Ethernet Routing Switch 2500 Series
Software Release 4.4.1

1. Release Summary

Release Date: 31-May-2012
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 2500 (all models).

4. Notes for Upgrade

Please see “Ethernet Routing Switch 2500 Series Overview — System Configuration” (NN47215-500, available at http://www.avaya.com/support - click Products, select Ethernet Routing Switch 2500 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)
2500_10015_diag.bin	Diagnostic image	1,265,238
2500_441018.img	Agent code image	6,605,672
2500_441019s.img	Agent code image (SSH)	6,822,332

5. Version of Previous Release

Software Version 4.4.0

6. Compatibility

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

7. Changes in This Release

7.1. New Features in This Release

7.1.1 DHCP Server Option 241

Avaya 1100, 1200 & 2000 IP Phone options (i.e.: heritage Nortel IP Phones) are defined as a string and contain parameters and values separated by commas. This series of IP Phones can be provided Voice VLAN information using DHCP options assigned to the data VLAN as well as extended options. The number of extended options that can be provisioned is provided in "Appendix B: IP Phone Info Block" from the following document: "**UNIStim Software Release 4.0, Bulletin Number: P-2009-0143-Global Date: 27 Nov 2009"**.

Note that not all parameters outlined in the UNIStim Release 4.0 Readme document needs to be specified in the option string. If the option is included, the parameter will be provisioned with the value specified. If the option is not included, the parameter will retain its default value, or the value that was previously provisioned for said parameter.

VLAN Option Format & Example:

VLAN-A:<voice-vlan-id>

VLAN-A:80

Extended Option Format & Example:

Nortel-i2004-B,param1=value1;param2=value2;param3=value3; …

Nortel-i2004-B,
s1ip=47.11.62.20;p1=4100;a1=1;r1=255;s2ip=47.11.62.21;p2=4100;a2=1;r2=2;xip=47.11.62.147;xp=5000;xa=g;menulock=p;vq=y;vcp=3;vmp=4;vlanf=y;pc=y;pcs=a;pcd=a;dq=y;dv=y;dvid=60;dp=5;pcuntag=y;

As only the Nortel specific option of '**Nortel-i2004-B**' will be supported, this value will be fixed for provisioning string for option 241. As one or more parameters are defined for this option, they are appended to the '**Nortel-i2004-B**' specific option. Also, specific parameters can be removed from an existing string.

Note: When adding/removing parameters, the use of '**Nortel-i2004-B**' specific option at the beginning of the string is optional.

Due to the fact that Option 241 string could exceed the maximum option length (255 bytes) the string needs to be limited to 255 characters. All specified parameters will be supported, but the string size should not be more than 255 characters.

Only parameters specified in "Appendix B: IP Phone Info Block" from UNIStim Software Release 4.0 will be supported.

To validate the input string for option 241, a check is done to verify if the parameters from the string are valid ones. There is no check for their values. Also, there is no check to verify if a specific parameter was entered more than once in the same command.

A parameter is considered to be the value between equals sign and semicolon from the input string. If an invalid parameter is found in the input string (a parameter which is not present in UNIStim Software Release 4.0) an error message will be returned.

New or Changed ACLI List

The Avaya IP phones (option241) parameters can be configured using:

```
(config)# ip dhcp-server pool <poolName:WORD/1-32> [
                    host <A.B.C.D> <H.H.H> |
                    range <A.B.C.D> <A.B.C.D> |
                    option-60 vendor-class-identifier <WORD>
                    ]
                    option-241 avaya-ip-phones <parametersList>
```

Note: When adding parameters, the format for <parametersList> is : Nortel-i2004-B,param1=value1;param2=value2;param3=value3;…

The parameters can be set to default using:

```
(config)# no ip dhcp-server pool <poolName:WORD/1-32>
                    option-241 avaya-ip-phones

(config)# default ip dhcp-server pool <poolName:WORD/1-32>
                    option-241 avaya-ip-phones
```

Individual parameters can be removed from provisioning string using:

```
(config)# no ip dhcp-server pool <poolName:WORD/1-32>
                    option-241 avaya-ip-phones <parametersList>
```

Note: When removing parameters the format for: <parametersList> is: Nortel-i2004-B,param1,param2,param3,…
Note: When adding/removing parameters, the use of 'Nortel-i2004-B' specific option at the beginning of the string is optional.

New or Changed SNMP List

The following new object has been added to support option 241:

```
bsdsDhcpv4PoolOption241Info OBJECT-TYPE
   SYNTAX      OCTET STRING
   MAX-ACCESS  read-create
   STATUS      current
   DESCRIPTION
      "The provisioning string for heritage Nortel IP phones, included in DHCP server option 241."
   ::= { bsdsDhcpv4PoolEntry 15 }
```

New or Changed EDM List

EDM interface for this option will not be available in this release.

