Ethernet Routing Switch 1600

Software Release 2.1.2.0

1. Release Summary

Release Date: 19-Apr-2007
Purpose: Software maintenance release to address customer found software issues.

2. Important Notes before Upgrading to This Release

Please reference CSB 022158-01 for important information regarding upgrading any 1600 switch from 1.x code to 2.x code, before performing any such upgrade. This same information will soon be included in an updated version of the ERS 1600 Upgrade Guide (P/N 321327-B).

Please note new support for the following Switch Clustering (SMLT) configurations with any ERS 1600 2.1.x based release:

Topologies		1600
Triangle L2		**YES**
Triangle VRRP		**YES**
Triangle RSMLT		NO
Triangle Multicast		**YES (IGMP at the edge)**

Topologies		1600-1600	1600-5500	1600-8300	1600-8600
Square L2		**YES**	NO	NO	**YES**
Square L3-Unicast		**YES**	NO	NO	NO
Square RSMLT		NO	NO	NO	NO
Square IP-Multicast		NO	NO	NO	NO

Full Mesh		Not supported

For additional information regarding Switch Clustering, please reference the Technical Configuration Guide for Switch Clustering (SMLT) with ERS 8600.

3. Platforms Supported

Ethernet Routing Switch 1600; ERS1648, ERS1612, ERS1624

Please refer to the following document for more details on the ERS 1600 Platform

Release Notes for the Ethernet Routing Switch 1600 Series Switch Software Release 2.1 (Part No. 316859-J)
Managing Platform Operations Ethernet Routing Switch 1600 Series Software Release 2.1(Part No. 321817-A)

4. Notes for Upgrade

Please see Release Notes for the Ethernet Routing Switch 1600 Series Switch Software Release 2.1 (Part No. 316859-J) and Upgrading to Ethernet Routing Switch 1600 Software Release 2.1 (Part No. 321327-B) at http://www.nortel.com/support (select Passport family) for details on how to upgrade your Ethernet Routing Switch 1600

File Names for This Release

File Name	Module or File Type	File Size (bytes)
p16b2120.img	Boot monitor image	1572160
p16a2120.img	Runtime image	5561432
p16c2120.img	3DES encryption module for SSH	52472
p16c2120.des	DES SNMPv3 encryption module	8638
p16a2120.mib	MIB	2342992
p16a2120.mib.zip	MIB (zip file)	374317
p16a2120.md5	md5 checksum file	388
p16b2120.had	Boot image, pre-boot-monitor code	162376

Note*: A direct upgrade from code releases prior to 1.3.x to 2.1.2.0 is not supported. Users must first perform an intermediate upgrade to 1.3.1, and then an upgrade to 2.1.2.0 code. Direct upgrades from any 2.x release to any 2.1.x release are fully supported.*

5. Version of Previous Release

Software Version **2.1.1.0**

6. Compatibility

This software release is managed with Java Device Manager (JDM) release 6.0.0.0 or higher.

7. Changes in This Release

New Features in This Release

Change in SFP Vendor Recognition Procedure (Q01531763)

Starting with this release, the vendor information for all supported SFPs listed in the release notes for Release 2.1.1.0 (Part No. 316859-J) is now displayed correctly. The vendor names for the SFPs will be displayed either as "NORTEL" or the name of the actual vendor.
The CLI command to display the SFP related information is:

```
show port info config [<port number>]
```

Support for Multi-homed interfaces and ARP aging for multi-homed scenarios (Q01525511)

Starting with this release the ERS 1600 now supports external I/O devices that have multi-homed interfaces; one MAC address-multiple IP addresses. In such scenarios, multiple ARP entries having different IP addresses but mapping to the same MAC address are added to the system ARP table and per VLAN FDB table on the ERS 1600. The ERS 1600 has also the ability to route traffic to these multi-homed destinations. Software support has also been added to implement proper ARP/FDB aging for these entries.

Command Line Interface

There is no new CLI command for this feature**.**

Auto-boot stop character (Q01570117)

Starting with ERS 1600 release 2.1.2.0, customers who are using modems connected to the serial console port of a 1648T and also are using the autoboot functionality provided by the ERS 1600 boot monitor image, need to configure a new CLI command called "**autoboot-stop**". This command allows users to choose the auto-boot terminating character from one of two possible values. The possible values are "**escape-char**" or "**default**". The "default" setting will stop the auto-boot process only if a carriage return (<enter> key) is pressed. The escape-char option expects the user to press the "Esc" key on the keyboard to stop the autoboot process. This extra setting should only be applicable to those configurations where an external modem is connected to the serial console port of a 1648T. Without this setting, a re-boot of a 1648T with such a configuration may cause the 1648T to go into monitor mode instead of completing auto-boot, in which case manual intervention is needed.

