1.2272.1.230.1.1.10	8.2
rcCloudIqOperStatus	1.3.6.1.4.1.2272.1.230.1.1.11	8.2
rcCloudIqAssociationUrl	1.3.6.1.4.1.2272.1.230.1.1.12	8.2
rcCloudIqPollUrl	1.3.6.1.4.1.2272.1.230.1.1.13	8.2
rcCloudIqMonitorFreq	1.3.6.1.4.1.2272.1.230.1.1.14	8.2
rcCloudIqPollFreq	1.3.6.1.4.1.2272.1.230.1.1.15	8.2
rcCloudIqLastOnboardTime	1.3.6.1.4.1.2272.1.230.1.1.16	8.2
rcCloudIqLastPollStatus	1.3.6.1.4.1.2272.1.230.1.1.17	8.2
rcCloudIqLastPollTime	1.3.6.1.4.1.2272.1.230.1.1.18	8.2
rcCloudIqLastMonitorStatus	1.3.6.1.4.1.2272.1.230.1.1.19	8.2
rcCloudIqLastMonitorTime	1.3.6.1.4.1.2272.1.230.1.1.20	8.2
rcCloudIqLastHealthStatus	1.3.6.1.4.1.2272.1.230.1.1.21	8.2
rcCloudIqLastHealthTime	1.3.6.1.4.1.2272.1.230.1.1.22	8.2
rcCloudIqServerAddressOrigin	1.3.6.1.4.1.2272.1.230.1.1.23	8.2
rcEapMultihostStatusSwUniBindings	1.3.6.1.4.1.2272.1.57.4.1.7	8.3
rcEapPortRadiusSwUniBindings	1.3.6.1.4.1.2272.1.57.6.1.7	8.3
rcEapMultiHostStatusIsidSource	1.3.6.1.4.1.2272.1.57.4.1.8	8.3
rcEapPortRadiusIsidSource	1.3.6.1.4.1.2272.1.57.6.1.8	8.3
rcIsidElanEndPointMacBased	1.3.6.1.4.1.2272.1.87.4.1.7	8.3
rcLdpCallServer	1.3.6.1.4.1.2272.1.220.1.3	8.3
rcLdpCallServerTable	1.3.6.1.4.1.2272.1.220.1.3.1	8.3
rcLdpCallServerEntry	1.3.6.1.4.1.2272.1.220.1.3.1.1	8.3
rcLdpCallServerNum	1.3.6.1.4.1.2272.1.220.1.3.1.1.1	8.3
rcLdpCallServerRowStatus	1.3.6.1.4.1.2272.1.220.1.3.1.1.2	8.3

**Table 67: VSP 7200 Series (continued)**

Object Name	Object OID	New in VOSS Release
rcLdpCallServerAddressType	1.3.6.1.4.1.2272.1.220.1.3.1.1.3	8.3
rcLdpCallServerAddress	1.3.6.1.4.1.2272.1.220.1.3.1.1.4	8.3
rcLdpFileServer	1.3.6.1.4.1.2272.1.220.1.4	8.3
rcLdpFileServerTable	1.3.6.1.4.1.2272.1.220.1.4.1	8.3
rcLdpFileServerEntry	1.3.6.1.4.1.2272.1.220.1.4.1.1	8.3
rcLdpFileServerNum	1.3.6.1.4.1.2272.1.220.1.4.1.1.1	8.3
rcLdpFileServerRowStatus	1.3.6.1.4.1.2272.1.220.1.4.1.1.2	8.3
rcLdpFileServerAddressType	1.3.6.1.4.1.2272.1.220.1.4.1.1.3	8.3
rcLdpFileServerAddress	1.3.6.1.4.1.2272.1.220.1.4.1.1.4	8.3
rcEapPortRadiusNonEapAuthType	1.3.6.1.4.1.2272.1.57.6.1.9	8.3
rcIscisCircuitOrigin	1.3.6.1.4.1.2272.1.63.2.1.12	8.3
rcIscisCircuitPlsbOrigin	1.3.6.1.4.1.2272.1.63.5.1.9	8.3
rcPortAutoSense	1.3.6.1.4.1.2272.1.4.10.1.1.130	8.3
rcPortAutoSenseKeepAutoConfig	1.3.6.1.4.1.2272.1.4.10.1.1.131	8.3
rcVlanPortOrigin	1.3.6.1.4.1.2272.1.3.3.1.25	8.3
rcIscidInterfaceMacBased	1.3.6.1.4.1.2272.1.87.5.1.9	8.3
avFabricAttachPortOrigin	1.3.6.1.4.1.45.5.46.1.6.1.9	8.3
rcPrFilterAclOrigin	1.3.6.1.4.1.2272.1.202.1.1.2.3.1.1.21	8.3
rcEapGlobalAutolsidOffset	1.3.6.1.4.1.2272.1.57.1.13	8.3
rcEapGlobalAutolsidOffsetEnable	1.3.6.1.4.1.2272.1.57.1.14	8.3
rcEapPortGuestIscid	1.3.6.1.4.1.2272.1.57.2.1.20	8.3
rcEapPortFailOpenIscid	1.3.6.1.4.1.2272.1.57.2.1.21	8.3
rcEapPortFlexUniStatus	1.3.6.1.4.1.2272.1.57.2.1.22	8.3
rcEapPortAdminTrafficControl	1.3.6.1.4.1.2272.1.57.2.1.23	8.3
rcEapPortOperTrafficControl	1.3.6.1.4.1.2272.1.57.2.1.24	8.3
rcEapPortLldpAuthEnabled	1.3.6.1.4.1.2272.1.57.2.1.25	8.3
rcEapPortOrigin	1.3.6.1.4.1.2272.1.57.2.1.26	8.3
rcEapPortDynamicMHSAEnabled	1.3.6.1.4.1.2272.1.57.2.1.27	8.3
rcEapPortRadiusAcld	1.3.6.1.4.1.2272.1.57.6.1.10	8.3
rcEapPortRadiusAceldList	1.3.6.1.4.1.2272.1.57.6.1.11	8.3
rcEapMultiHostStatusAcld	1.3.6.1.4.1.2272.1.57.4.1.9	8.3
rcEapMultiHostStatusAceldList	1.3.6.1.4.1.2272.1.57.4.1.10	8.3
rcIscisPlsbBVlanOrigin	1.3.6.1.4.1.2272.1.63.4.1.18	8.3
rcLdpPortCdpRemCallServers	1.3.6.1.4.1.2272.1.220.1.2.2.1.13	8.3

