

Ethernet Routing Switch 4500 Series Software Release 5.4.2

1. Release Summary

Release Date: 14-April-2011

Purpose: Software patch release to address customer and internally found software issues.

2. Important Notes Before Upgrading to This Release

None.

3. Platforms Supported

Ethernet Routing Switch 4500 (all models).

4. Notes for Upgrade

Please see “Ethernet Routing Switch 4500 Series, Configuration – System, Software Release 5.4” (available at <http://www.avaya.com/support> . Click Products, select Ethernet Routing Switch 4500 Series from the A-Z list, then select Documentation > View All Documents) for details on how to upgrade your Switch.

File Names for This Release

File Name	Module or File Type	File Size (bytes)
4500_5303_diag.bin	Diagnostic image	1,589,514
4500_542032.img	Agent code image	7,369,472
4500_542033s.img	Agent code image (SSH)	7,635,948

5. Version of Previous Release

Software Version 5.4.1.

6. Compatibility

This software release is managed with Enterprise Device Manager (EDM) revision number 21181 which is integrated into the agent software.

7. Changes in This Release

New Features in This Release

802.1AB Integration

802.1AB integration provides a set of LLDP TLVs for Avaya IP telephone support. You can select which Avaya IP phone support TLVs can be transmitted from individual switch ports by enabling or disabling TLV transmit flags for the port. The TLV transmit flags and TLV configuration operate independently of each other. Therefore, you must enable the transmit flag on a switch port for a specific TLV, before the port can transmit that TLV to an Avaya IP phone. A switch port does not transmit Avaya IP phone support TLVs unless the port detects a connected Avaya IP phone.

Configuration is supported via Enterprise Device Manager (EDM) and Avaya CLI (example follows):

Prerequisites

- Log on to the Interface Configuration mode in ACLI.
- Enter the interface mode in ACLI (e.g. `interface fastethernet 1/1`).

Procedure Steps

1. Select the Avaya TLVs that the switch transmits by using the following command:
`lldp tx-tlv [port <portList>] vendor-specific avaya {[poe-conservation] [call-server] [file-server] [dot1q-framing]}`
2. Disable Avaya TLVs that the switch transmits by using the following command:
`no lldp tx-tlv [port <portList>] vendor-specific avaya {[poe-conservation] [call-server] [file-server] [dot1q-framing]}`
3. Display Avaya TLV transmit flag configuration information for specific switch ports by using the following command in the Interface Configuration mode for one or more ports:
`show lldp tx-tlv vendor-specific avaya`

802.1AB Avaya PoE Conservation Level Request TLV

With the PoE conservation level request TLV, you can configure the switch to request that an Avaya IP phone, connected to a switch port, operate at a specific power conservation level. The requested conservation level value for the switch can range from 0 to 255, but the Avaya IP Phone supports only 243 levels. If you request a power conservation level higher than 243, 0 for the PoE conservation level request, the switch does not request a power conservation level for an Avaya IP phone.

If you set the PoE conservation level request TLV on a port and you enable energy-saver for the port, the TLV value is temporarily modified for maximum power savings by the switch. When you disable energy-saver for the port, the switch automatically restores the power conservation level request TLV to the previous value. If you set the PoE conservation level on a port while AES is active on the port and the maximum PoE Conservation level for the switch is 255, the switch replaces the PoE conservation level stored for AES restoration with the new value you set for the port. By default, the transmission of PoE conservation level request TLV is enabled on all PoE capable switch ports. You can only configure the PoE conservation level request TLV on switches that support PoE.

With the PoE conservation level support TLV, an Avaya IP phone transmits information about current power save level, typical power consumption, maximum power consumption, and power conservation level of the IP phone, to a switch port.

Configuration is supported via Enterprise Device Manager (EDM) and Avaya CLI (example follows):

Prerequisites

- Log on to the Interface Configuration mode in ACLI.
- Enter the interface mode in ACLI (e.g. `interface fastethernet 1/1`).

