



Ethernet Routing Switch 8300

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Ethernet Routing Switch 8300

Software Release 4.1.3.1

1. Release Summary

Release Date: 16 October 2009

Purpose: Software maintenance release to address customer found software issues.

2. Important Notes before Upgrading to This Release

Update Readme Revision v1_1 contains an extra note in Section 7 – Changes.

3. Platforms Supported

Ethernet Routing Switch 8300 modules in 8010 and 8006 chassis.

Ethernet Routing Switch 8300 modules in 8306 and 8310 chassis.

4. Notes for Upgrade

Please see the *Nortel Ethernet Routing Switch 8300 Release Notes - Software Release 4.1* and *Nortel Ethernet Routing Switch 8300 Upgrades - Software Release 4.1* (Part No: NN46200-401 and Part No: NN46200-400) available at <http://www.nortel.com/support>, (select Ethernet Routing Switch family) for details on how to upgrade your Ethernet Routing Switch 8300.

File Names for This Release

File Name	Module or File Type	File Size (bytes)
pp83_4131[1].tar	Complete SW package zipped for 4.1.3.1	885864439
p83b4131.img	Boot monitor image	1091940
p83a4131.img	Runtime image	8954287
p83r4131.dld	Ethernet module image (Required for I/O) cards	2317328

p83c4131.img	Encryption module for SSH (3DES)	52424
p83c4131.aes	Encryption module for SNMPv3 (AES)	26960
p83a4131.mib	MIB file (private)	3498907
p83a4131.mib.zip	MIB (zip file)	554962
p83a4131.md5	md5 checksum file	477
p83f4131.dld	Pre-Boot monitor image **See IMPORTANT Note below	230786

** Nortel recommends that the Pre-Boot Image ONLY be upgraded if the system is currently running a Pre-Boot Monitor Software Rel 3.6. Systems running a Pre-Boot image Rel 3.7 should not be upgraded as there have been no changes to the Pre Boot Image for this release. Please use the CLI command '**show sys sw**' to know the Pre-Boot Monitor Software version.

5. Version of Previous Release

Software Version 4.1.2.0

6. Compatibility

This software release is managed with Java Device Manager (JDM) release 6.1.9.0.

7. Changes in This Release

New Features in This Release

TRUST-DSCP support has been added for all ERS 8300 modules. Previously this functionality only worked for certain module types. (Q01971443-02)

The CLI command structure is:

```
config ethernet <port/portlist> qos trust-dscp <enable|disable>
```

Static multicast ARP configuration functionality has been introduced. (Q01958122)

The silent CPU reset situation is still open, but this code release contains extra instrumentation code in order to assist Nortel in understanding the situation. Under what has been labeled the “silent reset” condition, the switch will switchover to standby SF with nothing in the system log to indicate why. This will generally cause a 45 second to 1 or 2 minute outage for devices connected to this switch, in non-SMLT configurations. This situation has a repetitive time frame generally measured in months. Therefore if your network has not seen this situation to date (and most have not), then there is a very good probably that your network will continue to not see this situation with any version of code.

The following functionality has been added to assist Nortel in analyzing ERS 8300 silent reset issues. These items are enabled by default. (Q01978449)

Monitor and log current and peak values for CPU utilization
Enhancement for software watchdog routine to catch and log task related anomalies
Monitor and log all interrupts for current and peak values
Ability to monitor port and STP TCN flapping
Additional error, warning and info log messages have now been added

NOTE: Some new warning and info messages will now be seen during switch resets or boots; during these times, these log messages can be ignored. These messages are part of the new instrumentation, and normally occur during either reset or boot times. If seen during normal switch operation, then the user should contact Nortel via opening a case with Nortel or their partner depending on the user's maintenance contract.

Old Features Removed From This Release

None.

