Release Notes — Software Release 4.3 Avaya Ethernet Routing Switch 2500 Series

4.3
NN47215-400, 04.02
November 2010

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Contents

Chapter 1: New in this release

The following sections describe what's new in Avaya Ethernet Routing Switch 2500 Series release 4.3:

Features

The following features are new in Avaya Ethernet Routing Switch 2500 Series software release 4.3:

Chapter 2: Introduction

This document describes new features, hardware, upgrade alerts, known and resolved issues, and limitations for Avaya Ethernet Routing Switch 2500 Series, software release 4.3.

The Avaya Ethernet Routing Switch 2500 Series, supported by software release 4.3, includes the following switch models:

- Avaya Ethernet Routing Switch 2526T
- Avaya Ethernet Routing Switch 2550T
- Avaya Ethernet Routing Switch 2526T-PWR
- Avaya Ethernet Routing Switch 2550T-PWR

Configurations can vary from a stand-alone switch to a stack of up to 8 switches. A stack can consist of any combination of switches. One of the benefits of operating Avaya Ethernet Routing Switch 2500 Series switches in a stack is management efficiency; a stack is managed with a single IP address and software is available as a single image across all models.

These Release Notes provide the latest information about Software Release 4.3, as well as operational issues not included in the documentation suite.

For a complete list of documentation in the 2500 Series suite, see *Avaya Ethernet Routing Switch 2500 Series Documentation Road Map* (NN47215-103).

The information in these Release Notes supersedes applicable information in other documentation.

Navigation

The following topics are discussed in this document:

Chapter 3: Important notices and new features

This section contains a brief synopsis of the new features in release 4.3 and any important notices.

Navigation

This section includes the following sections:

Important notices

This section presents notes that are important to consistent operation of your switch.

Software upgrade

To prevent failure of software upgrade to Release 4.3 you must follow the procedure described in Software upgrade instructions on page 17.

New features

This section lists the main software features supported on the Avaya Ethernet Routing Swith 2500 Series devices.

Enterprise Device Manager

Enterprise Device Manager (EDM) is a new, embedded, Web-based management system that provides the convenience of full integration onto the switch but retains the look and feel of Device Manager. The EDM Web application is available when you access the switch IP address using one of the approved Web browsers. You can use EDM element management to set up, stage, and configure switches and monitor device statistics. To use EDM you require only an internet browser.

EDM is available as

- an embedded, on-box version accessed by a Web browser and available by default on every switch
- an off-box version available as a free, downloadable software plug-in installed on Configuration and Orchestration Manager (COM) 2.0 and higher, purchased separately

The off-box EDM offers the following additional features:

- secure, scalable, high performance element management for an entire network from a centralized management server
- plug-n-play availability based on the device-specific EDM plug-in
- user-based access control with role-based access management for multiple roles, device level read-only or read-write access, fully secured access for multiple enterprise class authentication using applications like RADIUS and Microsoft AD
- audit trails and user-based logs for all configuration activities
- troubleshooting and diagnostic tools including centralized syslog and trap viewer, ping, telnet, CLI*Manager, and PortScan

The following table compares EDM functions in the embedded version to the COM plug-in version.

Table 1: EDM functions: embedded version compared to the COM plug-in version

EDM functions	Embedded version	Plug-in version
100% device configuration: device view, device-specific configuration	Yes	Yes
Stackable Device Web User Interface features (former Web-based Management/Web GUI)	Yes	No

EDM functions	Embedded version	Plug-in version
Centralized off-box multi-user element management: • user and device credential manager • user preference • SSO-based user access control • user-based Device Access Control (read only and read-write) • authentication through third party (RADIUS, Microsoft AD, Sun AM)	No	Yes
Centralized EM plug-in management (downloadable install and uninstall, upgrade, patch, and inventory view	No	Yes
User activity log and audit trail	No	Yes
Device performance monitoring and polling	Limited	High performance and low latency
Device-specific single device wizards and template	No	Yes
Centralized syslog and trap viewer	No	Yes
Troubleshooting and diagnostic tools (ping, CLI*Manager, path-trace)	No	Yes

For more information about EDM, see *Avaya Ethernet Routing Switch 2500 Series Fundamentals,* (NN47215-102).

Important:

From Release 4.3, Device Manager (DM), also known as JDM, is no longer supported. Use the embedded EDM or the COM device-specific plug-in to control the switch.

Advanced QoS

Advanced QoS supports improved traffic control and offers Layer 2, 3, and 4 traffic classification. When you use Advanced QoS capability you can identify traffic flows using filters and you can apply user-defined actions to the traffic flows. Actions that you can apply to traffic flows include:

- Drop
- Forward
- Mark or Re-mark – the DiffServ Code Point (DSCP)

- Meter/Police - ingress rate limiting
- Shape – egress flow control

For more information about Advanced QoS, see *Avaya Ethernet Routing Switch 2500 Series Configuration—Quality of Service,* (NN47215-504).

Avaya Automatic QoS

When you enable Avaya Automatic QoS, the switch recognizes Avaya application traffic and prioritizes the traffic through the switch. Avaya Automatic QoS is enabled or disabled globally and the feature offers a simplified and resource-efficient mechanism to prioritize Avaya application traffic within your network. For more information about Avaya Automatic QoS, see *Avaya Ethernet Routing Switch 2500 Series Configuration—Quality of Service,*(NN47215-504).

Show running config enhancements

The **`show running-config`** command now displays only the parameters that differ from the default configuration. You can use the *verbose* qualifier to show the entire configuration and, if you want to display configuration information for a specific module, you can use the *module* qualifier. For more information about show running config enhancements see *Avaya Ethernet Routing Switch 2500 Series Overview—System Configuration,* (NN47215-500).