Procedure Steps

1. Configure PoE conservation level TLVs for connected Avaya IP phones by using the following command:
`lldp vendor-specific avaya poe-conservation-request-level <0-255>`
2. Set PoE conservation level TLVs for connected Avaya IP phones to the default value by using the following command:
`default lldp vendor-specific avaya poe-conservation-request-level`
3. Display the PoE conservation level TLVs for connected Avaya IP phones by using the following command:
`show lldp vendor-specific avaya poe-conservation-request-level`
4. Display the received PoE conservation level information for all switch ports by using the following command in the User EXEC mode:
`show lldp neighbor vendor-specific avaya poe-conservation`
5. Display the received PoE conservation level information for specific switch ports by using the following command in the Interface Configuration mode for one or more ports:
`show lldp [port <portlist>] neighbor vendor-specific avaya poe-conservation`

802.1AB Avaya Call server TLV

With the call server TLV, you can configure the switch to advertise the IP addresses of a maximum of 8 call servers to connected Avaya IP phones. Avaya IP phones use the IP address information to connect to a call server. Avaya IP phones use the call server TLV to report which call server it is connected to back to the switch. The call server TLV supports IPv4 addresses only. By default, the transmission of the call server TLV is enabled for all ports on switches that support PoE.

Configuration is supported via Enterprise Device Manager (EDM) and Avaya CLI (example follows):

Prerequisites

- Log on to the Interface Configuration mode in ACLI.

Procedure Steps

1. Define the local call server IPv4 addresses the switch advertises to Avaya IP phones by using the following command (you can configure up to 8 Call servers):
`lldp vendor-specific avaya call-server [<1-8>] <A.B.C.D> [[<1-8>] <A.B.C.D>]`
2. Disable call server IPv4 address advertisement to Avaya IP phones by using the following command:
`default lldp vendor-specific avaya call-server <1-8>`
3. Display call server TLV configuration information for the local switch by using the following command:
`show lldp vendor-specific avaya call-server`
4. Display call server advertisement configuration information received on specific switch ports from connected Avaya IP phones by using the following command:
`show lldp [port <portlist>] neighbor vendor-specific avaya call-server`

802.1AB Avaya File server TLV

With the file server TLV, you can configure the switch to advertise the IP addresses of a maximum of 4 file servers to connected Avaya IP phones. Avaya IP phones use the IP address information to connect to a file server. Avaya IP phones use the call server TLV to report which file server it is connected to back to the switch. The file server TLV supports IPv4 addresses only. By default, the transmission of the file server TLV is enabled for all ports on switches that support PoE.

Configuration is supported via Enterprise Device Manager (EDM) and Avaya CLI (example follows):

Prerequisites

- Log on to the Interface Configuration mode in ACLI.

Procedure Steps

1. Define the local file server IPv4 addresses the switch advertises to Avaya IP phones by using the following command (you can configure up to 8 File Servers):

```
lldp vendor-specific avaya file-server [<1-8>] <A.B.C.D> [[<1-8>] <A.B.C.D>]
```
2. Disable call server IPv4 address advertisement to Avaya IP phones by using the following command:

```
default lldp vendor-specific avaya file-server <1-8>
```
3. Display call server TLV configuration information for the local switch by using the following command:

```
show lldp vendor-specific avaya file-server
```
4. Display file server advertisement configuration information received on specific switch ports from connected Avaya IP phones by using the following command:

```
show lldp [port <portlist>] neighbor vendor-specific avaya file-server
```

802.1AB Avaya 802.1Q Framing TLV

With the 802.1Q framing TLV, you can configure the switch to exchange Layer 2 priority tagging information with Avaya IP phones. Because the 802.1Q framing TLV operates as an extension of the LLDP Network Policy TLV, you must enable the LLDP MED Capabilities and LLDP MED Network Policy TLVs for the 802.1Q framing TLV to function. By default, the transmission of the 802.1Q framing TLV is enabled for all ports on switches that support PoE.