The default value of the autoboot-stop is "**default**". That is, the <enter> key is expected to stop the autoboot process.

Command Line Interface

The following CLI commands have been introduced for this feature.

From runtime CLI:

```
config bootconfig flags autoboot-stop <escape-char | default>
```

From bootmonitor CLI:

```
flags autoboot-stop <escape-char | default>
```

Problems Resolved in This Release

Platform

General

The LED on the management port of the ERS 1612 and ERS 1624 switches now reflects the correct operating speed of the management port when set for auto-negotiation enabled. That is, the LED will now be in on state for auto-negotiation to 100Mbps and be in off state for auto-negotiation to 10 Mbps (Q01492222)

The ERS 1600 switch will no longer become unstable when the “show tech” CLI command is executed multiple times in quick succession after turning off the CLI “more” flag.(Q01532756)

Network Management

SNMP

The ERS 1600 software no longer pads RFC 3418 SNMP traps with a numerical 0 at the end of the OID field. (Q01574460)
The ERS 1600 now sends the proper response to SNMP Get request for the OID 1.3.6.1.2.1.17.4.3.1.1(per VLAN FDB table) (Q01575959)

8. Outstanding Issues – To be resolved in future release

NONE.

9. Known Limitations- Operation not to be changed

The CPU utilization on the ERS1612 or ERS 1624 can reach very high levels if a physical link is established between the gigabit ports of the ERS 1600 and certain SFP types on the externally connected device and when the port is admin disabled on the ERS 1600. This problem is seen even with some Nortel approved SFPs. It is recommended to also remove the fiber whenever the port is administratively disabled, or to potentially change the SFP type. (Q01578659)
An error message is displayed on the console when the management port state is toggled and a ping command is issued immediately after toggling the state. However, there is no loss of connectivity and the error message is also not seen again till the port state is toggled. (Q01495200)

Please also see Known Limitations and considerations in this release section of Release Notes for the Ethernet Routing Switch 1600 Series Switch Software Release 2.1 (Part No. 316859-J) for other limitations.

10. Documentation Corrections

NONE.

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Ethernet Routing Switch 1600

Software Release 2.1.1.0

1. Release Summary

Release Date: 19-Dec-2006
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 1600; ERS1648, ERS1612, ERS1624

Please refer to the following document for more details on the ERS 1600 Platform

Release Notes for the Ethernet Routing Switch 1600 Series Switch Software Release 2.1 (Part No. 316859-J)
Managing Platform Operations Ethernet Routing Switch 1600 Series Software Release 2.1(Part No. 321817-A)

4. Notes for Upgrade

Please see Release Notes for the Ethernet Routing Switch 1600 Series Switch Software Release 2.1 (Part No. 316859-J) and Upgrading to Ethernet Routing Switch 1600 Software Release 2.1 (Part No. 321327-B) at http://www.nortel.com/support (select Passport family) for details on how to upgrade your Ethernet Routing Switch 1600

File Names for This Release

File Name	Module or File Type	File Size (bytes)
p16b2110.img	Boot monitor image	1571808
p16a2110.img	Runtime image	5559935
p16c2110.img	3DES encryption module for SSH	52472
p16c2110.des	DES SNMPv3 encryption module	8638
p16a2110.mib	MIB	2342992

p16a2110.mib.zip	MIB (zip file)	374317
p16a2110.md5	md5 checksum file	435
p16b2110.had	Boot image, pre-boot-monitor code	162376

A direct upgrade from code releases prior to 1.3.x to 2.1.1 is not supported. User must first perform an intermediate upgrade to 1.3.1, and then an upgrade to 2.1.1 code.

5. Version of Previous Release

Software Version **2.1.0.1**

6. Compatibility

This software release is managed with Java Device Manager (JDM) release **6.0.0.0**

7. Changes in This Release

New Features in This Release

Directed Broadcast suppression (Q01329829)

The ERS 1600 does not support routing of subnet broadcast traffic (also referred to as directed broadcasts). However, in previous code releases, packets sent to the broadcast address of the subnet are copied to the CPU by the hardware, as well as flooded within the VLAN.
The purpose of this new feature is to protect the CPU from such broadcast packets. When this feature is enabled, all packets destined to the subnet broadcast address of a locally configured VLAN are dropped by the hardware, within the affected VLAN. If the feature is disabled, subnet broadcasts will be sent to the CPU and the switch will also flood the packets to all the ports of the local VLAN. The feature is enabled by default on all VLANs where an IP address is assigned to the VLAN. This will be the case for all VLANs after an upgrade to release 2.1.1.0 as this involves support for a new CLI command.

NOTE: It is recommended to leave this feature enabled in order to protect the CPU from subnet broadcast packets.