Important:

The output of the **`show running-config`** command may appear to stop and start intermittently. This normal operation ensures that switch management tasks receive appropriate priority.

SNMP MIB Web Page

You can use Enterprise Device Manager (EDM) MIB Web page to query SNMP objects on the switch. For more information about SNMP MIB Web Page, see *Avaya Ethernet Routing Switch 2500 Series Configuration—System Monitoring,* (NN47215-502).

SNMP Trap control in EDM

You can use Enterprise Device Manager (EDM) to enable or disable traps received by the SNMP trap receiver. You can also create a host notification profile to specify which traps a host receives. This is available in EDM and as an enhancement in ACLI. For more information about SNMP Traps, see *Avaya Ethernet Routing Switch 2500 Series Configuration—System Monitoring,* (NN47215-502) and *Avaya Ethernet Routing Switch 2500 Series Configuration—Security ,* (NN47215-505).

IPv6 Management

Release 4.3 supports IP version 6 management capability. For more information about IPv6 Management, see *Avaya Ethernet Routing Switch 2500 Series Overview—System Configuration,* (NN47215-500).

RADIUS support of Interim Accounting Updates

Release 4.3 supports an Accounting Update enhancement to the RADIUS Accounting feature. This enhancement allows the RADIUS server to make policy decisions based on real-time network attributes sent from NAS. For more information about RADIUS support of Interim Accounting Updates, see *Avaya Ethernet Routing Switch 2500 Series Configuration—Security,* (NN47215-505).

802.1X or NonEAP with VLAN names

This new enabled-by-default feature enables the Ethernet Routing Switch 2500 to match RADIUS assigned VLANs based on either the VLAN number or a VLAN name. Previously, a match was based on the VLAN number of the Tunnel-Private-Group-Id attribute returned by the RADIUS server. For more information, see *Avaya Ethernet Routing Switch 2500 Series Configuration—Security,* (NN47215-505).

RADIUS use Management IP Address

You can use RADIUS Request use Management IP Address to configure the switch to follow strict use of the Management IP address, when routing is enabled, to ensure that the switch uses the Management VLAN IP address as the source IP address for RADIUS. For more information, see *Avaya Ethernet Routing Switch 2500 Series Configuration—Security,* (NN47215-505).

DHCP Client for switch or stack

DHCP Client for switch or stack Dynamic Host Configuration Protocol (DHCP) Client for switch or stack provides an alternate method to assign an IPv4 address to the Management VLAN. For more information, see *Avaya Ethernet Routing Switch 2500 Series Configuration—IP Routing Protocols,* (NN47215-503).

Auto-Detection and Auto-Configuration (ADAC) and 802.1AB MED Interoperability

Auto-Detection and Auto-Configuration (ADAC) enables plug-and-play configuration for network devices such as IP phones to simplify network deployment and device additions, moves, and changes. Release 4.3 supports an interoperability enhancement between ADAC and Avaya Automatic QoS that improves voice traffic prioritization and quality. For more information, see *Avaya Ethernet Routing Switch 2500 Series Configuration—VLANs, Spanning Tree, and Multi-Link Trunking,* (NN47215-501).

ASCII Configuration Generator support for Rapid Spanning Tree and Multiple Spanning Tree

This enhancement adds Rapid Spanning Tree Protocol (RTSP) and Multiple Spanning Tree Protocol (MSTP) support for ASCII Configuration files. For more information, see *Avaya Ethernet Routing Switch 2500 Series Overview—System Configuration,* (NN47215-500).

Extended IP Manager

In Release 4.3 the IP Manager allows you to limit access to different switch functions such as Telnet, Web-based management, SNMP and SSH for both IPv4 and IPv6. For more information, see *Avaya Ethernet Routing Switch 2500 Series Configuration—Security,* (NN47215-505).

MAC Flush

MAC Flush provides a direct way to clear MAC addresses from the Forwarding Data Base.

MAC Flush provides the following options to clear MAC address entries:

- clearing a single MAC Address
- clearing all MAC addresses from a port or list of ports
- clearing all MAC addresses from a trunk (MLT/LAG)
- clearing all MAC addresses from a particular VLAN
- clearing all MAC addresses

For more information, see *Avaya Ethernet Routing Switch 2500 Series Configuration—VLANs, Spanning Tree, and Multi-Link Trunking,* (NN47215-501).

Spanning Tree command enhancements

Release 4.3 adds support for 802.1d compliance mode and STP port mode to the Spanning Tree Protocol ACLI command. For more information, see *Avaya Ethernet Routing Switch 2500 Series Configuration—VLANs, Spanning Tree, and Multi-Link Trunking,* (NN47215-501).

Internet Group Multicast Protocol Multicast no flood command

Release 4.3 provides the IGMP Multicast no flood function to prevent unknown IGMP multicasts from flooding onto switch ports within a VLAN. When you enable the function you have additional control to prevent end station flooding by unknown packets. For more information, see *Avaya Ethernet Routing Switch 2500 Series Configuration—IP Routing Protocols,* (NN47215-503).

1000BaseBX SFP support

Release 4.3 adds support for additional 1000BaseBX Small Form-factor Pluggable Transceivers including 1000BaseBX Digital Diagnostic Interface (DDI) SFPs. For more information, see *Avaya Ethernet Routing Switch 2500 Series Installation—SFPs,* (NN47215-301).

1000BaseXD SFP support

Release 4.3 adds support for 1000BaseXD (1310nm and 1550 nm, 40 km) Small Form-factor Pluggagle Transceivers. For more information, see *Avaya Ethernet Routing Switch 2500 Series Installation—SFPs, (NN47215-301)*.