Problems Resolved in This Release

Platform

- System instability which could be observed in certain scenarios where some protocols like RIP were configured has now been resolved. (Q01992990)
- System instability when a large (greater than 500) number of vlans were added to the IST MLT is now resolved. (Q01992958)
- The issue where ping from VRF uses the management port to route the response is now resolved. (Q01993351)
- When a configuration with 500+ vlans associated to SMLT/IST was sourced, the config loading time was long (around 9 minutes). This is now resolved. (Q01992961)
- System instability which was observed after a CPU switchover had been done is now resolved. (Q01969631)
- An error message was encountered while configuring an Ip address to a vlan which is in the same subnet as the route configured in the bootconfig, but the configurations were still saved in the config file. This issue is resolved (Q01997246)

IP Unicast

- Operation of the more-specific-non-local-route functionality has been improved to cover some situations where it previously did not route as desired. (Q01948850-01)

MLT/SMLT

- It is now possible to create an MLT using 10G ports that have different types of XFPs. Previously the system would not allow this and return message of “MLT ports different types”. (Q01967344)
- IST flapping could previously occur when a VLAN was added or removed from the IST MLT. This is now resolved. (Q01986567)
- VRRP virtual Mac address for a non-SMLT connection were not being learnt properly over the IST. This issue specific situation is now resolved. There can be other MACs not properly learned under this situation. These other MAC situations will be resolved in a future release. (Q01997305)

8. Outstanding Issues

When an SFP is incorrectly insertion (180 degrees out of rotation) the switch may no longer recognize the SFP after proper insertion; the actually SFP operation is fine. An error message will be generated for the improper insertion, if indeed the improper insertion is even possible. A switch re-boot will clear the condition, or better yet, take care when inserting SFPs and perform this action properly. (Q02016391)

Hot swapping of a SFP may cause it to be not recognized by the switch. A system re-boot will clear the condition. (Q01996142)

10Gbase-ZX XFP transceiver is currently wrongly displayed as a 10GbLR type. (Q02027489)

IP/MAC address learning in SMLT network designs may not always function properly in that certain MACs may point to being learned on the IST instead of the proper SMLT/SLT links. It is suggest that the FDB ageout time be set to 21601 seconds (assuming default ARP ageout time is left at 360 minutes). This parameter is set on a per VLAN basis, so the parameter needs to be changed for all VLANs within the system; default timer value is 300 seconds. This setting causes MACs to never be aged out by the FDB timer, but instead by only the ARP timer; value of 21601 is 1 second higher than 360 minutes. This parameter setting has no negative affect and re-learning of MAC moves continues to be sub-second. If this behavior is seen in a live production network, perform either a MAC/FDB flush on the VLAN or an IP/ARP flush on the system. (Q01984215-02)

LLDP-MED does not current interoperate with ADAC – user must choose one or the other at the port level at this time. (Q01482076)

ERS 8300 does not allow SSH Access to Standby CPU or to any remote switch; SSH client support is currently not in the product, just SSH server. This is an enhancement request targeted for a future release. At this time, use either telnet or rlogin instead, if either or both are enabled. (Q01998418)

Certain ERS 8300 filters will work fine when associated with a 8324GTX port but function abnormally when associated with a 8348GTX-PWR port. Suggestion is to currently not associate any of these types of filters with any 8348GTX-PWR ports. (Q01988391)

ERS 8300 RSMLT peer may drop traffic for greater than 10 seconds when the other RSMLT peer comes back up after being down for longer than the hold-up timer (very rare situation). Setting the hold-up timer to infinity will currently mask this situation, but that value can not always be used, depending upon ones specific SMLT/RSMLT network design. (Q02032997)

9. Known Limitations

None

10. Documentation Corrections

None.

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Ethernet Routing Switch 8300

Software Release 4.1.2.0

1. Release Summary

Release Date: 16 January 2009

Purpose: Software maintenance release to address customer found software issues.

2. Important Notes before Upgrading to This Release

None.

3. Platforms Supported

Ethernet Routing Switch 8300 modules in 8010 and 8006 chassis.

Ethernet Routing Switch 8300 modules in 8306 and 8310 chassis.