New Command Line Interface for Directed-Broadcast Suppression
config vlan <vlan-id> ip directed-broadcast <enable/disable>

NOTE: There is no JDM support for this feature in the current release. This command is only available through CLI.

PIM-SM Static RP support (Q01329813)
The ERS 1600 now supports the PIM-SM static RP configuration. The Rendezvous Point (RP) can now be statically configured via CLI. The CLI commands for configuring static-RP are listed below:

Command Line Interface
config ip pim static-rp add grp <value> mask <value> rp <value>
config ip pim static-rp enable

config ip pim static-rp disable
config ip pim static-rp delete grp <value> mask <value> rp <value>
config ip pim static-rp info

NOTE: There is no JDM support for this feature in the current release. This command is only available through CLI

Old Features Removed From This Release

The commands “config bootconfig net mgmt bootp <enable|disable>” and “show boot bootp” are now obsolete and removed from the Command Line Interface (CLI). The Ethernet Routing Switch 1600 Series Software no longer supports the functionality provided by these commands. (Q01412155).
NOTE: While upgrading from Software Release 2.1.0.0, the bootp option setting (still viable with CLI) should not be saved in the existing boot configuration file. If done, the switch may not boot-up successfully. In order to achieve this, please leave the bootp setting in its default state (enable) and then save the boot configuration. The command to do this is “*config bootconfig net mgmt bootp enable*” from the runtime CLI.
NOTE: Enabling or disabling this option through JDM 6.0.0.0 will not have any effect. The operation will be indicated as successful but the configuration will be ignored by the runtime software. Any appropriate action must be done via the CLI.
The CLI commands “config ip mroute static-source-group” and “show ip mroute static-source-group” are now obsolete and removed from the Command Line Interface (CLI). The Ethernet Routing Switch 1600 Series Software no longer supports the functionality provided by these commands. (Q01505266)
NOTE: Configuring the static-source-group option through JDM 6.0.0.0, as the options are still incorrectly shown within JDM, will not have any effect. The operation will be indicated as successful but the configuration will be ignored by the runtime software.

Problems Resolved in This Release

Layer-2 Switching

General

A loss of connectivity no longer occurs when an MLT is associated with a VLAN whose vlan-Id is potentially between 1 and 20. (Q01427568)

MSTP/RSTP

The ERS 1600 now follows the IEEE 802.1s standard. When multiple VLANs and multiple MSTP instances are configured, the port membership in individual MST instances is now determined according to the VLAN port membership within those MST instances. (Q01172319)

Platform

General

The maximum configurable value for CP-limit has now been changed to 5000. This change applies to both broadcast and multicast traffic. However, the default setting is kept at 1700. (Q01485638)
NOTE: It is recommended to leave the CP-limit setting at the default value of 1700. Changing the CP-limit setting to a value greater than 3000 might lead to system instability in certain cases depending on the traffic patterns and the existing CPU utilization.

IP Unicast

General

The DHCP agent on the ERS1600 now always forwards the DHCP ACK back to the DHCP client. (Q01494928)

8. Outstanding Issues-To be resolved in future release

An error message is displayed on the console when the management port state is toggled and a ping command is issued immediately after toggling the state. However, there is no loss of connectivity and the error message is also not seen again till the port state is toggled. (Q01495200)
The LED status indicating the operating speed on the management port of an ERS1612 or ERS1624 remains active even when the port is operating in 10Mbps mode. (Q01492222)

9. Known Limitations-Operation not to be changed

IP destination filters configured via the CLI command "*config flow-classifier dst_ip <ipaddr> action enable*" apply only to host IP addresses (/32 prefixes) and not to network or subnet IP addresses. (Q01216945)
In an SMLT environment, station movement from one IST core to another IST core is not detected if the station continues to send traffic immediately after the move and before the FDB expiration happens on the previous core IST box. In such cases, the FDB entries on the core IST boxes are never aged out and continue to point incorrectly. The only workaround at this point of time is to stop the station from sending traffic for duration equal to the FDB expiry timer configured on the VLAN. . If such moves are made at the L2 edge switch, i.e. from one switch to another, the time to move is generally greater than the default FDB age-out time (300 seconds) which can be made smaller, plus during such movements, the station is generally no longer connected to the network, and therefore can not continue to send traffic. Wireless traffic could be an exception, especially if APs live off different L2 switches configured as part of the SMLT network. There are no plans to change this operation, so care should be taken in how 1600 SMLT networks are designed. (Q01447502/Q01379448)
The BPDUs of the default STG (STG id 1) are never tagged even when they egress from a tagged port. So, on the ERS1600, the "discard-untagged-frames" option should not be enabled on ports which are likely to receive BPDUs of the default STG. Otherwise, the BPDUs of the default STG will be dropped and this can lead to a Spanning tree loop.(Q01486549)
In an SMLT environment, multicast traffic looping can happen when multiple senders with IP addresses in the same subnet start sending traffic to the same group and if the senders are attached to the IST core boxes. Do not create such multicast configurations.(Q01497223)
The ERS 1600 does not support the option to read the operating temperature of the chassis. (Q01416152)
The Flow Classification feature on the ERS 1600 does not support modification or re-marking of IP fragmented packets. (Q01456199).