1000BaseZX SFP support

Release 4.3 adds support for 1000Base ZX (1550nm, 120 km) Small Form-factor Pluggable Transceivers. For more information, see *Avaya Ethernet Routing Switch 2500 Series Installation—SFPs,* (NN47215-301).

1000BaseEX SFP support

Release 4.3 adds support for 1000BaseEX (1550nm, 120 km) Small Form-factor Pluggable Transceivers. For more information, see *Avaya Ethernet Routing Switch 2500 Series Installation—SFPs,* (NN47215-301).

1000BaseCWDM DDI SFP

Release 4.3 adds support for 1000BaseCWDM Digital Diagnostic Interface (DDI) Small Form-factor Pluggable Transceivers. For more information, see *Avaya Ethernet Routing Switch 2500 Series Installation—SFPs, NN47215-301*.

File names for this release

The following table describes the Avaya Ethernet Routing Switch 2500 Series software release 4.3 software files.

Release 4.3 EDM help files are available as follows:

- A downloadable zip file, Ethernet_Routing_Switch_25xx_EDM_Help_4.3.0.zip
- On the CD-ROM inside the ERS 2500 v4.3.0 Base Software License Kit folder contained in the switch shipping box

Table 2: Software release 4.3 components

File description	File name
Standard (non-SSH) runtime image software version 4.3.0	2500_430004.img
Secure (SSH) runtime image software version 4.3.0	2500_430005s.img
Boot/Diagnostic software version for 1.0.0.15	2500_10015_diag.bin
Software Release 4.3 Management Information Base (MIB) definition files	Ethernet_Routing_Switch_25xx_MIBs_4.3.0.zip
EDM Help files zip	Ethernet_Routing_Switch_25xx_EDM_Help_4.3.0.zip

Secure software image

The Ethernet Routing Switch Software can be installed using a secure image that provides the following features:

- Secure Shell (SSH) connections
- SHA-based user authentication and DES-based privacy encryption

These features are not available with the standard software image.

Software upgrade instructions

To upgrade to Release 4.3 switch software you must use the procedure in this section or the upgrade will fail. The size of the Release 4.3 software image is greater than 6 MB and the 1.0.0.15 diagnostics code in the procedure can boot images exceeding 6 MB, but previous diagnostic code versions cannot.

Warning:

You must use the following procedure to upgrade the switch software to Release 4.3 or the upgrade will fail.

1. Backup the binary configuration file to a TFTP server.
2. Download the special image file (4.2.4).
3. Download the 1.0.0.15 diagnostic code file. The system reboots after this step.
4. Download the 4.3.0 image file. The system reboots after this step.

Important:

If you use Web management to upgrade your switch, close the window and refresh the browser cache before you launch EDM.

Supported software and hardware capabilities

The following table summarizes the known capabilities for the Avaya Ethernet Routing Switch 2500 Series software release 4.3.

Table 3: Supported capabilities for the Avaya Ethernet Routing Switch 2500 Series

Feature	Maximum number supported
QoS egress queues	4
QoS filters per precedence	128 per EPIC/GPIC
QoS precedence	10 per EPIC/GPIC
Total QoS filters	(10 x 128) = 1280 per EPIC/GPIC
MAC addresses	16000
Maximum number of units in a stack	8
Layer 2	

Feature	Maximum number supported
VLANs	256
Spanning Tree Groups in STPG and RSTP modes	1
Multiple Spanning Tree Instances (MSTI) in MSTP mode	8
MultiLink Trunking (MLT), Link Aggregation (LAG) groups	6
Links for each MLT or LAG	4
Layer 3	
ARP entries (local, static & dynamic)	256 local + 256 static + 1000 dynamic
Local ARP Entries (local IP interfaces)	256
Static ARP entries	256
Dynamic ARP entries	1000
IPv4 route entries (local, static & dynamic)	256 local + 32 static + 0 dynamic
Static routes	32
Local routes	256
Management routes	4
UDP Forwarding entries	128
DHCP relay entries	256
DHCP relay forward paths	256
Miscellaneous	
802.1x EAP scaling (clients for each port)	32
ADAC (IP Phones)	1 for each port 24/48 switch 192/384 for each stack
Jumbo frame support	9 K bytes
IGMP multicast groups	up to 244
802.1X (EAP) clients per port, running in MHMA	32
802.1X (EAP) clients per switch/stack	384
LLDP Neighbors per port	16
LLDP Neighbors	416/800
RMON alarms	400
RMON events	400
RMON Ethernet statistics	128 per unit

Feature	Maximum number supported
RMON Ethernet history	196 per unit

Getting EDM online help files for embedded EDM

Because help files are not included with the embedded EDM software files on the switch, a network administrator must copy the software-release-specific help files onto a TFTP server. Once the help files are downloaded to the TFTP server, the network administrator must configure the switch with the path to the help files on the TFTP server. You can use ACLI or EDM to configure a path from your switch to the help files. After the path to the help files is configured, whenever an EDM user clicks the help button on the toolbar, the switch downloads and displays help information in the Web browser.

If you are using Configuration and Orchestration Manager (COM) to manage your switch, help resides with COM and you do not need to use these procedures.

For more information about EDM, see *Avaya Ethernet Routing Switch 2500 Series Fundamentals*, NN47215-102.

Downloading help files

Use the following procedure to download help files.

Prerequisites

An available TFTP server

Procedure Steps

You can obtain EDM help files for the embedded element manager from:

- The Avaya Web site at: http://www.avaya.com/support
- The software CD ROM.

To download online help files from the Avaya Web site, use the following procedure.

1. Go to the Avaya Web site at http://www.avaya.com/support

   The Support pane appears.