7.1.2 DHCP Server Option 242

The embedded DHCP Server for this option will support the configuration and provisioning of selected (not all) parameters for Avaya 1600 & 9600 Series IP Phones.
The following parameters are supported:

- HTTPPORT
- HTTPSRVR
- MCIPADD

When DHCP Server Option 242 is enabled for a specific IP pool, note the following default values:

- HTTPPORT (default port = 80) – allow this to be modified by user;
- HTTPSRVR (default IP address = blank) – up to eight (8) IP addresses shall be supported for configuration of this parameter;
- MCIPADD (default IP address = blank) - up to eight (8) Call Server IP addresses shall be supported for configuration of this parameter. This is used as a backup for the IP phone in case the HTTP Server is unavailable so the IP phone can reach the Call Server.

New or Changed ACLI List

The Avaya IP phones option 242 parameters can be configured using:

```
(config)# ip dhcp-server pool <poolName:WORD/1-32> [
                    host <A.B.C.D> <H.H.H> |
                    range <A.B.C.D> <A.B.C.D> |
                    option-60 vendor-class-identifier <WORD>
                    ]
                    option-242 avaya-ip-phones {
                              [mcipadd <ipv4AddrList>]
                              [httpsrvr <ipv4AddrList>]
                              [httpport <0-65535>]
                    }
```

The parameters can be set to default using:

```
(config)# no ip dhcp-server pool <poolName:WORD/1-32>
                    option-242 avaya-ip-phones
                              [mcipadd]
                              [httpsrvr]
                              [httpport]

(config)# default ip dhcp-server pool <poolName:WORD/1-32>
                    option-242 avaya-ip-phones
                              [mcipadd]
                              [httpsrvr]
                              [httpport]
```

Individual MCIPADD and HTTP servers can be removed from lists using:

```
(config)# no ip dhcp-server pool <poolName:WORD/1-32>
```

```
                        option-242 avaya-ip-phones
                                   [mcipadd <ipv4AddrList>]
                                       [httpsrvr  <ipv4AddrList>]
```

New or Changed SNMP List

The following new objects have been added to support option 242:

```
bsdsDhcpv4PoolOption242HttpPort OBJECT-TYPE
    SYNTAX      Integer32
    MAX-ACCESS  read-create
    STATUS      current
    DESCRIPTION
        "The HTTP port value to be included in DHCP option 242."
    DEFVAL      { 80 }
    ::= { bsdsDhcpv4PoolEntry 16 }

bsdsDhcpv4OptionServersType  OBJECT-TYPE
    SYNTAX      INTEGER {
                   dns(1),
                   router(2),
                   sip(3),
                   tftp(4),
                   ipPhoneMcipadd(5),
                   ipPhoneTftpsrvr(6),
                   opt242Httpsrvr(7),
                   opt242Mcipadd(8)
                }
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION "Type of server for which we assign an IP address"
    ::= { bsdsDhcpv4OptionServersEntry 2 }
```

New or Changed EDM List

EDM interface for this option will not be available in this release.

7.1.3 802.1AB New Default Parameters

The 802.1AB New Default Parameters feature changes the following 802.1AB parameters to be enabled / configured by default. This will allow improved day 1 out of the box operation for Voice and UC applications.

```
(config)# interface fastethernet all
(config-if)# lldp config-notification
(config-if)# lldp status txAndRx config-notification
(config-if)# lldp tx-tlv local-mgmt-addr port-desc sys-desc sys-name
(config-if)# ldp tx-tlv dot3 mdi-power-support
```

```
(config-if)# lldp tx-tlv med extendedPSE inventory location med-capabilities
network-policy
(config)# lldp med-network-policies voice dscp 46 priority 6
```

The old defaults were:

- config-notification was disabled;
- local-mgmt-addr, port-desc, sys-desc, sys-name core TLVs transmission was disabled;
- DOT3 mdi-power-support TLV transmission was disabled;
- MED extendedPSE inventory location med-capabilities network-policy TLVs transmission was disabled;
- no network policies were configured by default.

7.1.4 802.1X EAP separate Enable/Disable

The purpose of this new feature is to allow EAP/NEAP clients or both clients types on the same port as distinct configuration options and with independent functionalities provided for each client type.

The behavior before 4.4.1 release for an EAP port is:

when EAP is enabled on a port by setting the port admin status to auto the following occurs:

- EAP clients are allowed on the port
- NEAP clients are not allowed on the port; the user can configure the per port option `allow-non-eap-enable` to enable the NEAP clients.
- No option exists to block EAP clients and to allow only NEAP clients

The new behavior starting with 4.4.1 release is described below.