Please also see Known Limitations and considerations in this release section of Release Notes for the Ethernet Routing Switch 1600 Series Switch Software Release 2.1 (Part No. 316859-J) for other limitations.

10. Documentation Corrections

In the document, "Configuring IP Routing and Multicast Operations using the CLI Ethernet Routing Switch 1600 Series", Software Release 2.1 321711-B Rev 01, Page 160, the configuration required to cause an ERS1600 running the RIP protocol to send a default route has not been documented correctly. The correct configuration should be:

config vlan<vlanId> ip rip enable
config vlan <vlanId> ip rip default-supply enable
config vlan <vlanId> ip rip supply enable

on all VLAN interfaces required to supply a default route. In addition, a route policy configuration is also required where the default route exists in the route table, but is generated from protocols other than RIP or is statically configured by the administrator. The route policy configuration required for this purpose is:

config ip route-policy <policy-name> seq 1 create
config ip route-policy <policy-name> seq 1 enable
config ip route-policy <policy-name> seq 1 action permit
config ip route-policy <policy-name> seq 1 match-route-type <route-type>
config ip route-policy <policy-name> seq 1 match-protocol <protocol-name>

and
config ip rip interface <interface-address> out-policy <policy-name>

on all interfaces that need to announce the default route. (Q01492646)

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Ethernet Routing Switch 1600

Software Release 2.1.0.1

1. Release Summary

Release Date: 29-Aug-2006
Purpose: Software patch release to address critical software issues.

2. Important Notes before Upgrading to This Release

None.

3. Platforms Supported

Ethernet Routing Switch 1600

Please refer to the following document for more details on the ERS 1600 Platform

Release Notes for the Ethernet Routing Switch 1600 Series Switch Software Release 2.1 (Part No. 316859-J)
Managing Platform Operations Ethernet Routing Switch 1600 Series Software Release 2.1(Part No. 321817-A)

4. Notes for Upgrade

Please see Release Notes for the Ethernet Routing Switch 1600 Series Switch Software Release 2.1 (Part No. 316859-J) and Upgrading to Ethernet Routing Switch 1600 Software Release 2.1 (Part No. 321327-B) at http://www.nortel.com/support (select Passport family) for details on how to upgrade your Ethernet Routing Switch 1600

File Names for This Release

File Name	Module or File Type	File Size (bytes)
p16b2101.img	Boot monitor image	
p16a2101.img	Runtime image	
p16c2101.img	3DES encryption module for SSH	
p16c2101.des	DES SNMPv3 encryption module	
p16a2101.mib	MIB	

p16a2101.mib.zip	MIB (zip file)	
p16a2101.md5	md5 checksum file	
p16b2101.had	Boot image, pre-boot-monitor code	

5. Version of Previous Release

Software Version **2.1.0.0**

6. Compatibility

This software release is managed with Java Device Manager (JDM) release **6.0.0.0**

7. Changes in This Release

New Features in This Release

None.

Old Features Removed From This Release

None.

Problems Resolved in This Release

Switch Management

General

The commands “config bootconfig net mgmt bootp <enable|disable>” and “show boot bootp” are now obsolete and removed from the Command Line Interface (CLI). The Ethernet Routing Switch 1600 Series Software no longer supports the functionality provided by these commands. (Q01412279).

NOTE: Enabling or disabling this option through JDM 6.0.0.0 will not have any effect. The operation will be indicated as successful but the configuration will be ignored by the runtime software.

NOTE: While upgrading from Software Release 2.1.0.0, the bootp setting should not be saved in the existing boot configuration file. In order to achieve this, please leave the bootp setting in its default state (enable) and then save the boot configuration. The command to do this is “config bootconfig net mgmt bootp enable” from the runtime CLI.

The optional parameter “slot-id” to the command “config bootconfig net mgmt ip” has been removed because the slot-id does not apply to the ERS 1600 chassis which has only a single slot. (Q01412289).

8. Outstanding Issues – to be resolved in future release

None.

9. Known Limitations – Operation not to be changed

Please see Known Limitations and considerations in this release section of Release Notes for the Ethernet Routing Switch 1600 Series Switch Software Release 2.1 (Part No. 316859-J)

10. Documentation Corrections

None.

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