2. To download software you must do one of the following:

   - Click **Register** and follow the registration instructions.

- Click **Sign In** and enter your login credentials.

Once you have registered or signed in, the Support pane reappears.

3. From the list on the left side of the Support pane, click **Downloads**.

   A dialog box appears.

4. In the dialog box, do one of the following:

   - Enter your product name.
   - Click **A-Z List**, click a letter from the selections, and select your product from the list.

   The product support page appears.

5. From the list on the left side of the product support page, click **Downloads**.

   The product Downloads page appears.

6. On the Downloads page, click the **Downloads** tab.

   A list of available software downloads appears.

7. Click a help file to download and follow the instructions on the screen.
8. Download the help file to a TFTP server.

Configuring the path to the help files

Use the following procedure to configure the path to the help files.

1. Open an ACLI session.
2. Go to the Global Configuration mode.
3. At the command prompt, enter the following ACLI command:

   ```
   edm help-file-path <path name> tftp address <tftp address>
   ```

EDM help file path ACLI example

Following is an example of an ACLI EDM help file path:

```
edm help-file-path ERS 2500_43_Help tftp address 10.100.100.15
```

In the preceding example ERS2500_43_Help is a folder that contains help files and the folder is located on a TFTP server at the 10.100.100.15 address.

Table 4: Variable definitions

Field	Description
path name	Specifies the path name you created for EDM help files. The path name is stored in NVRAM.
TFTP address	Specifies EDM TFTP server IP address. Use this address only for EDM help files. If you do not specify a TFTP server address, the system uses the address specified most recently. **Warning:** Because the TFTP server address is stored in NVRAM, each time the system returns to the default configuration, you must reconfigure the path to EDM online help.

Configuring the path to the help files using EDM

Use the following procedure to configure the path to the help files if you are using the embedded version of online help.

1. In the navigation tree, double-click **Edit** or click the Edit arrowhead to open the Edit menu.
2. Double-click **File System** to open the File System work area.
3. In the work area, click the **Help File Path** tab.
4. In the Path dialog box, enter the path to the help file storage location; example, tftp://xxx.xx.x.x./file_name.

SFP transceiver compatibility

The following table lists the SFP transceiver compatibility.

Table 5: SFP transceiver compatibility

Supported SFPs	Description	Minimum software version	Part number
Small form factor pluggable (SFP) transceivers			
1000BaseBX	1310 nm LC connector	4.3.0	AA1419069-E5

Supported SFPs	Description	Minimum software version	Part number
1000BaseBX	1490 nm LC connector	4.3.0	AA1419070-E5
1000BaseBX DDI	1310 nm LC connector, up to 40 km	4.3.0	AA1419076-E5
1000BaseBX DDI	1490 nm LC connector, up to 40 km	4.3.0	AA1419077-E5
1000BaseEX	1550nm LC connector up to 120 km	4.3.0	AA1419071-E5
1000BaseLX	1310 nm LC connector	4.0.0	AA1419015-E5
1000BaseLX DDI	1310 nm LC connector	4.2.0	AA1419049-E6
1000BaseSX	850 nm LC connector	4.0.0	AA1419014-E5
1000BaseSX	850 nm MT-RJ connector	4.0.0	AA1419013-E5
1000BaseSX DDI	850 nm LC connector	4.2.0	AA1419048-E6
1000BaseXD	1310nm LC connector up to 40 km	4.3.0	AA1419050-E5
1000BaseXD	1550nm LC connector up to 40 km	4.3.0	AA1419051-E5
1000BaseZX	1550nm LC connector up to 70 km	4.3.0	AA1419052-E5
1000BaseCWDM-XD	1470 nm LC connector, up to 40 km	4.0.0	AA1419025-E5
1000BaseCWDM-XD	1490 nm LC connector, up to 40 km	4.0.0	AA1419026-E5
1000BaseCWDM-XD	1510 nm LC connector, up to 40 km	4.0.0	AA1419027-E5
1000BaseCWDM-XD	1530 nm LC connector, up to 40 km	4.0.0	AA1419028-E5
1000BaseCWDM-XD	1550 nm LC connector, up to 40 km	4.0.0	AA1419029-E5
1000BaseCWDM-XD	1570 nm LC connector, up to 40 km	4.0.0	AA1419030-E5
1000BaseCWDM-XD	1590 nm LC connector, up to 40 km	4.0.0	AA1419031-E5
1000BaseCWDM-XD	1610 nm LC connector, up to 40 km	4.0.0	AA1419032-E5
1000BaseCWDM-ZX	1470 nm LC connector, up to 70 km	4.0.0	AA1419033-E5

Supported SFPs	Description	Minimum software version	Part number
1000BaseCWDM-ZX	1490 nm LC connector, up to 70 km	4.0.0	AA1419034-E5
1000BaseCWDM-ZX	1510 nm LC connector, up to 70 km	4.0.0	AA1419035-E5
1000BaseCWDM-ZX	1530 nm LC connector, up to 70 km	4.0.0	AA1419036-E5
1000BaseCWDM-ZX	1550 nm LC connector, up to 70 km	4.0.0	AA1419037-E5
1000BaseCWDM-ZX	1590 nm LC connector, up to 70 km	4.0.0	AA1419039-E5
1000BaseCWDM-ZX	1610 nm LC connector, up to 70 km	4.0.0	AA1419040-E5
1000BaseCWDM DDI	1470nm LC connector, up to 40 km	4.3.0	AA1419053-E6
1000BaseCWDM DDI	1490nm LC connector, up to 40 km	4.3.0	AA1419054-E6
1000BaseCWDM DDI	1510nm LC connector, up to 40 km	4.3.0	AA1419055-E6
1000BaseCWDM DDI	1530nm LC connector, up to 40 km	4.3.0	AA1419056-E6
1000BaseCWDM DDI	1550nm LC connector, up to 40 km	4.3.0	AA1419057-E6
1000BaseCWDM DDI	1570nm LC connector, up to 40 km	4.3.0	AA1419058-E6
1000BaseCWDM DDI	1590nm LC connector, up to 40 km	4.3.0	AA1419059-E6
1000BaseCWDM DDI	1610nm LC connector, up to 40 km	4.3.0	AA1419060-E6
1000BaseCWDM DDI	1470nm LC connector, up to 70 km	4.3.0	AA1419061-E6
1000BaseCWDM DDI	1490nm LC connector, up to 70 km	4.3.0	AA1419062-E6
1000BaseCWDM DDI	1510nm LC connector, up to 70 km	4.3.0	AA1419063-E6
1000BaseCWDM DDI	1530nm LC connector, up to 70 km	4.3.0	AA1419064-E6