4. Notes for Upgrade

Please see the *Nortel Ethernet Routing Switch 8300 Release Notes - Software Release 4.1* and *Nortel Ethernet Routing Switch 8300 Upgrades - Software Release 4.1* (Part No : NN46200-401 and Part No : NN46200-400) available at <http://www.nortel.com/support> , (select Ethernet Routing Switch family) for details on how to upgrade your Ethernet Routing Switch 8300.

File Names for This Release

File Name	Module or File Type	File Size (bytes)
p83b4120.img	Boot monitor image	1089493
p83a4120.img	Runtime image	8907482
p83f4120.img	Pre-Boot monitor image **See IMPORTANT Note below	230786
p83r4120.dld	Ethernet module image (Required for I/O) cards	2290852
p83c4120.aes	Encryption module for SNMPv3 (AES)	26960
p83c4120.img	Encryption module for SSH (3DES)	52424
p83a4120.mib	MIB file (Private)	3498747
p83a4120.mib.zip	MIB (zip file)	554909
p83a4120.md5	md5 checksum file	477

5. Version of Previous Release

Software Version **4.1.1.0**

6. Compatibility

This software release is managed with Java Device Manager (JDM) release 6.0.13.0.

7. Changes in This Release

New SW Features in This Release

This section describes the new software features for the Ethernet Routing Switch 8300 Software Release 4.1.2.0.

CR Reference	Description
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** Nortel recommends that the Pre-Boot Image ONLY be upgraded if the system is currently running a Pre-Boot Monitor Software Rel 3.6. Systems running a Pre-Boot image Rel 3.7 should not be upgraded as there have been no changes to the Pre Boot Image for this release. Please use the CLI command **'show sys sw'** to know the Pre-Boot Monitor Software version.

Enhanced Local Flow Control

This enhancement improves the traffic forwarding performance of 8348GTX especially where the egress speed of the receiving machine is lower than the ingress speed of the transmitting device. An example of such would be 1G servers sending traffic to 100M clients. This operation can now be improved by enabling internal flow control for the 8348GTX module.

Syntax -- CLI

config qos local-flow-control <slot-list> {enable | disable}
where

<slot-list> is the slot which the 8348GTX card is inserted in.
{ enable | disable} is the key word to enable/disable the feature.

Syntax – NNCLI

[no] qos local-flow-control <slot-list>
where

<slot-list> is the slot which the 8348GTX card is inserted in.
[no] is the key word to disable the feature.

The general usage of this enhancement includes:

The default status of this feature is disabled.

If the card type on specific slot is not 8348GTX, the following message will be generated:

”Slot N error: local-flow-control is ONLY applicable to 8348GTX/8348GTX-PWR”.

The configuration for this slot will not take effect.

To show the configuration of the feature, use the command “show config” on CLI or “show running-config” on NNCLI.

This feature can be configured only by using CLI or NNCLI. JDM support is not available.

Note:

1. The feature is only designed for 8348GTX/8348GTX-PWR card.
2. This feature can be used with or without the prior buffer parameter change configured via config bootconfig qos <true|false>. For additional information regarding this change reference CR 1693903-01 in this document (page 6). The recommendation is for enabling the qos true flag first, and if additional improvement is required, to then enable the flow-control parameter.

3. If changing your switch to any prior releases where this feature was not supported previously, one must use a saved configuration based upon the prior release. Config files are not always backwards compatible between releases.

New HW Features in This Release

This section describes the new SFPs supported in Release 4.1.2.0.