**Table 67: VSP 7200 Series (continued)**

Object Name	Object OID	New in VOSS Release
rcLdpPortCdpRemFileServers	1.3.6.1.4.1.2272.1.220.1.2.2.1.14	8.3
rcPlsbGlobalNicknameServerPrefix	1.3.6.1.4.1.2272.1.78.1.10	8.3
rcIsidServiceOriginBitMap	1.3.6.1.4.1.2272.1.87.2.1.10	8.3
rcIsidElanEndPointOriginBitMap	1.3.6.1.4.1.2272.1.87.4.1.8	8.3
rcIsidInterfaceOriginBitMap	1.3.6.1.4.1.2272.1.87.5.1.10	8.3

**Table 68: VSP 7400 Series**

Object Name	Object OID	New in VOSS Release
rcIpConfGlobalTcpAdjustMssEnable	1.3.6.1.4.1.2272.1.8.1.6.29	8.3.1
rcIpConfGlobalTcpAdjustMssStatus	1.3.6.1.4.1.2272.1.8.1.6.30	8.3.1
rcIpConfGlobalTcpAdjustMssType	1.3.6.1.4.1.2272.1.8.1.6.31	8.3.1
rcIpConfGlobalTcpAdjustMssValue	1.3.6.1.4.1.2272.1.8.1.6.32	8.3.1
rcVirtualServiceApplicationPackageAppName	1.3.6.1.4.1.2272.1.101.1.1.11.1.6	8.3.1
rcVirtualServiceApplicationPackageAppVersion	1.3.6.1.4.1.2272.1.101.1.1.11.1.7	8.3.1
rcVirtualServiceCopySourceFile	1.3.6.1.4.1.2272.1.101.1.1.12.4	8.3.1
rcVirtualServiceCopyDestinationFile	1.3.6.1.4.1.2272.1.101.1.1.12.5	8.3.1
rcVirtualServiceCopyAction	1.3.6.1.4.1.2272.1.101.1.1.12.6	8.3.1
rcVirtualServiceScalarsName	1.3.6.1.4.1.2272.1.101.1.1.12.7	8.3.1
rcVirtualServiceExecuteCommand	1.3.6.1.4.1.2272.1.101.1.1.12.8	8.3.1
rcVirtualServiceUser	1.3.6.1.4.1.2272.1.101.1.1.12.9	8.3.1
rcVirtualServicePassword	1.3.6.1.4.1.2272.1.101.1.1.12.10	8.3.1
rcIsisGlobalMAOperState	1.3.6.1.4.1.2272.1.63.1.31	8.4
rcIsisMultiArea	1.3.6.1.4.1.2272.1.63.29	8.4
rcIsisMultiAreaGlobalGroup	1.3.6.1.4.1.2272.1.63.29.1	8.4
rcIsisMultiAreaGlobalVNodeNickName	1.3.6.1.4.1.2272.1.63.29.1.1	8.4
rcIsisMultiAreaGlobalVNodeSysId	1.3.6.1.4.1.2272.1.63.29.1.2	8.4
rcIsisMultiAreaGlobalVNodeSysName	1.3.6.1.4.1.2272.1.63.29.1.3	8.4
rcIsisMultiAreaRedistribute	1.3.6.1.4.1.2272.1.63.29.2	8.4
rcIsisMultiAreaRedistributeGlobalGroup	1.3.6.1.4.1.2272.1.63.29.2.1	8.4
rcIsisMultiAreaL2RedistributelsidScalarApply	1.3.6.1.4.1.2272.1.63.29.2.1.1	8.4
rcIsisMultiAreaL2RedistributeMcastApply	1.3.6.1.4.1.2272.1.63.29.2.1.2	8.4
rcIsisMultiAreaDvrBbRedistribute	1.3.6.1.4.1.2272.1.63.29.2.1.3	8.4
rcIsisMultiAreaL2RedistributelsidTable	1.3.6.1.4.1.2272.1.63.29.2.2	8.4