Supported SFPs	Description	Minimum software version	Part number
1000BaseCWDM DDI	1550nm LC connector, up to 70 km	4.3.0	AA1419065-E6
1000BaseCWDM DDI	1570nm LC connector, up to 70 km	4.3.0	AA1419066-E6
1000BaseCWDM DDI	1590nm LC connector, up to 70 km	4.3.0	AA1419067-E6
1000BaseCWDM DDI	1610nm LC connector, up to 70 km	4.3.0	AA1419068-E6

See *Avaya Ethernet Routing Switch 2500 Series Installation*, NN47215-301 for more information.

Important note on use of the two rear 1000Base-T (RJ-45) ports (all models)

The two rear facing 1000Base-T ports on all Ethernet Routing Switch 2500 Series switches are capable of supporting two different functional modes of operation. They are Stand-alone Mode and Stacking Mode operation.

In Stand-alone Mode, the rear ports can be used as normal Ethernet ports to connect a server, host or as uplink ports, and support the same configuration options as all front panel ports.

In Stacking Mode, the rear ports allow resilient stacking of up to eight Ethernet Routing Switch 2500 switches in any combination to form a single virtual switch.

Important:

Stacking capability is delivered in two distinctively different ways on ERS 2500 series switches.

1. By means of software using a licensing mechanism available through the purchase of an Ethernet Routing Switch 2500 series Stacking License Kit (one license required for each switch), required for switch order codes AL2500xxx-E6.
2. By means of stack enabled versions of Ethernet Routing Switch 2500 switches where the rear ports are factory pre-enabled and configured in Stacking Mode by default and are ready to stack—with order codes AL2515xxx-E6. Stack-enabled ERS 2500 switches do not use or require a license file.

Supported standards, RFCs and MIBs

The following sections list the standards, RFCs and MIBs supported in Release 4.3.

Standards

The following IEEE Standards contain information pertinent to the Avaya Ethernet Routing Switch 2500 Series:

- IEEE 802.1D (Standard for Spanning Tree Protocol)
- IEEE 802.3 (Ethernet)
- IEEE 802.3u (Fast Ethernet)
- IEEE 802.3x (Flow Control)
- IEEE 802.3z (Gigabit Ethernet)
- IEEE 802.3ab (Gibabit Ethernet over Copper)
- IEEE 802.3ad (Link Aggregation)
- IEEE 802.1AB (Link Layer Discovery Protocol)
- IEEE 802.1s (Multiple Spanning Tree Protocol—MSTP)
- IEEE 802.3af (Power over Ethernet)
- IEEE 802.1p (Prioritizing)
- IEEE 802.1w (Rapid Spanning Tree Protocol—RSTP)
- IEEE 802.1Q (VLAN Tagging)
- IEEE 802.1X (EAPoL)

RFCs and MIBs

For more information about networking concepts, protocols, and topologies, consult the following RFCs and MIBs:

- RFC 826 (ARP)
- RFC 2462 (Autoconfiguration of link local addresses)
- RFC 951 (BootP)
- RFC 2131 (BootP/DHCP Relay Agent)
- RFC 1493 (Bridge MIB)

- RFC 2737 (Entity MIBv2)
- RFC 2665 (Ethernet MIB)
- RFC 1945 (HTTP v1.0)
- RFC 792 (ICMP)
- RFC 1112 (IGMPv1)
- RFC 2236 (IGMPv2)
- RFC 2863 (Interfaces Group MIB)
- RFC 4443 (Internet Control Message Protocol - ICMPv6)
- RFC 2460 (Internet Protocol v6 - IPv6 - Specification)
- RFC 791 (IP)
- RFC 4291 (IPv6 Addressing Architecture)
- RFC 894 (IP over Ethernet)
- RFC 1213 (MIB-II)
- RFC 2461 (Neighbor Discovery for IPv6)
- RFC 2674 (Q-BRIDGE-MIB)
- RFC 1981 (Path MTU Discovery for IPv6)
- RFC 2138 (RADIUS)
- RFC 2865 (RADIUS)
- RFC 2866 (RADIUS Accounting)
- RFC 4675 (RADIUS Attributes for VLAN and Priority Support)
- RFC 3058 (RADIUS Authentication)
- RFC 3576 (RADIUS Dynamic Authorization Extensions)
- RFC 5176 (RADIUS Dynamic Authorization Extensions)
- RFC 4673 (RADIUS Dynamic Authorization Server MIB)
- RFC 2869 (RADIUS Extensions)
- RFC 1271 (RMON)
- RFC 1757 (RMON)
- RFC 2819 (RMON MIB)
- RFC 4007 (Scoped Address Architecture)
- RFC 4301 (Security Architecture for the Internet Protocol)
- RFC 1157 (SNMP)
- RFC 3410 (SNMPv3)

- RFC 3413 (SNMPv3 Applications)
- RFC 3411 (SNMP Frameworks)
- RFC 3412 (SNMP Message Processing)
- RFC 3414 (SNMPv3 USM)
- RFC 3415 (SNMPv3 VACM)
- RFC 793 (TCP)
- RFC 854 (Telnet)
- RFC 1350 (TFTP)
- RFC 768 (UDP)
- RFC 4193 (Unique Local IPv6 Unicast Addresses)

Chapter 4: Resolved issues

Use the information in this section to learn more about issues resolved in this release.