Configuration is supported via Enterprise Device Manager (EDM) and Avaya CLI (example follows):

Prerequisites

- Log on to the Interface Configuration mode in ACLI.
- Enter the interface mode in ACLI (e.g. `interface fastethernet 1/1`).

Procedure Steps

1. Configure the Layer 2 frame tagging mode by using the following command (note it is recommended to use either tagged or non-tagged mode):

```
lldp vendor-specific avaya dot1q-framing [tagged | non-tagged | auto]
```
2. Set the Layer 2 frame tagging mode to default by using the following command:

```
default lldp vendor-specific avaya dot1q-framing
```
3. Display the configured Layer 2 frame tagging mode for all switch ports by using the following command in the User EXEC mode:

```
show lldp vendor-specific avaya dot1q-framing
```
4. Display the configured Layer 2 frame tagging mode for specific switch ports by using the following command in the Interface Configuration mode for one or more ports:

```
show lldp vendor-specific avaya dot1q-framing
```

802.1AB Avaya Phone IP TLV

Avaya IP phones use the phone IP TLV to advertise IP phone IP address configuration information to the switch. The phone IP TLV supports IPv4 addresses only.

Configuration is supported via Enterprise Device Manager (EDM) and Avaya CLI (example follows):

Prerequisites

- Log on to the Interface Configuration mode in ACLI.

Procedure Steps

1. Display the received IP address configuration information for all switch ports by using the following command in the User EXEC mode:

```
show lldp neighbor vendor-specific avaya phone-ip
```
2. Display the received IP address configuration information for specific switch ports by using the following command in the Interface Configuration mode for one or more ports:

```
show lldp [port <portlist>] neighbor vendor-specific avaya phone-ip
```

EDM Improvements

Improvements have been made to the performance of on-box EDM operational, especially when starting EDM for the first time.

Old Features Removed From This Release

None.

Problems Resolved in This Release

802.1AB/LLDP-MED: The switch will now correctly limit the characters to printable characters which can be entered into ecs-elin for lldp med location-identification (**wi00854383**)

802.1AB/LLDP: Information in the "show lldp tx-tlv" command is issued, the stack will no longer display information for ports on a unit which is down (**wi00859277**)

802.1X/NEAP: When Non-EAP (NEAP) authentication is performed to a Microsoft Network Policy Server (NPS), the server expects the NAS-Port-Type to be set to "Ethernet". The NAS-Port-Type is now correctly set so that authentication can properly be performed with NPS installations (**wi00846039**)

ACG/Rate-Limiting: A missing exit statement in the ASCII configuration generated by show running-config at the end of the rate limiting section is now correctly displayed (**wi555101**)

ADAC/Avaya 9600 IP Phones: ADAC automatic configuration is now correctly applied to all Avaya 9600 IP Phones when connected to switch ports provisioned for ADAC (**wi00858158**)

ADAC/DMLT: If ADAC is configured to use DMLT as an uplink port and if a unit in the stack containing one of the DMLT links is powered down, ADAC will now continue to use the remaining DMLT links correctly (**wi00704055**)

ADAC/DMLT: When ADAC is configured with DMLT as uplink ports, traffic is now correctly prioritized on all links in the trunk (**wi00856195**)

ADAC: When ADAC is configured with uplink ports which are not on the base unit, network policies are now correctly set on all uplink ports (**wi00864240**)

ADAC: When all uplink ports are disabled or removed, then ADAC will now correctly transition to a disabled state (**wi00830136**)

CLI / Scripts: When running multiple simultaneous scripts which poll the switch to retrieve ASCII and binary configuration in combination with SNMP polling, the switch management interface will no longer lock-up waiting for CLIAudit event. It is recommended if customers do regularly perform multiple simultaneous scripts and SNMP polling that autosave is disabled (**wi00836972**)

DHCP Relay: When the switch is performing DHCP relay, the DHCP Unicast acknowledge (option 85) is no longer incorrectly changed to a multicast acknowledge (**wi00835594**)

