



NORTEL

Nortel Ethernet Routing Switch 8300

Release Notes — Software

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ATTENTION

For information about the regulatory message, read "Regulatory messages" in this guide.

For information about the safety precautions, read "Safety messages" in this guide.

For information about the software license, read "Software license" in this guide.

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Regulatory Information and Safety Precautions

Read the information in this section to learn about regulatory conformities and compliances.

International Regulatory Statements of Conformity

This is to certify that the Nortel 8300 Series chassis and components installed within the chassis were evaluated to the international regulatory standards for electromagnetic compliance (EMC) and safety and were found to have met the requirements for the following international standards:

- EMC - Electromagnetic Emissions – CISPR 22, Class A
- EMC - Electromagnetic Immunity – CISPR 24
- Electrical Safety – IEC 60950, with CB member national deviations

Further, the equipment has been certified as compliant with the national standards as detailed below.

National Electromagnetic Compliance (EMC) Statements of Compliance

FCC Statement (USA only)

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the Federal Communications Commission (FCC) rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy. If it is not installed and used in accordance with the instruction manual, it may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference, in which case users will be required to take whatever measures may be necessary to correct the interference at their own expense.

ICES Statement (Canada only)

Canadian Department of Communications Radio Interference Regulations

This digital apparatus (8300 Series chassis and installed components) does not exceed the Class A limits for radio-noise emissions from digital apparatus as set out in the Radio Interference Regulations of the Canadian Department of Communications.

Règlement sur le Brouillage Radioélectrique du Ministère des Communications

Cet appareil numérique (8300 Series chassis) respecte les limites de bruits radioélectriques visant les appareils numériques de classe A prescrites dans le Règlement sur le brouillage radioélectrique du ministère des Communications du Canada.

CE Marking Statement (Europe only)

EN 55 022 Statements

This is to certify that the Nortel 8300 Series chassis and components installed within the chassis are shielded against the generation of radio interference in accordance with the application of Council Directive 2004/108/EC. Conformity is declared by the application of EN 55 022 Class A (CISPR 22).



CAUTION

This device is a Class A product. Operation of this equipment in a residential area is likely to cause harmful interference, in which case users are required to take appropriate measures necessary to correct the interference at their own expense.

EN 55 024 Statement

This is to certify that the Nortel 8300 Series chassis is shielded against the susceptibility to radio interference in accordance with the application of Council Directive 2004/108/EC. Conformity is declared by the application of EN 55 024 (CISPR 24).


EN 300386 Statement

The Ethernet Routing Switch 8300 Series chassis complies with the requirements of EN 300386 V1.3.3 for emissions and for immunity for a Class A device intended for use in either Telecommunications centre or locations other than telecommunications centres given the performance criteria as specified by the manufacturer.

EC Declaration of Conformity

This product conforms to the provisions of the R&TTE Directive 1999/5/EC.

European Union and European Free Trade Association (EFTA) Notice

 All products labeled with the CE marking comply with R&TTE Directive (1999/5/EEC) which includes the Electromagnetic Compliance (EMC) Directive (2004/108/EC) and the Low Voltage Directive (2006/95/EC) issued by the Commission of the European Community.

Compliance with these directives implies conformity to the following European Norms (ENs). The equivalent international standards are listed in parenthesis.

- EN 55022 (CISPR 22)—Electromagnetic Interference
- EN 55024 (IEC 61000-4-2, -3, -4, -5, -6, -8, -11)—Electromagnetic Immunity
- EN 61000-3-2 (IEC 61000-3-2)—Power Line Harmonics
- EN 61000-3-3 (IEC 61000-3-3)—Power Line Flicker

VCCI Statement (Japan/Nippon only)

This is a Class A product based on the standard of the Voluntary Control Council for Interference (VCCI) for information technology equipment. If this equipment is used in a domestic environment, radio disturbance may arise. When such trouble occurs, the user may be required to take corrective actions.

この装置は、情報処理装置等電波障害自主規制協議会（VCCI）の基準に基づくクラスA情報技術装置です。この装置を家庭環境で使用すると電波妨害を引き起こすことがあります。この場合には使用者が適切な対策を講ずるよう要求されることがあります。

BSMI Statement for 8310, and 8306 Chassis (Taiwan only)

This is a Class A product based on the standard of the Bureau of Standards, Metrology and Inspection (BSMI) CNS 13438, Class A.