The following table describes the issues in previous software releases for the Ethernet Routing Switch 2500 Series that have been resolved in software release 4.3.

Table 6: Issues resolved in ERS 2500 Series software release 4.3

Reference Number	Description
Q01874036-01	VLACP: Traffic down when nultiple show commands are entered. Resolved
Q02029510	Serial connection blocked for 15 minutes on non-base when interrupting the agent download. Resolved
Resolved prior to Release 4.3	
Q01876567-01	802.1X RFC3576: No SNMP support to enable/disable feature on interface. Resolved
Q01687454	No telnet session can be opened during VLAN display. Another session must be opened after VLAN display. Resolved.
Q01688663	The rear-ports related commands are hidden when the switch is part of a stack. Resolved.
Q01741602	Ping does not work between DUTs connected with eight links LAG in certain conditions. Resolved.
Q01507984	Currently, QoS Policy configuration (Strict, Weighted Round-Robin, Bounded Round-Robin) with corresponding Q weights and Traffic Class Priority can only be configured using the Web-based management interface. These fields should be configurable from the ACLI also. Resolved.
Q01721997	After the link on a port goes down, while several hosts are authenticated in MHMA mode on the same port. The hosts are shown in initialized state in the command output for: `show eapol multihost status` Resolved.
Q01747943	Resetting of the base unit of a stack is not recommended when a dynamically 802.3AD Trunk includes ports from the base unit. Resolved.
Q01784784	The correct MTU value for combo ports is 9216. Resolved.
Q01776891	LLDP-MED is supported in the 4.1 release. Resolved.

Chapter 5: Known issues and limitations

Use the information in this section to learn more about known issues and limitations. Where appropriate, use the workarounds provided for these.

Navigation

Known issues

The following table describes known limitations and considerations in the Avaya Ethernet Routing Switch 2500 Series software release 4.3.

Table 7: Known issues and limitations in ERS 2500 Series release 4.3

Reference Number	Description
Q01491509	In MSTP or RSTP, if the TxHoldCount is modified, the TxCount value is not zeroed.
Q01483088	The following error message appears when a broadcast storm occurs: `(tIdt): panic: netJobAdd: ring buffer overflow!`
Q01483689	The Ethernet Routing Switch 2500 Series does not forward packets to multicast address 01-00-00-00-xy-00.
Q01498529	If the PD Detect Type on an Ethernet Routing Switch 2500-PWR is set to 802.3af and Legacy, and a PoE port on the switch is connected to a non-PoE device, the status for the PoE port can appear incorrectly as InvalidPD rather than Detecting.
Q01510139	If you connect two Ethernet Routing Switch 2500-PWR Series units using PoE ports (anywhere from eight to 12 connections) and the PD Detect Type is set to 802.3 af and Legacy, after a period of minutes (maximum 3), one of the units interprets the other as a valid PD and begins delivering power through one of the PoE ports. If you then unplug the unit receiving PoE power, it remains powered and continues to forward traffic.

Reference Number	Description
Q01501869	After a Spanning Tree topology change, the entries in the MAC address table only age out after the expiration of the default aging time, rather than the forward delay time. This issue only occurs if the forward delay time is set to 4 seconds.
Q01567158	If you set up an MLT containing rear ports and combo ports, multicast and broadcast traffic travels down the first rear port instead of the lowest active MLT port.
Q01747869	The number of characters that can be introduced for a password in the Web-based management login page is limited to 15, although the authentication type can be RADIUS and the password configured on the RADIUS server is greater than 15. **Important:** Users configured on the Radius server should not have a password longer than 15 characters.
Q01754223	When configuring a DMLT on 2 or more units, Avaya recommends to use the same rate-limit settings on the units. If the rate-limit settings are different, DMLT ports could become administratively shutdown after initiating a boot session.
Q01744852	In a specific setup, first MLT link might go down after reboot/power cycle if auto-negotiation is disabled. Avaya recommends that all MLT ports should have auto-negotiation enabled.
Q01759611	After configuring RMON alarms on a stack, Avaya recommends that you do not use the renumbering units feature, because RMON alarms are not relocated to corresponding ports accordingly.
Q01760981	If a switch and a loop are connected using a link, and you create a loop on the hub, then the switch does not go in to a Forwarding State even when the loop is removed.
Q01480212	Port-mirroring mode XTX mirrors egressed traffic on the mirrored port but does not mirror control packets generated by the switch. The monitor port does not receive copies of the generated control packets that egress from the mirrored port.
Q01482942	In the ACLI Quick Start menu, if you enter a very long read-only or read-write community string (more than 32 characters), you cannot delete all of the entered characters.
Q01777899 Q01777910	When making configuration changes to the switch, allow at least 30 seconds after the last change is made before any power interruption occurs.
Q01493771	Rate limiting counts packets from the beginning of each second. When the number of packets reaches the value of the rate limit, all remaining packets are dropped until the end of the second, meaning that no packets are transmitted during the remaining interval. As a result, the packets are not evenly distributed over the course of a second. They are only sent at