**Table 68: VSP 7400 Series (continued)**

Object Name	Object OID	New in VOSS Release
rclsisMultiAreaL2RedistributelsidEntry	1.3.6.1.4.1.2272.1.63.29.2.2.1	8.4
rclsisMultiAreaL2RedistributelsidType	1.3.6.1.4.1.2272.1.63.29.2.2.1.1	8.4
rclsisMultiAreaL2RedistributelsidPermit	1.3.6.1.4.1.2272.1.63.29.2.2.1.2	8.4
rclsisMultiAreaL2RedistributelsidExceptListName	1.3.6.1.4.1.2272.1.63.29.2.2.1.3	8.4
rclsisMultiAreaL2RedistributelsidApply	1.3.6.1.4.1.2272.1.63.29.2.2.1.4	8.4
rclsisMultiAreaL2RedistributelsidRowStatus	1.3.6.1.4.1.2272.1.63.29.2.2.1.5	8.4
rclsisMultiAreaL2RedistributeMcastIsidTable	1.3.6.1.4.1.2272.1.63.29.2.3	8.4
rclsisMultiAreaL2RedistributeMcastIsidEntry	1.3.6.1.4.1.2272.1.63.29.2.3.1	8.4
rclsisMultiAreaL2RedistributeMcastIsid	1.3.6.1.4.1.2272.1.63.29.2.3.1.1	8.4
rclsisMultiAreaL2RedistributeMcastIsidEnable	1.3.6.1.4.1.2272.1.63.29.2.3.1.2	8.4
rclsisMultiAreaL2RedistributeMcastIsidPolicyName	1.3.6.1.4.1.2272.1.63.29.2.3.1.3	8.4
rclsisMultiAreaL2RedistributeMcastIsidRowStatus	1.3.6.1.4.1.2272.1.63.29.2.3.1.4	8.4
rclsisMultiAreaL2RedistributeMcastIsidListTable	1.3.6.1.4.1.2272.1.63.29.2.4	8.4
rclsisMultiAreaL2RedistributeMcastIsidListEntry	1.3.6.1.4.1.2272.1.63.29.2.4.1	8.4
rclsisMultiAreaL2RedistributeMcastIsidListName	1.3.6.1.4.1.2272.1.63.29.2.4.1.1	8.4
rclsisMultiAreaL2RedistributeMcastIsidListEnable	1.3.6.1.4.1.2272.1.63.29.2.4.1.2	8.4
rclsisMultiAreaL2RedistributeMcastIsidListPolicyName	1.3.6.1.4.1.2272.1.63.29.2.4.1.3	8.4
rclsisMultiAreaL2RedistributeMcastIsidListRowStatus	1.3.6.1.4.1.2272.1.63.29.2.4.1.4	8.4
rclsisMultiAreaL3RedistributeTable	1.3.6.1.4.1.2272.1.63.29.2.5	8.4
rclsisMultiAreaL3RedistributeEntry	1.3.6.1.4.1.2272.1.63.29.2.5.1	8.4
rclsisMultiAreaL3RedistributeVrflid	1.3.6.1.4.1.2272.1.63.29.2.5.1.1	8.4
rclsisMultiAreaL3RedistributeType	1.3.6.1.4.1.2272.1.63.29.2.5.1.2	8.4
rclsisMultiAreaL3RedistributeRoutePolicy	1.3.6.1.4.1.2272.1.63.29.2.5.1.5	8.4
rclsisMultiAreaL3RedistributeEnable	1.3.6.1.4.1.2272.1.63.29.2.5.1.6	8.4
rclsisMultiAreaL3RedistributeApply	1.3.6.1.4.1.2272.1.63.29.2.5.1.7	8.4
rclsisMultiAreaL3RedistributeRowStatus	1.3.6.1.4.1.2272.1.63.29.2.5.1.8	8.4
rclsisMultiAreaL2IsidListTable	1.3.6.1.4.1.2272.1.63.29.3	8.4
rclsisMultiAreaL2IsidListEntry	1.3.6.1.4.1.2272.1.63.29.3.1	8.4
rclsisMultiAreaL2IsidListName	1.3.6.1.4.1.2272.1.63.29.3.1.1	8.4
rclsisMultiAreaL2IsidListRangeStart	1.3.6.1.4.1.2272.1.63.29.3.1.2	8.4
rclsisMultiAreaL2IsidListRangeEnd	1.3.6.1.4.1.2272.1.63.29.3.1.3	8.4
rclsisMultiAreaL2IsidListRowStatus	1.3.6.1.4.1.2272.1.63.29.3.1.6	8.4
rcIpRoutePolicyMatchIpMcastGroup	1.3.6.1.4.1.2272.1.8.100.13.1.47	8.4