警告使用者：
這是甲類的資訊產品，在居住的環境中使用時，可能會造成射頻干擾，在這種情況下，使用者會被要求採取某些適當的對策。

MIC notice for 8310, and 8306 chassis (Republic of Korea only)

This device has been approved for use in Business applications only per the Class A requirements of the Republic of Korea Ministry of Information and Communications (MIC). This device may not be sold for use in a non-business application.



National Safety Statements of Compliance CE Marking Statement (Europe only)

EN 60 950 Statement

This is to certify that the Nortel 8300 Series chassis and components installed within the chassis are in compliance with the requirements of EN 60 950 in accordance with the Low Voltage Directive. Additional national differences for all European Union countries have been evaluated for compliance. Some components installed within the 8300 Series chassis may use a nickel-metal hydride (NiMH) and/or lithium-ion battery. The NiMH and lithium-ion batteries are long-life batteries, and it is very possible that you will never need to replace them. However, should you need to replace them, refer to the individual component manual for directions on replacement and disposal of the battery.

NOM Statement 8310 and 8306 Chassis (Mexico only)

The following information is provided on the devices described in this document in compliance with the safety requirements of the Norma Oficial Mexicana (NOM):

Exporter: Nortel Networks, Inc.
4655 Great America Parkway
Santa Clara CA 95054 USA

Importer: Nortel Networks de México, S.A. de C.V.
Avenida Insurgentes Sur #1605
Piso 30, Oficina
Col. San Jose Insurgentes
Deleg-Benito Juarez
México D.F. 03900

Tel: 52 5 480 2100

Fax: 52 5 480 2199

Input: (8306 and 8310 Chassis only)

8301AC: 100 to 240 VAC 16A 47 to 60 Hz per power supply

8301AC: 200 to 240 VAC 12A 47 to 60 Hz per power supply
single supply, single supply + one redundant supply, two supplies, or two
supplies + one redundant supply configurations

8302AC: 100 to 240 VAC 12 A 47 to 60 Hz per power supply

8302AC: 200 to 240 VAC 10 A 47 to 60 Hz per power supply
single supply, single supply + one redundant supply, two supplies, or two
supplies + one redundant supply configurations

8005DIDC: 40 to 75 VDC, 48.75 to 32.5 A
single supply, single supply + one redundant supply, two supplies, or two
supplies + one redundant supply configurations

8005DC: 48 to 60 VDC, 42 to 34 A
single supply, single supply + one redundant supply, two supplies, or two
supplies + one redundant supply configurations

Información NOM (unicamente para México)

La información siguiente se proporciona en el dispositivo o en los dispositivos descritos en este documento, en cumplimiento con los requisitos de la Norma Oficial Mexicana (NOM):

Exportador: Nortel Networks, Inc.
4655 Great America Parkway
Santa Clara, CA 95054 USA

Importador: Nortel Networks de México, S.A. de C.V.
Avenida Insurgentes Sur #1605
Piso 30, Oficina
Col. San Jose Insurgentes
Deleg-Benito Juarez
México D.F. 03900

Tel: 52 5 480 2100

Fax: 52 5 480 2199
Embarcar a: (8306 and 8310 Chassis)

8301AC:100 to 240 VAC 16 A 47 to 60 Hz por fuente de poder

8301AC: 200 to 240 VAC 12 A 47 to 60 Hz por fuente de poder
una fuente, una fuente + configuraciones de una fuente redundante, dos
fuentes o dos + configuraciones de una fuente redundante

8302AC:100 to 240 VAC 12 A 47 to 60 Hz por fuente de poder

8302AC: 200 to 240 VAC 10 A 47 to 60 Hz por fuente de poder
una fuente, una fuente + configuraciones de una fuente redundante, dos
fuentes o dos + configuraciones de una fuente redundante

8005DIDC: 40 to 75 VDC, 48.75 to 32.5 A
una fuente, una fuente + configuraciones de una fuente redundante, dos
fuentes o dos + configuraciones de una fuente redundante