SFP order number	SFP type	Reach
AA1419013 LC type	1000BASE-SX	Up to 550 m
AA1419014 MT-RJ type	1000BASE-SX	Up to 550 m
AA1419015 LC type	1000BASE-LX	Up to 5 km
AA1419025 1470nm/Gray	1000BASE CWDM	Up to 40 km
AA1419026 1490nm/Viole	1000BASE CWDM	Up to 40 km
AA1419027 1510nm/Blue	1000BASE CWDM	Up to 40 km
AA1419028 1530nm/Green	1000BASE CWDM	Up to 40 km
AA1419029 1550nm/Yellow	1000BASE CWDM	Up to 40 km
AA1419030 1570nm/Orange	1000BASE CWDM	Up to 40 km
AA1419031 1590nm/Red	1000BASE CWDM	Up to 40 km
AA1419032 1610nm/Brown	1000BASE CWDM	Up to 40 km
AA1419034 1490nm/Violet	1000BASE CWDM	Up to 70 km
AA1419035 1510nm/Blue	1000BASE CWDM	Up to 70 km
AA1419036 1530nm/Green	1000BASE CWDM	Up to 70 km
AA1419037 1550nm/Yellow	1000BASE CWDM	Up to 70 km
AA1419038 1570nm/Orange	1000BASE CWDM	Up to 70 km
AA1419039 1590nm/Red	1000BASE CWDM	Up to 70 km
AA1419040 1610nm/Brown	1000BASE CWDM	Up to 70 km
AA1419043 RJ-45 Type	1000BASE-T	Up to 100 m
AA1419069	1-port 1000BASE-BX Small Form Factor Pluggable GBIC (mini-GBIC, connector type: LC) - 1310nm Wavelength. Must be paired with AA1419070	Up to 10 km
AA1419070	1-port 1000BASE-BX Small Form Factor Pluggable GBIC (mini-GBIC, connector type: LC) - 1490nm Wavelength. Must be paired with AA1419069	Up to 10 km

Old Features Removed From This Release

None

Problems Resolved in This Release

Software Platform

General

The command `udpsrc-by-vip` now works properly and will no longer cause the output of erroneous HW WARNING log messages. The `udpsrc-by-vip` command now functions properly as expected. (Q01910817)

Switch Management

Security

When the 8300 is configured to use EAPoL and the client uses certificates, the 8300 will properly increment the IDs for Access Requests and NAS Port Type is also now supported. (Q01965961)

Crash/Lockup

When ports leave a multicast group, the memory used by the associated internal node entry will now be properly freed and will no longer cause high DRAM utilization and potential for system instability. (Q01927087-01)

CLI/NNCLI

When NNCLI is used on an 8300 to configure spanning-tree faststart, the configuration will now be saved and restored after a switch reboot. (Q01931784)

Changing the default SNMP community names for either SNMPv1/v2 or SNMPv3 previously was not allowed under NNCLI configuration mode. This operation now functions properly. See also Section 10 on page 8 (Q01952577)

NetMgmt-MIB/SNMP

ERS8300 can now be accessed by JDM with SNMPv3 when system access policies are enabled. (Q01960564)

Layer 2 switching

General

Protocol performance for communication between a 1G ingress device to either a 10/100M egress device using the 8348GTX maybe improved by using a different buffer allocation scheme. The different buffer allocation scheme is invoked using the boot config command below. The command is invisible under both boot monitor mode and/or run-time mode but can be saved to the bootconfig. To take effect, the bootconfig change must be saved and the system must also be restarted/rebooted. (Q01693903-01)

Syntax

config bootconfig flags qos {true | false}

where

When TRUE is set, the ingress buffers and egress buffer are adjusted on switch to improve protocol performance for the situation noted above.

When FALSE is set, the ingress buffers and egress buffer default value are used.

The default value for this flag is FALSE.

To make the configuration effective:

First execute the command “config bootconfig flags qos true” on the run-time CLI mode, or “flags qos true” on boot monitor mode.

Then, save the bootconfig by command “save bootconfig” on the run-time CLI mode, or “save” on boot monitor mode.

Finally, reboot the system by command “boot”.

To cancel the feature, set the flags to FALSE. A reboot is also needed for such a change to take affect.

Note:

1. After executing the command, saving the bootconfig and rebooting the system are absolutely necessary to make the feature take effect.
2. To show the configuration, execute “show bootconfig config” on the run-time CLI mode, or “show config” on boot monitor mode, and the result will be showed.
3. When updating this system to any other release which does not supported this feature, please set the flag to FALSE and then save the bootconfig before upgrading your system.
4. The feature is only designed for use with the 8348GTX card, and only affects the operation of this module.