IGMP: When an IGMP Querier exists on the network, the switch no longer incorrectly generates its own IGMP general query messages (**wi00839101**)

MAC Security: If more than the maximum of 448 MAC addresses are learnt with MAC Security auto learn enabled, then these addresses are cleared from the MAC Security table, the switch will now correctly re-learn up to the maximum number of 448 MAC Security Addresses (**wi00858143**)

MAC Security: Inconsistency when MAC Security learning is set to automatic between information displayed MAC Address Table and MAC Security Addresses is rectified (**wi00847984**)

MAC Security: When a port down event occurs, Static or Sticky MAC addresses are no longer incorrectly removed from the MAC security list (**wi00831512**)

MAC Security: When MAC Security learning is set to automatic, entries can now be correctly cleared from the MAC Security and MAC Address tables when either the port or MAC Security is disabled (**wi00848022**)

SNTP: Settings for SNTP are now correctly saved when autosave is disabled (**wi00817070**)

9. Known Limitations

802.1AB Integration / ADAC: Avaya IP Phones will perform a reset when connecting to the switch if 802.1AB Integration is enabled in conjunction with ADAC. **Workaround:** create a manual 802.1AB-MED network policy will change the order in which information is supplied to the IP Phones (**wi00856869**)

802.1AB Integration / Avaya 1100: Avaya 11X0E IP Phones using firmware SIP1120e04.00.04.00 will not be recognized by the 802.1AB integration capabilities as these phones use the manufacturer name in the TIA-Tx-TLV of "Avaya-01" which is different than "Avaya" which is expected by the 802.1AB integration function. **Workaround:** Avaya 1100 IP Phones can be configured via alternative means such as DHCP. (**wi00857043**)

802.1AB Integration / Call Server TLV: You can configure up to 8 Call Server IP Addresses on the switch for maximum resiliency. When some of the Call Servers are unreachable, the Avaya IP Phone may incorrectly indicate to the switch that it is using one of the unreachable Call Servers. **Workaround:** Information on call server use can be obtained from the phone or the call server (**wi00861372**)

802.1AB Integration / dot1q-framing TLV : When Avaya proprietary TLV dot1q-framing is set to auto, the IP Phone will always use untagged mode, irrespective of MED Network Policy or other setting being present. **Workaround:** It is recommended not to use the dot1q-framing TLV set to auto, but instead to set the mode to tagged or untagged (**wi00849008**)

802.1AB Integration / File Server TLV: The File Server which the IP Phone is using is not advertised by some Avaya IP Handsets (9630, 9620L, 9630G, 9640, 9620C) back to the switch, which results in the switch displaying null information for the configured file server for these phones. **Workaround:** Information on fileservers can be obtained from the phone or call server (**wi00859649**)

802.1AB Integration / Phone IP TLV: The gateway address returned by an Avaya IP Phone in the IP Phone TLV will be null until the IP Phone is able to reach the configured File Server. Once the IP Phone has reached the File Server, then the correct gateway address will be advertised in this TLV and displayed by the switch. **Workaround:** this does not result in any operational issues which require a workaround (**wi00855665**)

802.1AB Integration / Power Conservation: If the switch sets the power conservation TLV to zero (indicating that no power conservation should be used by the IP Phone), Avaya 9600 IP Phones will always return a value of 1. **Workaround:** this does not result in any operational issues which require a workaround (**wi00850597, wi00850033, wi00850936**)

802.1AB Integration / SIP Configuration: The currently defined Avaya Proprietary TLVs, do not support the direct provisioning of SIP parameters (transport protocol, port number, domain name) from the switch to the IP Handset. **Workaround:** The SIP information can be supplied to the IP Phone through the configuration fileservers, ensure that the File Server TLV is appropriately configured (**wi00855650**)

10. Documentation Corrections

For other known issues, please refer to the product release notes and technical documentation available from the Avaya Technical Support web site at: <http://www.avaya.com/support> .