**Table 68: VSP 7400 Series (continued)**

Object Name	Object OID	New in VOSS Release
rcIpRoutePolicyMatchIpMcastSource	1.3.6.1.4.1.2272.1.8.100.13.1.48	8.4
rcNsisPlsbMultiareaLoopTrap	1.3.6.1.4.1.2272.1.21.0.360	8.4
rcLsisPlsbMaLoopSysId	1.3.6.1.4.1.2272.1.63.9.39	8.4
rcLsisPlsbMaLoopArea	1.3.6.1.4.1.2272.1.63.9.40	8.4
rcNsisPlsbGlobalVNodeDuplicateSysIdTrap	1.3.6.1.4.1.2272.1.21.0.361	8.4
rcNsisPlsbGlobalVNodeDuplicateNnameTrap	1.3.6.1.4.1.2272.1.21.0.362	8.4
rcLsisLocalVNodeSysId	1.3.6.1.4.1.2272.1.63.9.41	8.4
rcLsisLocalVNodeHostName	1.3.6.1.4.1.2272.1.63.9.42	8.4
rcLsisLocalVNodeNickname	1.3.6.1.4.1.2272.1.63.9.43	8.4
rcDvrBackboneMultiAreaVnodeEntriesTable	1.3.6.1.4.1.2272.1.219.10	8.4
rcDvrBackboneMultiAreaVnodeEntriesEntry	1.3.6.1.4.1.2272.1.219.10.1	8.4
rcDvrBackboneMultiAreaVnodeEntriesIpAddrType	1.3.6.1.4.1.2272.1.219.10.1.1	8.4
rcDvrBackboneMultiAreaVnodeEntriesIpAddr	1.3.6.1.4.1.2272.1.219.10.1.2	8.4
rcDvrBackboneMultiAreaVnodeEntriesL3Isid	1.3.6.1.4.1.2272.1.219.10.1.3	8.4
rcDvrBackboneMultiAreaVnodeEntriesDomainId	1.3.6.1.4.1.2272.1.219.10.1.4	8.4
rcDvrBackboneMultiAreaVnodeEntriesEcmpIndex	1.3.6.1.4.1.2272.1.219.10.1.5	8.4
rcDvrBackboneMultiAreaVnodeEntriesHostMacAddr	1.3.6.1.4.1.2272.1.219.10.1.6	8.4
rcDvrBackboneMultiAreaVnodeEntriesL2Isid	1.3.6.1.4.1.2272.1.219.10.1.7	8.4
rcDvrBackboneMultiAreaVnodeEntriesAdvControllerName	1.3.6.1.4.1.2272.1.219.10.1.8	8.4
rcDvrBackboneMultiAreaVnodeEntriesAdvController	1.3.6.1.4.1.2272.1.219.10.1.9	8.4
rcDvrBackboneMultiAreaVnodeEntriesNextHopName	1.3.6.1.4.1.2272.1.219.10.1.10	8.4
rcDvrBackboneMultiAreaVnodeEntriesNextHopMac	1.3.6.1.4.1.2272.1.219.10.1.11	8.4
rcDvrBackboneMultiAreaVnodeEntriesArea	1.3.6.1.4.1.2272.1.219.10.1.12	8.4
rcPortLinkDebounce	1.3.6.1.4.1.2272.1.4.10.1.1.135	8.4.2
rcAutoSense	1.3.6.1.4.1.2272.1.231	8.5
rcAutoSenseMib	1.3.6.1.4.1.2272.1.231.1	8.5
rcAutoSenseNotifications	1.3.6.1.4.1.2272.1.231.1.0	8.5
rcAutoSenseObjects	1.3.6.1.4.1.2272.1.231.1.1	8.5
rcAutoSenseScalars	1.3.6.1.4.1.2272.1.231.1.1.1	8.5
rcAutoSenseAccessDiffservEnable	1.3.6.1.4.1.2272.1.231.1.1.1.1	8.5
rcAutoSenseDatalsid	1.3.6.1.4.1.2272.1.231.1.1.1.2	8.5
rcAutoSenseEapolVoiceLldpAuthEnable	1.3.6.1.4.1.2272.1.231.1.1.1.3	8.5
rcAutoSenseFaMsgAuthEnable	1.3.6.1.4.1.2272.1.231.1.1.1.4	8.5

**Table 68: VSP 7400 Series (continued)**

Object Name	Object OID	New in VOSS Release
rcAutoSenseFaAuthenticationKey	1.3.6.1.4.1.2272.1.231.1.1.1.5	8.5
rcAutoSenseSisHelloAuthType	1.3.6.1.4.1.2272.1.231.1.1.1.6	8.5
rcAutoSenseSisHelloAuthKey	1.3.6.1.4.1.2272.1.231.1.1.1.7	8.5
rcAutoSenseOnboardingsid	1.3.6.1.4.1.2272.1.231.1.1.1.8	8.5
rcAutoSenseQos8021pOverrideEnable	1.3.6.1.4.1.2272.1.231.1.1.1.9	8.5
rcAutoSenseVoicelsid	1.3.6.1.4.1.2272.1.231.1.1.1.10	8.5
rcAutoSenseVoiceCvid	1.3.6.1.4.1.2272.1.231.1.1.1.11	8.5
rcAutoSenseSisHelloAuthKeyld	1.3.6.1.4.1.2272.1.231.1.1.1.12	8.5
rcAutoSenseDhcpDetection	1.3.6.1.4.1.2272.1.231.1.1.1.13	8.5
rcAutoSenseFaCamerasid	1.3.6.1.4.1.2272.1.231.1.1.1.14	8.5
rcAutoSenseFaProxyMgmtlsid	1.3.6.1.4.1.2272.1.231.1.1.1.15	8.5
rcAutoSenseFaProxyMgmtCvid	1.3.6.1.4.1.2272.1.231.1.1.1.16	8.5
rcAutoSenseFaProxyNoAuthlsid	1.3.6.1.4.1.2272.1.231.1.1.1.17	8.5
rcAutoSenseFaVirtualSwitchlsid	1.3.6.1.4.1.2272.1.231.1.1.1.18	8.5
rcAutoSenseFaWapType1lsid	1.3.6.1.4.1.2272.1.231.1.1.1.19	8.5
rcAutoSenseFaCameraEapolStatus	1.3.6.1.4.1.2272.1.231.1.1.1.20	8.5
rcAutoSenseFaEapolOVSSStatus	1.3.6.1.4.1.2272.1.231.1.1.1.21	8.5
rcAutoSenseFaEapolWap1Status	1.3.6.1.4.1.2272.1.231.1.1.1.22	8.5
rcAutoSenseWaitInterval	1.3.6.1.4.1.2272.1.231.1.1.1.23	8.5
rcPortAutoSenseDatalsid	1.3.6.1.4.1.2272.1.4.10.1.1.136	8.5
rcNlsMgmtInterfaceDropIcmpFragEnable	1.3.6.1.4.1.2272.1.223.1.1.16	8.5
rcNlsMgmtInterfaceDropIcmpv6FragEnable	1.3.6.1.4.1.2272.1.223.1.1.17	8.5
rcNlsMgmtlsid	1.3.6.1.4.1.2272.1.223.1.1.18	8.5
rcsisGlobalMAHomeAlwaysUp	1.3.6.1.4.1.2272.1.63.1.33	8.5