MLT/SMLT

ARP/MAC entries for any device that moves within a SMLT network will now point to their correct port where previously they might not. Previously improper traffic passing might be seen because of this. (Q01919399-01,Q01971823)

STP/MSTP

CIST port status in a MSTP configuration will now be saved and restored after a switch reboot or the SF/CPU switches over from master to slave. (Q01939484)

Port status in MSTI now will be properly synchronized with the port status in CIST. (Q01933051)

IP**General**

Super net and subnet address of VLAN IP address can now be configured as part of a static route configuration.(Q01918889)

Packets will no longer be routed through the management port when a VRF is configured with no specific external route identified. (Q01931672)

8. Outstanding Issues

When NNCLI is used on an 8300 to configure default routes, this operation will only work properly when the default preference for the default route is configured with a value larger than zero. The reason for this is that the default preference will be filled with 0 if it is not configured. Then, after the switch reboots, the default route will be lost since zero is not a valid number. Workarounds are to configure properly, or else use JDM for configuration. This issue does not apply to systems using [PP]CLI versus NNCLI. (Q01962929)

The Configuration qos - action - permit trust_dscp is currently not saved to config file and will be lost after the switch reboots. In reality this parameter also has no affect on system operation, and therefore should not be set. See CR Q01971443-01 below for more details. (Q01973534)

With prior releases of code when the qos parameter trust-dscp (config ethernet <slot/port> qos trust-dscp [enable|disable]) was set to enable, for certain module types the following inaccurate message would be returned:

Error: trust-dscp is applicable only to ports in 8348GTX and 8348GTX-PWR.

With this release that inaccurate error message will no longer be generated, but at the same time the parameter setting itself is currently completely useless; the parameter currently has no affect for any module type. In order to set trust-dscp operation a filter MUST be used instead. The filter configuration should look like the following:

```
filter acl 3 ace 100 action permit trust-dscp enable "trust dscp" precedence 1
```

In the upcoming 4.2 release the 8300 switch operation in this area will be changed such that the qos trust-dscp parameter has meaning, and that a filter configuration is no longer required. Instead the trust-dscp parameter will automatically create and enable the filter for the user. (Q01971443-01)

9. Known Limitations

Only 1 NLB cluster can be supported in each NLB VLAN, if the VLAN is configured with either nlb-mode of multicast or igmp multicast. To support multiple different NLB clusters within the same VLAN, config ip arp multicast-mac-flooding to enabled. (Q01940747).

10. Documentation Corrections

The following is a list of NNCLI commands and their supported formats in 4.0 code:

```
[no] snmp-server authentication-trap
snmp-server bootstrap { min-secure | semi-secure | very-secure }
snmp-server community <comm Idx> <name> <security>
snmp-server community name <comm Idx> <new-name>
snmp-server community security <comm Idx> <security>
no snmp-server community <comm Idx>
snmp-server contact <contact>
[no] snmp-server group <group name> <prefix> <model> <level>
snmp-server host <ipaddr> <v1 | v2c> <commstr>
no snmp-server host <ipaddr>
snmp-server location <location>
snmp-server member <user name> <model> [<group name>]
no snmp-server member <user name> <model>
snmp-server name <prompt>
snmp-server user <UserName> [<auth protocol> ] [auth <password> ] [priv <password> ]
no snmp-server user <user name>
snmp-server view <View Name> <subtree oid> [mask <value> ] [type <value> ]
snmp-server view { mask <value> | type <value> } <View Name> <subtree oid>
no snmp-server view <view name> <subtree oid>
```