Reference Number	Description
	the beginning of the second. This means that if packet counters are not perfectly synchronized with the beginning of each second, the counters can register a number of packets that does not represent the actual number of packets transmitted during that second. For example, a packet counter can register a rate limit of 5000 pps as a variable rate alternating between 2100 and 8900 pps.
Q01775878	The 'Admin Status' parameter of **`show eapol command`** displays the port status for hosts using an EAP client for authentication. In case of a Non-EAP clients, the status of all Non-EAP clients currently active on switch can be seen using **`show eapol multihost non-eap-mac status`** command.
Q01874700	If you issue the **`show port-mirroring`** command repeatedly right after the **`set port-mirroring`** command the feature state appears as enabled. Port mirroring is actually disabled, but the **`set port-mirroring`** command takes a while to become effective. If you issue the **`show port-mirroring`** command after 5-10 seconds, port mirroring appears as disabled.
Q01874770	The system sends three stack monitor traps at the same time after 1 min. 5 sec. if a unit fails (power off) with stack monitor enabled. The system does not send any other traps during this period (link up or down).
Q01876616	Logging Events Disable is ignored under Temporary Base Unit. A stack will continue to log events for all the stack units if Logging Events is set to disable under Temporary Base Unit. Workaround: Once the new unit rejoins the stack, enter the **`logging disable`** command once more so the configuration affects the whole stack.
Q01910550-02	If you change the stack password in stack mode, the password for the switch also changes to the stack password.
Q01921814	If you administratively disable links with IPSG configured on LACP-enabled ports, the IP filters installed by IPSG on the LACP trunk may not be removed.
Q01930298	Verify your ASCII configuration if the stack does not join after you download it. A configuration error in the file can cause the stack operation to fail.
Q01935551	To download the diagnostic code to a switch or stack, you must explicitly specify the diag field in the ACLI command.
Q01950079	The system resets the user-configurable user names when you upgrade to release 4.2 to the default values (RO, RW). The system does save the passwords when you upgrade to release 4.2.
New in release 4.3	
Q01946192	Layer 2 general: Fiber link does not take over the traffic on the combo ports if the copper link is up.

Reference Number	Description
Q02035360	EDM: If any of 3 open EDM sessions is not refreshed, a fourth session can be opened. The fourth session replaces the last unused session, which can cause one of the original 3 sessions to time out. **SOLUTION** : A maximum of 3 concurrent EDM sessions per stack is recommended.
Q02039239	IPSG: The IPSG can be enabled on up to 6 ports on an EPIC (group of 8 10/100 ports).
Q02039611	IPv6, IGMP Multicast no flood: The frames with the MAC address of the IPv6 neighbor discovery packets are dropped on both egress and ingress when IGMP Multicast no flood is enabled.
Q02046465 Q02057054	Port Mirroring: Traffic is tagged when mirrored between units in a stack.
Q02052900	IPv6: The current interface settings for the management VLAN are kept after downloading a binary configuration file.
Q02053634	EDM: you cannot reset a switch to default using EDM. **WORKAROUND**: Use the console to reset a switch to factory default.
Q02056059-01	CONSOLE: During password configuration from a Telnet session the console can be blocked until the timeout expires. **WORKAROUND**: This is expected behavior. You can reset the timeout interval from 1 to 60 minutes. The default value is 15 minutes.
Q02056133-01	EDM: Device administration using EDM can be done only if the Web server is enabled. If it is not, you can enable it using the ACLI command **`web-server enable`**.
Q02056594	IPv6: The IPv6 management data is kept when downgrading and restored upon upgrade.
Q02057953	QoS: You cannot create policy with DSCP remarking for IPv6 as action.
Q02058329	QoS: QoS resources taken by unrestricted interfaces are displayed incorrectly by diag.
Q02061397	EDM: When you open an EDM session, The Device Physical View does not display until the initialization process completes.
Q02062487	QoS: One extra QoS mask is consumed when you enable ARP Inspection.
Q02063936	QoS: You can configure up to 128 filters for the 10/100 ports.
Q02064299	EDM: The system displays an invalid value for QoS meter/shaper rate in capability tabs.
Q02065308	EDM: Not all IGMP groups learned are displayed for all VLANs.
Q02067109	EDM: The custom banner may not display properly when more than one space is entered back to back. **WORKAROUND**: If more than one space is required, please use CLI.

Reference Number	Description
Q02067944-01	EDM: To copy/paste cell contents you must click the source to set the edit state before you can copy the contents. **WORKAROUND**: Export table contents to a text file and copy data from the text file.
Q02081441	VLACP: When disabling VLACP globally, or per interface, the following message is logged in syslog: PortX reenabled by VLACP.
Q02083573	ASCII Config, SSH/SSL: ASCII scripts containing activation commands for SSH or SSL should be applied only after the SSH keys or SSL certificate are generated.
Q20804526	EDM: You may see unexpected sorting results when you sort columns in a table.
Q02085822	STACK: If you disable Spanning Tree Protocol (STP) on LACP ports, broadcast storms may occur until the ports form the LAG. **WORKAROUND**: It is recommended that you ensure that STP is enabled when you configure and form Link Aggregation Groups (LAGs).
Q02088293	ADAC: A maximum of 7 phones can be detected on each group of 8 ports (on a switch with default configuration). The number can decrease if other features based on hardware filters are enabled on any port from the group.
Q02089176	NetMgmt-MIB/SNMP/RMON, SSCP-Lite: In an 8 high stack PVID may not be reset on ports.
Q02090314	ASCII Configuration Generator (ACG): Some of the application-specific trap-related ACLI commands are no longer generated.
Q02091513-01	ACG, helpfile path: You must use double-backslashes when specifying a path that begins with quotes and contains a backslash.
Q02092211	EDM: Utilization values displayed in history entries will be less than expected.
Q02095930	ACLI: The ACLI command **`mac-security snmp-trap`** is no longer available. Please use the ACLI command **`snmp-server notification-control`** to set the state of the MAC Security-related notifications.
Q02097989	QoS: Two extra QoS masks are consumed on all device ports when you enable IGMP snooping on a VLAN with one or no port members.
Q02098573	EDM: If you use Firefox as your Web browser you may experience display anomalies when you open the QoS meter and System Element insertion dialogs.
Q02099605	SNMP Notification Control: The notifications state set using the snmp-server notification-control ACLI command is not reflected by the application-related commands.
Q02100917-01	ACLI, VLACP: There is no online help for VLACP ethertype of VLACP time-out scale commands.