**Table 69: VSP 8000 Series**

Object Name	Object OID	New in VOSS Release
rcSysDnsDomainNameOrigin	1.3.6.1.4.1.2272.1.1.128	8.2
rcSysDnsAdvertisedHostName	1.3.6.1.4.1.2272.1.1.129	8.2
rcVlanlsidName	1.3.6.1.4.1.2272.1.3.2.1.80	8.2
rcIpAdEntName	1.3.6.1.4.1.2272.1.8.2.1.13	8.2
rcIpStaticRouteName	1.3.6.1.4.1.2272.1.8.15.2.1.11	8.2
rcnCloudIqUpTrap	1.3.6.1.4.1.2272.1.21.0.357	8.2

**Table 69: VSP 8000 Series (continued)**

Object Name	Object OID	New in VOSS Release
rcnCloudlqDownTrap	1.3.6.1.4.1.2272.1.21.0.358	8.2
rclgmpStreamTimeout	1.3.6.1.4.1.2272.1.30.11.7.0	8.2
rcIpv6StaticRouteName	1.3.6.1.4.1.2272.1.62.1.1.6.1.10	8.2
rcIsglobalMgmtClpIpAddr	1.3.6.1.4.1.2272.1.63.1.26	8.2
rcIsgLogicalInterfaceBfdEnable	1.3.6.1.4.1.2272.1.63.26.1.20	8.2
rcIsgGlobalNameTable	1.3.6.1.4.1.2272.1.87.6	8.2
rcVrflpVpnIsgName	1.3.6.1.4.1.2272.1.203.1.1.4.1.10	8.2
rcPrFilterAcelpShowRoutedOnly	1.3.6.1.4.1.2272.1.202.1.1.2.4.26.1.20	8.2
rcPrFilterAcelpv6ShowRoutedOnly	1.3.6.1.4.1.2272.1.202.1.1.2.4.32.1.13	8.2
rcPrFilterAcelpRoutedTable	1.3.6.1.4.1.2272.1.202.1.1.2.4.40	8.2
rcPrFilterAcelpv6RoutedTable	1.3.6.1.4.1.2272.1.202.1.1.2.4.41	8.2
rcVrflpv6IsgVpnIsgName	1.3.6.1.4.1.2272.1.203.1.1.7.1.8	8.2
rcIsgServiceName	1.3.6.1.4.2272.1.87.2.1.8	8.2
rcCloudlq	1.3.6.1.4.1.2272.1.230	8.2
rcCloudlqObjects	1.3.6.1.4.1.2272.1.230.1	8.2
rcCloudlqScalars	1.3.6.1.4.1.2272.1.230.1.1	8.2
rcCloudlqAgentEnable	1.3.6.1.4.1.2272.1.230.1.1.1	8.2
rcCloudlqAgentVersion	1.3.6.1.4.1.2272.1.230.1.1.2	8.2
rcCloudlqServerAddressType	1.3.6.1.4.1.2272.1.230.1.1.3	8.2
rcCloudlqServerAddress	1.3.6.1.4.1.2272.1.230.1.1.4	8.2
rcCloudlqProxyAddressType	1.3.6.1.4.1.2272.1.230.1.1.5	8.2
rcCloudlqProxyAddress	1.3.6.1.4.1.2272.1.230.1.1.6	8.2
rcCloudlqProxyTcpPort	1.3.6.1.4.1.2272.1.230.1.1.7	8.2
rcCloudlqProxyUserName	1.3.6.1.4.1.2272.1.230.1.1.8	8.2
rcCloudlqProxyPassword	1.3.6.1.4.1.2272.1.230.1.1.9	8.2
rcCloudlqNotificationEnable	1.3.6.1.4.1.2272.1.230.1.1.10	8.2
rcCloudlqOperStatus	1.3.6.1.4.1.2272.1.230.1.1.11	8.2
rcCloudlqAssociationUrl	1.3.6.1.4.1.2272.1.230.1.1.12	8.2
rcCloudlqPollUrl	1.3.6.1.4.1.2272.1.230.1.1.13	8.2
rcCloudlqMonitorFreq	1.3.6.1.4.1.2272.1.230.1.1.14	8.2
rcCloudlqPollFreq	1.3.6.1.4.1.2272.1.230.1.1.15	8.2
rcCloudlqLastOnboardTime	1.3.6.1.4.1.2272.1.230.1.1.16	8.2
rcCloudlqLastPollStatus	1.3.6.1.4.1.2272.1.230.1.1.17	8.2
rcCloudlqLastPollTime	1.3.6.1.4.1.2272.1.230.1.1.18	8.2