In Release 4.1 the formats for each of these commands above have changed to:

```
[no] snmp-server agnet-conformance enable
snmp-server authentication-trap {enable | disable}
no snmp-server authentication-trap
snmp-server bootstrap { min-secure | semi-secure | very-secure }
snmp-server community <community-name> index <index> secname <secname>
snmp-server community <community-name> group <groupname> [index <index> secname
<secname> | secname <secname>]
snmp-server community <community-name> secname <secname>
no snmp-server community <community-name>
snmp-server contact <contact>
[no] snmp-server force-iphdr-sender enable
[no] snmp-server force-trap-sender enable
snmp-server group <group name> <prefix> {auth-no-priv | auth-priv | no-auth-no-priv |
<model> <level>}
no snmp-server group <group name> <prefix>
snmp-server host <ipaddr> <port | v1 | v2c | v3> <commstr>
no snmp-server host <ipaddr>
snmp-server location <location>
snmp-server name <prompt>
snmp-server notify-filter <filtername> <Subtree oid> [mask <mask>]
snmp-server sender-ip <ipaddress> <ipaddress>
snmp-server user engine-id <id> <username> [md5 <password> [aes <password> | des
<password>]] | sha <password> [aes <password> | des <password>]]
```

```
no snmp-server user engine-id <id> <username>
snmp-server user <UserName> [group <name> [md5 <password> | sha <password>]]
snmp-server user <UserName> [notify-view <name>]
snmp-server user <UserName> read-view [notify-view <name> | write-view <viewname>]
snmp-server user <UserName> write-view [notify-view <name>]
no snmp-server user <UserName>
snmp-server view <View Name> <subtree oid> [mask <value> ] [type <value> ]
no snmp-server view <view name> <subtree oid> [mask <value> | type {include | exclude} ]
no snmp-server view <view name> <subtree oid>
```

This therefore makes the NNCLI section of multiple user manuals inaccurate. This will be cleaned-up with the next release (4.2) documentation set.

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Ethernet Routing Switch 8300

Software Release 4.1.1.0

1. Release Summary

Release Date: 8 July 2008

Purpose: Software maintenance release to provide proper license capability for VLACP and SLPP features. These features are being moved under the Base License from Advanced.

2. Important Notes before Upgrading to This Release

None.

3. Platforms Supported

Ethernet Routing Switch 8300 modules in 8010 and 8006 chassis.
Ethernet Routing Switch 8300 modules in 8306 and 8310 chassis.

4. Notes for Upgrade

Please see the *Nortel Ethernet Routing Switch 8300 Release Notes - Software Release 4.1* and *Nortel Ethernet Routing Switch 8300 Upgrades - Software Release 4.1* (Part No : NN46200-401 and Part No : NN46200-400) available at <http://www.nortel.com/support> , (select Ethernet Routing Switch family) for details on how to upgrade your Ethernet Routing Switch 8300.

File Names for This Release

File Name	Module or File Type	File Size (bytes)
p83b4110.img	Boot monitor image	1089642
p83a4110.img	Runtime image	8909101
p83f4110.img	Pre-Boot monitor image **See IMPORTANT Note below	230786

** Nortel recommends that the Pre-Boot Image ONLY be upgraded if the system is currently running a Pre-Boot Monitor Software Rel 3.6. Systems running a Pre-Boot image Rel 3.7 should not be upgraded as there have been no changes to the Pre Boot Image for this release. Please use the CLI command '**show sys sw**' to know the Pre-Boot Monitor Software version.

p83r4110.dld	Ethernet module image (Required for I/O) cards	2290232
p83c4110.aes	Encryption module for SNMPv3 (DES)	26960
p83c4110.img	Encryption module for SSH (3DES)	52424
p83a4110.mib	MIB file (Private)	3498747
p83a4110.mib.zip	MIB (zip file)	554909
p83a4110.md5	md5 checksum file	745

5. Version of Previous Release

Software Version **4.1.0.0**

6. Compatibility

This software release is managed with Java Device Manager (JDM) release 6.0.13.0.

7. Changes in This Release

New Features in This Release

License operation in this code release provides support for both the VLACP feature and SLPP feature under the Base License and therefore an Advanced License is no longer required to use these features. Users with either an Advanced or Premier License can use these features with any code, and therefore may wish to not want to move to this new code release for support. For any user wishing to use either VLACP and/or SLPP without the need to purchase an Advanced License, those users must move to this code release.

Old Features Removed From This Release

None

Problems Resolved in This Release

None

8. Outstanding Issues

None

9. Known Limitations

None

10. Documentation Corrections

The new support for VLACP and SLPP under the base license with only 4.1.1.0 code or beyond is already correctly documented in various places of the documentation set, including 4.1.0.0 RN.

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