For the new feature new global and per port configuration options are added:
`eap multihost eap-protocol-enable`.

If eapol is enabled globally and per port and we enable/disable the eap/neap clients we will have the following:

- At switch default this option is enabled per port, to keep the existing EAP clients enabled per port behavior;
- The user can choose to enable NEAP clients – in this case NEAP clients will be authenticated on port if any will be detected;
- The user can choose to disable the EAP clients and to have only NEAP clients on a port or no client type enabled on port.
  In this case (EAP protocol disabled) the processing performed on port is as follows:
  - the EAP packets are not processed on port;
  - traffic from not authenticated macs is discarded;
  - authenticated macs as NEAP clients will be allowed to forward traffic on port.

- If both EAP/NEAP clients are not allowed on port no clients will be authenticated and traffic will not be forwarded/received on port.

If eapol is not enabled per port, enabling or disabling these options will have no effect on the authorized/forced unauthorized state of the port and on the processing of the traffic.

New or Changed ACLI List

Per port configuration:

```
eap multihost eap-protocol-enable
no eap multihost eap-protocol-enable
default eap multihost eap-protocol-enable
show eapol multihost interface <port#>
```

Global configuration:

```
eap multihost eap-protocol-enable
no eap multihost eap-protocol-enable
```

By default, `eap multihost eap-protocol-enable` command is enabled both globally and per port. In this situation, EAP packets are allowed and processed as before.

To disable the feature, the following command has to be used per port and globally:

```
no eap multihost eap-protocol-enable
```

New or Changed SNMP List

Per port and global snmp objects are available in the bsee.mib:

```
bseeMultiHostEapProtocolEnabled OBJECT-TYPE
    SYNTAX      TruthValue
    MAX-ACCESS  read-write
    STATUS      current
    DESCRIPTION
        "This object controls whether processing of EAP protocol packets
         is enabled."
    DEFVAL      { true }
    ::= { bseeObjects 20 }

bseePortConfigEapProtocolEnabled OBJECT-TYPE
    SYNTAX      TruthValue
    MAX-ACCESS  read-write
    STATUS      current
    DESCRIPTION
        "This object controls whether EAP protocol packets are processed
         on this port."
    DEFVAL      { true }
    ::= { bseePortConfigEntry 17 }
```

7.2 Old Features Removed From This Release

None.

7.3 Problems Resolved in This Release

Non-configured default Gateway was added to the DHCP pools when configuring DHCP Server (**wi00941559**)

DHCP-Server: Show running configuration Opt 60, Opt43 parameters cannot be used as Quotes (**wi00943414**)

ERS 2500 with 4.4 release the "Telnet/WEB Switch Password Type" changes to none after every reboot (**wi00958724**)

DHCP Server responds twice to AP8100 with pools set up (**wi00943367**)

With DHCP snooping enabled, the OS TFTP transfer to the iMAC client is truncated. With no DHCP Snooping enabled, TFTP transfer works properly. (**wi00966941**)

Memory leakage when LLDP enabled leading the stack to freeze (**wi00971253**)

VLAN configuration is lost after reboot for different units from stack. (**wi00976243**)

When trying to save the config in ASCII format from EDM to the TFTP server, the switch reboots with a Data Access Exception (tAcgUpload) (**wi00966003**)

Double ARP frames transmitted after DHCP discover frame (**wi00943410**)

802.1X login stops to work on the switch every 7 -10 days (**wi00980465**)

Missing egress OSPF hello from 2500 stacks that causes OSPF adjacency to drop (**wi01016717**)

8. Outstanding Issues

DHCP-Server: No EDM support for 241 & 242 options (**wi00975633**)
DHCP-Server: When downgrade from 441 to 440 pool settings are lost (**wi00976351**)
DHCP-Server: Incorrect error message when try to configure option 242 parameters to an invalid pool (**wi01009103**)
DHCP-Server: Able to configure port numbers from outside the range for option-242 (**wi01009364**)
DHCP-Server: Console freeze on base unit when try to default DHCP-Server option 242 parameters (**wi01013238**)
Console freezes when try to delete a pool with options 120 - 8 SIP servers configured (**wi01014665**)
DHCP-Server: Incorrect error message when try to configure option 242 and 176 over Vendor Identifier pools (**wi01015515**)
The MCIPADD and HTTP Server addresses are not received using SNMP get when have an vendor class pool configured (**wi01016255**)

9. Known Limitations

None.

10. Documentation Corrections

None.

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 .