**Table 69: VSP 8000 Series (continued)**

Object Name	Object OID	New in VOSS Release
rcCloudIqLastMonitorStatus	1.3.6.1.4.1.2272.1.230.1.1.19	8.2
rcCloudIqLastMonitorTime	1.3.6.1.4.1.2272.1.230.1.1.20	8.2
rcCloudIqLastHealthStatus	1.3.6.1.4.1.2272.1.230.1.1.21	8.2
rcCloudIqLastHealthTime	1.3.6.1.4.1.2272.1.230.1.1.22	8.2
rcEapMultihostStatusSwUniBindings	1.3.6.1.4.1.2272.1.57.4.1.7	8.3
rcEapPortRadiusSwUniBindings	1.3.6.1.4.1.2272.1.57.6.1.7	8.3
rcEapMultiHostStatusIsidSource	1.3.6.1.4.1.2272.1.57.4.1.8	8.3
rcEapPortRadiusIsidSource	1.3.6.1.4.1.2272.1.57.6.1.8	8.3
rcIsidElanEndPointMacBased	1.3.6.1.4.1.2272.1.87.4.1.7	8.3
rcLldpCallServer	1.3.6.1.4.1.2272.1.220.1.3	8.3
rcLldpCallServerTable	1.3.6.1.4.1.2272.1.220.1.3.1	8.3
rcLldpCallServerEntry	1.3.6.1.4.1.2272.1.220.1.3.1.1	8.3
rcLldpCallServerNum	1.3.6.1.4.1.2272.1.220.1.3.1.1.1	8.3
rcLldpCallServerRowStatus	1.3.6.1.4.1.2272.1.220.1.3.1.1.2	8.3
rcLldpCallServerAddressType	1.3.6.1.4.1.2272.1.220.1.3.1.1.3	8.3
rcLldpCallServerAddress	1.3.6.1.4.1.2272.1.220.1.3.1.1.4	8.3
rcLldpFileServer	1.3.6.1.4.1.2272.1.220.1.4	8.3
rcLldpFileServerTable	1.3.6.1.4.1.2272.1.220.1.4.1	8.3
rcLldpFileServerEntry	1.3.6.1.4.1.2272.1.220.1.4.1.1	8.3
rcLldpFileServerNum	1.3.6.1.4.1.2272.1.220.1.4.1.1.1	8.3
rcLldpFileServerRowStatus	1.3.6.1.4.1.2272.1.220.1.4.1.1.2	8.3
rcLldpFileServerAddressType	1.3.6.1.4.1.2272.1.220.1.4.1.1.3	8.3
rcLldpFileServerAddress	1.3.6.1.4.1.2272.1.220.1.4.1.1.4	8.3
rcEapPortRadiusNonEapAuthType	1.3.6.1.4.1.2272.1.57.6.1.9	8.3
rcIsisCircuitOrigin	1.3.6.1.4.1.2272.1.63.2.1.12	8.3
rcIsisCircuitPlsbOrigin	1.3.6.1.4.1.2272.1.63.5.1.9	8.3
rcPortAutoSense	1.3.6.1.4.1.2272.1.4.10.1.1.130	8.3
rcPortAutoSenseKeepAutoConfig	1.3.6.1.4.1.2272.1.4.10.1.1.131	8.3
rcVlanPortOrigin	1.3.6.1.4.1.2272.1.3.3.1.25	8.3
rcIsidInterfaceMacBased	1.3.6.1.4.1.2272.1.87.5.1.9	8.3
avFabricAttachPortOrigin	1.3.6.1.4.1.45.5.46.1.6.1.9	8.3
rcPrFilterAclOrigin	1.3.6.1.4.1.2272.1.202.1.1.2.3.1.1.21	8.3
rcEapGlobalAutolsidOffset	1.3.6.1.4.1.2272.1.57.1.13	8.3
rcEapGlobalAutolsidOffsetEnable	1.3.6.1.4.1.2272.1.57.1.14	8.3

