Ethernet Routing Switch 5000 Series
Software Release 6.2.2

1. Release Summary

Release Date: 11-October-2011
Purpose: Software patch release to address customer and internally found software issues.

2. Important Notes Before Upgrading to This Release

Please note that Release Notes for all prior 6.2 based releases are still applicable to this release.

3. Platforms Supported

Ethernet Routing Switch 5510/5520/5530/5698TFD(-PWR)/5650TD(-PWR)/5632FD.

4. Notes for Upgrade

Please see "Ethernet Routing Switch 5000 Series, Configuration – System, Software Release 6.2" (NN47200-500, available at http://www.avaya.com/support. Click Products, select Ethernet Routing Switch 5000 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)
5xxx_60014_diags.bin	Diagnostic image	2,468,024
5xxx_622022.img	Agent code image	18,394,564
5xxx_622023s.img	Agent code image (SSH)	19,146,932

5. Version of Previous Release

Software Version 6.2.1.

6. Compatibility

This software release is managed with Enterprise Device Manager.

7. Changes in This Release

7.1. New Features in This Release

7.1.1 VLACP Unidirectional Fault Detection (wi00858290)

A VLACP partner will now send VLACP PDUs with the subtype DOWN (value of 2) when no PDUs are received from its link partner. These PDUs indicate the remote VLACP partner is down and the link partner should bring down its port.
Shortly after reboot, a VLACP partner will send PDUs with the subtype HOLD (value of 3) to its link partner. In this case, receiving PDU with subtype HOLD indicates the VLACP partner should bring down its port for a VLACP hold time. The hold time is configurable with the command "vlacp hold-time".
When receiving VLACP PDUs with HOLD or DOWN subtypes, the VLACP partner will respond with normal PDUs (LACP subtype). The interval between PDUs is configurable by the user. The partner will bring the link up after receiving regular PDUs on the port.

CLI Support
VLACP HOLD-TIME can be set with following commands:

config# vlacp hold_time <0..60>
config# no vlacp hold_time
config# default vlacp hold_time

SNMP Support
VLACP HOLD-TIME can be set with following SNMP object:
rcLacpGlobalVlacpHoldTime which accepts values from 0..60 seconds.

By default, the VLACP support for HOLD subtype will be disabled.
It is enabled when there is a positive value for VLACP HOLD Time configured.

VLACP is an Avaya proprietary protocol and hence this enhancement will not work when connecting to switches from other vendors.

7.1.2 802.1AB 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 {[call-server] [dot1q-
   framing] [file-server] [poe-conservation]}
   ```
2. Disable Avaya TLVs that the switch transmits by using the following command:
   ```
   no lldp tx-tlv [port <portList>] vendor-specific avaya {[call-server] [dot1q-
   framing] [file-server] [poe-conservation]}
   ```
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 (Avaya IP Phones support 243 levels). Selecting a higher value than the phone's range will set it to its' maximum setting. To disable power conservation mode set the level to zero (0).

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. The PoE conservation level request TLV can only be configured for switches that support PoE.

With the PoE conservation level support TLV, an Avaya IP phone transmits information about its 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.

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

Prerequisites
• Log on to the Global 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.

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

Prerequisites
• Log on to the Global 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 4 File Servers):
   ```
   lldp vendor-specific avaya file-server [<1-4>] <A.B.C.D> [[<1-4>] <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 <1-4>
   ```

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
   ```

7.1.3 EDM Improvements

Improvements have been made to the performance of EDM especially when starting EDM for the first time.

7.2 Old Features Removed From This Release

None.

7.3 Problems Resolved in This Release

Inconsistency between CLI MAC_Security Addr & MAC_Addr_Table (**wi00895275**)

MAC- security MAC-Address table would not clear when disabling port or turning off Mac-Security (**wi00848022**)

After Upgrading from 6.1.1 to 6.2.1, QoS configurations were lost (**wi00838747**)

IST stack Ping recovery takes up to 2 minutes when moving PC (**wi00822726**)

Unicast acknowledge (option 85) changed to multicast acknowledge by DHCP-relay agent (**wi00835596**)

Autonegotiation could not be disabled (**wi00824799**)

EAPOL table entries showed MACs that were aged out (**wi00831481**)

In a stack configuration and after adding ports (from a newly added switch) to an existing VLAN, the stack became unstable (**wi00731609**)

SMLT/FDB tables were not completely synchronized when one of the IST peers was reset (**wi00774925**)

SLPP packets were sent with priority 0 (**wi00555285)**

Not able to set PID of Vlan protocol_userdef to 24577 to 24585 (**wi00848161**)
This fix allows the creation of protocol VLANs using decOtherEther2 protocol PIDs or of using the PIDs for decOtherEther2 protocol VLANs, but not both. The protocol PIDs are 24576 to 24578, 24581 to 24585, 32824.

Incorrect ghost SMLT was created when IST/SMLT stats were displayed (**wi00601469**)

After upgrading from 5.0.5 to 6.2.0, ARPs were not properly generated (**wi00851317**)
This issue was a byproduct of the use of IPFIX on a single port. A fix was implemented for the 5600 HW but, due to HW differences, cannot be implemented for the 5500, a workaround is to use more than one port when using IPFIX. The issue only appeared for the port using IPFIX.

IGMP static member (mrouter port) not forwarding multicast after port down/up (**wi00895225**)

Switch does not learn MAC of format xx:59:xx:xx:xx:xx (**wi00870510**)

Units reset when PIM is enabled (**wi00848276**)

Cannot give an IP address to the switch with the last octet as "0" (**wi00872983**)

IST peer 5632 HD encountered memory leak one hour after upgrade to 6.2.1 (**wi00859217**)

QoS BPDU Blocker settings were not saved on unit 2 after it was rebooted (**wi00872260**)

5600 ports become unresponsive under certain conditions with no packets transmitted out with "drop on no resources" counter incrementing (**wi00854625)**

8. Outstanding Issues

None.

9. Known Limitations

None.

10. Documentation Corrections

Auto-negotiation / speed changes

Due to wi00732866 - "ERS 5xxx- SMLT/SLT ports using SFPs with fix speed and duplex not working after a reboot", the default behavior of the "speed 1000" command was modified (starting with software version 6.2.1) to allow connecting to remote devices that are not capable of auto-negotiation.

The old requirement (before image version 6.2.1) was to have auto-negotiation always enabled when having 1Gb links for both copper and fiber.

The current recommendation for getting a successful link-up on 1Gb ports is:

- on copper ports, the auto-negotiation should always be enabled;
- on fiber ports, auto-negotiation should be enabled or disabled on both partners;
- in case one of the link partners is not capable of auto-negotiation, the auto-negotiation must be disabled at the other end.

To enable auto-negotiation on a 1Gb port, use the "`speed port <portNum> auto`" command.
To disable it, you use the "`speed port <portNum> 1000`" command.

If you would like to achieve the same behavior as the "`speed port <portNum> 1000`" command, you could use the "`auto-negotiation-advertisements port <portNum> 1000-full pause-frame`" command.

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 .