Reference Number	Description
Q02108463	QoS: When QoS unicast traffic is redirected to a port on another unit (when in stack) if an if-action-extension, the packet is dropped.
Q02108492-01	802.1 software: The spanning-tree RSTP traps ACLI commands are no longer generated by the ASCII Configuration Generator. This has been replaced by the snmp-server notification-control ACLI commands.
Q02110908-01	VLAN: When attempting to display a VLAN range, the display will be interrupted when encountering a non-existent VLAN. An error message is displayed and the rest of the range is not displayed. **WORKAROUND**: Use the ACLI command **`show vlan all`**.
Q02111347	EDM: When you use Firefox as your Web browser the system displays an 'Unresponsive Script' warning if you hide non-editable columns in the EAPOL Multiple Port Configuration pane. You may also receive this warning message in other multiple port configuration panes where there are greater than or equal to 1000 rows of information in the table.
Q02111917	EDM, Agent: Notify-filter profile behavior is not the expected behavior. **WORKAROUND**: You must select, or deselect, the values you want to modify.
Q02111920	MetMgmt-MIG/SNMP/RMON, ACLI: Use the **`show running-config`** ACLI command in order to see the SNMP host-filter association.
Q02111922	NetMgmt-MIG/SNMP/RMON: The notify-filter profiles created when a stack is operating in the temporary base mode are lost upon reboot.
Q02112084	ACLI, show running-config specific command: The output of the **`show running-config`** command may appear to stop and start intermittently. This normal operation ensures that switch management tasks receive appropriate priority.
Q02112330	EDM: If the help file path is not configured, or is misconfigured, and multiple users try to access the online help, the help pages may not open and the system displays errors on the console.
Q02112658	EDM, Stack renumbering: If you renumber stack members then reboot the switch the following error message appears - No changes have been detected. Switches will not be renumbered.
Q02113334-02	ACLI: The PoE-trap ACLI commands are no longer available. **WORKAROUND**: Use the ACLI command **`snmp-server notification-control`** to set the state of the PoE-related notifications.
Q02116024	EDM: When you boot from MSTP to STPG mode, the system displays an incorrect STG ID in the VLAN table.
Q02118842	EDM: On the SSH tab, when you try to modify the TFTP Server Address field, the system generates the following error message - TftpServerInetAddress: Invalid inet address pair.

Reference Number	Description
Q02119067	Port Driver: When you use copper 1G ports, do not disable autonegotiation; use CANA for speeds less than 1000MB.
Q02119453	Port Mirroring: You are not able to mirror packets that originate from the same switch where your monitor port resides. For example, you cannot monitor ICMP ping requests originating from the switch if your monitor port resides on the same switch.
Q02119514	ACG: When you are running scripts, ensure that you create all VLANs before you add or remove ports from the newly-defined VLANs.
Q02119519	EDM: EDM will not display tables that have an apostrophe in them. If the apostrophe already exists, you will need to use ACLI for display or modifications.

Known limitations

The following table lists the feature limitations in the Avaya Ethernet Routing Switch 2500 Series release 4.3.

Table 8: Known limitations

Reference number	Description
1	Supports only 16k MACs
2	802.1D: one Spanning Tree Group for all ports
3	Rate Limiting: settings for each box, in packets per second
4	Port Mirroring: one-to-one mirroring only
5	IP Manager: up to 10 allowed IP addresses
6	RMON: 400 alarms and events
7	VLAN: port-based, IVL only
8	IGMP: IGMPv1 and IGMPv2 supported; up to 244 Multicast Groups
9	ADAC: up to 32 devices for each port (IP Phones or other) or 16 when using only LLDP-based detection
10	802.1x NEAP: up to 32 MACs allowed for each port
11	802.1x MHSA: up to 32 MACs allowed for each each port
12	802.1x MHMA: upto 32 EAP clients allowed for each port
13	IPSG: Due to an existing Ethernet Routing Switch 2500 Series hardware limitation, you can only enable IP Source Guard on a

Reference number	Description
	maximum of six ports simultaneously out of each group of eight, no matter which operating mode, either standalone or stacking, you use. (Q01878909)
14	QoS: filters per precedence = 128 per EPIC/GPIC
15	QoS: precedence = 10 per EPIC/GPIC
16	QoS: total filters (10 x 128) = 1280 per EPIC/GPIC
17	EDM: Existing, legacy trap receiver tables cannot be viewed or configured using EDM because EDM uses the bsncNotifyControlTable to implement the Trap Web page.
18	EDM: A maximum of 3 concurrent EDM sessions per stack is recommended.
19	EDM: Expected behavior—the initial EDM startup page load time is longer than the load time for subsequent pages.
20	EDM: The QoS wizard in unavailable in Release 4.3.
21	EDM: The following pages are not supported in EDM: • High Speed Flow Control • RMON Event Log • MLT Utilization