**Table 69: VSP 8000 Series (continued)**

Object Name	Object OID	New in VOSS Release
rcEapPortGuestIsid	1.3.6.1.4.1.2272.1.57.2.1.20	8.3
rcEapPortFailOpenIsid	1.3.6.1.4.1.2272.1.57.2.1.21	8.3
rcEapPortFlexUniStatus	1.3.6.1.4.1.2272.1.57.2.1.22	8.3
rcEapPortAdminTrafficControl	1.3.6.1.4.1.2272.1.57.2.1.23	8.3
rcEapPortOperTrafficControl	1.3.6.1.4.1.2272.1.57.2.1.24	8.3
rcEapPortLldpAuthEnabled	1.3.6.1.4.1.2272.1.57.2.1.25	8.3
rcEapPortOrigin	1.3.6.1.4.1.2272.1.57.2.1.26	8.3
rcEapPortDynamicMHSAEnabled	1.3.6.1.4.1.2272.1.57.2.1.27	8.3
rcEapPortRadiusAcId	1.3.6.1.4.1.2272.1.57.6.1.10	8.3
rcEapPortRadiusAcIdList	1.3.6.1.4.1.2272.1.57.6.1.11	8.3
rcEapMultiHostStatusAcId	1.3.6.1.4.1.2272.1.57.4.1.9	8.3
rcEapMultiHostStatusAcIdList	1.3.6.1.4.1.2272.1.57.4.1.10	8.3
rcIsisPlsbBVlanOrigin	1.3.6.1.4.1.2272.1.63.4.1.18	8.3
rcLldpPortCdpRemCallServers	1.3.6.1.4.1.2272.1.220.1.2.2.1.13	8.3
rcLldpPortCdpRemFileServers	1.3.6.1.4.1.2272.1.220.1.2.2.1.14	8.3
rcPlsbGlobalNicknameServerPrefix	1.3.6.1.4.1.2272.1.78.1.10	8.3
rcIsidServiceOriginBitMap	1.3.6.1.4.1.2272.1.87.2.1.10	8.3
rcIsidElanEndPointOriginBitMap	1.3.6.1.4.1.2272.1.87.4.1.8	8.3
rcIsidInterfaceOriginBitMap	1.3.6.1.4.1.2272.1.87.5.1.10	8.3
rcAutoSense	1.3.6.1.4.1.2272.1.231	8.5
rcAutoSenseMib	1.3.6.1.4.1.2272.1.231.1	8.5
rcAutoSenseNotifications	1.3.6.1.4.1.2272.1.231.1.0	8.5
rcAutoSenseObjects	1.3.6.1.4.1.2272.1.231.1.1	8.5
rcAutoSenseScalars	1.3.6.1.4.1.2272.1.231.1.1.1	8.5
rcAutoSenseAccessDiffServEnable	1.3.6.1.4.1.2272.1.231.1.1.1.1	8.5
rcAutoSenseDatalsid	1.3.6.1.4.1.2272.1.231.1.1.1.2	8.5
rcAutoSenseEapolVoiceLldpAuthEnable	1.3.6.1.4.1.2272.1.231.1.1.1.3	8.5
rcAutoSenseFaMsgAuthEnable	1.3.6.1.4.1.2272.1.231.1.1.1.4	8.5
rcAutoSenseFaAuthenticationKey	1.3.6.1.4.1.2272.1.231.1.1.1.5	8.5
rcAutoSenseSisisHelloAuthType	1.3.6.1.4.1.2272.1.231.1.1.1.6	8.5
rcAutoSenseSisisHelloAuthKey	1.3.6.1.4.1.2272.1.231.1.1.1.7	8.5
rcAutoSenseOnboardingIsid	1.3.6.1.4.1.2272.1.231.1.1.1.8	8.5
rcAutoSenseQos8021pOverrideEnable	1.3.6.1.4.1.2272.1.231.1.1.1.9	8.5
rcAutoSenseVoicelsid	1.3.6.1.4.1.2272.1.231.1.1.1.10	8.5

**Table 69: VSP 8000 Series (continued)**

Object Name	Object OID	New in VOSS Release
rcAutoSenseVoiceCvid	1.3.6.1.4.1.2272.1.231.1.1.11	8.5
rcAutoSenseSisHelloAuthKeyId	1.3.6.1.4.1.2272.1.231.1.1.12	8.5
rcAutoSenseDhcpDetection	1.3.6.1.4.1.2272.1.231.1.1.13	8.5
rcAutoSenseFaCameraSsid	1.3.6.1.4.1.2272.1.231.1.1.14	8.5
rcAutoSenseFaProxyMgmtSsid	1.3.6.1.4.1.2272.1.231.1.1.15	8.5
rcAutoSenseFaProxyMgmtCvid	1.3.6.1.4.1.2272.1.231.1.1.16	8.5
rcAutoSenseFaProxyNoAuthSsid	1.3.6.1.4.1.2272.1.231.1.1.17	8.5
rcAutoSenseFaVirtualSwitchSsid	1.3.6.1.4.1.2272.1.231.1.1.18	8.5
rcAutoSenseFaWapTypeSsid	1.3.6.1.4.1.2272.1.231.1.1.19	8.5
rcAutoSenseFaCameraEapolStatus	1.3.6.1.4.1.2272.1.231.1.1.20	8.5
rcAutoSenseFaEapolOVSSStatus	1.3.6.1.4.1.2272.1.231.1.1.21	8.5
rcAutoSenseFaEapolWap1Status	1.3.6.1.4.1.2272.1.231.1.1.22	8.5
rcAutoSenseWaitInterval	1.3.6.1.4.1.2272.1.231.1.1.23	8.5
rcPortAutoSenseDataSsid	1.3.6.1.4.1.2272.1.4.10.1.1.136	8.5
rcNlsMgmtInterfaceDropIcmpFragEnable	1.3.6.1.4.1.2272.1.223.1.1.16	8.5
rcNlsMgmtInterfaceDropIcmpv6FragEnable	1.3.6.1.4.1.2272.1.223.1.1.17	8.5
rcNlsMgmtSsid	1.3.6.1.4.1.2272.1.223.1.1.18	8.5

**Table 70: XA1400 Series**

Object Name	Object OID	New in VOSS Release
rclsisLogicalInterfaceIpssecAuthMethod	1.3.6.1.4.1.2272.1.63.26.1.23	8.3
rclsidServiceOriginBitMap	1.3.6.1.4.1.2272.1.87.2.1.10	8.3
rclsidElanEndPointOriginBitMap	1.3.6.1.4.1.2272.1.87.4.1.8	8.3
rclsidInterfaceOriginBitMap	1.3.6.1.4.1.2272.1.87.5.1.10	8.3
rclpConfGlobalTcpAdjustMssEnable	1.3.6.1.4.1.2272.1.8.16.29	8.3.1
rclpConfGlobalTcpAdjustMssStatus	1.3.6.1.4.1.2272.1.8.16.30	8.3.1
rclpConfGlobalTcpAdjustMssType	1.3.6.1.4.1.2272.1.8.16.31	8.3.1
rclpConfGlobalTcpAdjustMssValue	1.3.6.1.4.1.2272.1.8.16.32	8.3.1
rcNlsMgmtPropagateAction	1.3.6.1.4.1.2272.1.223.23.3	8.3.1
rcNlsMgmtPropagateToRoutingVrf	1.3.6.1.4.1.2272.1.223.23.4	8.3.1
rclsisLogicalInterfaceIpssecTunnelSourceType	1.3.6.1.4.1.2272.1.63.26.1.26	8.3.1
rclsisLogicalInterfaceIpssecTunnelSourceAddress	1.3.6.1.4.1.2272.1.63.26.1.27	8.3.1
rclsisLogicalInterfaceIpssecTunnelVrf	1.3.6.1.4.1.2272.1.63.26.1.28	8.3.1

**Table 70: XA1400 Series (continued)**

Object Name	Object OID	New in VOSS Release
rcSisLogicalInterfaceIpsecEsp	1.3.6.1.4.1.2272.1.63.26.1.30	8.3.1
rcSisLogicalInterfaceIpsecCertSubjectName	1.3.6.1.4.1.2272.1.63.26.1.29	8.3.100

## Obsolete MIBs

**Table 71: Common**

Object Name	Object OID	Obsolete in VOSS Release
rcSysForceTrapSender	1.3.6.1.4.1.2272.1.1.57	8.1.60
rcSysTrapRecvTable	1.3.6.1.4.1.2272.1.1.60	8.1.60
rcSysTrapRecvEntry	1.3.6.1.4.1.2272.1.1.60.1	8.1.60
rcSysTrapRecvAddress	1.3.6.1.4.1.2272.1.1.60.1.1	8.1.60
rcSysTrapRecvVersion	1.3.6.1.4.1.2272.1.1.60.1.2	8.1.60
rcSysTrapRecvCommunity	1.3.6.1.4.1.2272.1.1.60.1.3	8.1.60
rcSysTrapRecvSrcAddress	1.3.6.1.4.1.2272.1.1.60.1.4	8.1.60
rcSysTrapRecvRowStatus	1.3.6.1.4.1.2272.1.1.60.1.5	8.1.60
rcSysTrapSenderTable	1.3.6.1.4.1.2272.1.1.62	8.1.60
rcSysTrapSenderEntry	1.3.6.1.4.1.2272.1.1.62.1	8.1.60
rcSysTrapSenderRecvAddress	1.3.6.1.4.1.2272.1.1.62.1.1	8.1.60
rcSysTrapSenderSrcAddress	1.3.6.1.4.1.2272.1.1.62.1.2	8.1.60
rcSysForcelpHdrSender	1.3.6.1.4.1.2272.1.1.68	8.1.60
rcRadiusGlobalSourceIpFlag	1.3.6.1.4.1.2272.1.29.1.16	8.1.60
rcRadiusServHostSourceIpAddr	1.3.6.1.4.1.2272.1.29.5.1.30	8.1.60
rcTacacsServerSourceIpInterfaceEnabled	1.3.6.1.4.1.2272.1.65.2.1.8	8.1.60
rcTacacsServerSourceIpInterfaceType	1.3.6.1.4.1.2272.1.65.2.1.9	8.1.60
rcTacacsServerSourceIpInterface	1.3.6.1.4.1.2272.1.65.2.1.10	8.1.60
rcSyslogGlobalHeader	1.3.6.1.4.1.2272.1.22.1.4	8.1.60
rcnAuthenticationSuccess	1.3.6.1.4.1.2272.1.21.0.268	8.2

**Table 72: VSP 4900 Series**

Object Name	Object OID	Obsolete in VOSS Release
pethFastPoeEnable	1.3.6.1.2.1.105.1.3.1.1.6	8.1.5
pethPerpetualPoeEnable	1.3.6.1.2.1.105.1.3.1.1.7	8.1.5



**Table 72: VSP 4900 Series (continued)**

Object Name	Object OID	Obsolete in VOSS Release
pethPsePortFastPoeEnable	1.3.6.1.2.1.105.1.1.1.15	8.2
pethPsePortPerpetualPoeEnable	1.3.6.1.2.1.105.1.1.1.16	8.2