8005DC: 48 to 60 VDC, 42 to 34 A
una fuente, una fuente + configuraciones de una fuente redundante, dos
fuentes o dos + configuraciones de una fuente redundante

Denan Statement (Japan/Nippon only)



警告

本製品を安全にご使用頂くため、以下のことにご注意ください。

- 接続ケーブル、電源コード、ACアダプタなどの部品は、必ず製品に同梱されております添付品または指定品をご使用ください。添付品・指定品以外の部品をご使用になると故障や動作不良、火災の原因となることがあります。
 - 同梱されております付属の電源コードを他の機器には使用しないでください。上記注意事項を守らないと、死亡や大怪我など人身事故の原因となることがあります。
-

Safety Messages

This section describes the different precautionary notices used in this document. This section also contains precautionary notices that you must read for safe operation of the Nortel Ethernet Routing Switch 8300.

Notices

Notice paragraphs alert you about issues that require your attention. The following sections describe the types of notices. For a list of safety messages used in this guide and their translations, see "Translations of safety messages".

Attention Notice

ATTENTION

An attention notice provides important information regarding the installation and operation of Nortel products.

Caution ESD Notice



CAUTION ESD

ESD notices provide information about how to avoid discharge of static electricity and subsequent damage to Nortel products.



CAUTION ESD (décharge électrostatique)

La mention ESD fournit des informations sur les moyens de prévenir une décharge électrostatique et d'éviter d'endommager les produits Nortel.



CAUTION ACHTUNG ESD

ESD-Hinweise bieten Information dazu, wie man die Entladung von statischer Elektrizität und Folgeschäden an Nortel-Produkten verhindert.



CAUTION PRECAUCIÓN ESD (Descarga electrostática)

El aviso de ESD brinda información acerca de cómo evitar una descarga de electricidad estática y el daño posterior a los productos Nortel.



CAUTION CUIDADO ESD

Os avisos do ESD oferecem informações sobre como evitar descarga de eletricidade estática e os consequentes danos aos produtos da Nortel.



CAUTION ATTENZIONE ESD

Le indicazioni ESD forniscono informazioni per evitare scariche di elettricità statica e i danni correlati per i prodotti Nortel.

Caution Notice

**CAUTION**

Caution notices provide information about how to avoid possible service disruption or damage to Nortel products.

**CAUTION
ATTENTION**

La mention Attention fournit des informations sur les moyens de prévenir une perturbation possible du service et d'éviter d'endommager les produits Nortel.

**CAUTION
ACHTUNG**

Achtungshinweise bieten Informationen dazu, wie man mögliche Dienstunterbrechungen oder Schäden an Nortel-Produkten verhindert.

**CAUTION
PRECAUCIÓN**

Los avisos de Precaución brindan información acerca de cómo evitar posibles interrupciones del servicio o el daño a los productos Nortel.

**CAUTION
CUIDADO**

Os avisos de cuidado oferecem informações sobre como evitar possíveis interrupções do serviço ou danos aos produtos da Nortel.

**CAUTION
ATTENZIONE**

Le indicazioni di attenzione forniscono informazioni per evitare possibili interruzioni del servizio o danni ai prodotti Nortel.

Warning Notice

**WARNING**

Warning notices provide information about how to avoid personal injury when working with Nortel products.

**WARNING
AVERTISSEMENT**

La mention Avertissement fournit des informations sur les moyens de prévenir les risques de blessure lors de la manipulation de produits Nortel.



**WARNING
WARNUNG**

Warnhinweise bieten Informationen dazu, wie man Personenschäden bei der Arbeit mit Nortel-Produkten verhindert.



**WARNING
ADVERTENCIA**

Los avisos de Advertencia brindan información acerca de cómo prevenir las lesiones a personas al trabajar con productos Nortel.



**WARNING
AVISO**

Os avisos oferecem informações sobre como evitar ferimentos ao trabalhar com os produtos da Nortel.



**WARNING
AVVISO**

Le indicazioni di avviso forniscono informazioni per evitare danni alle persone durante l'utilizzo dei prodotti Nortel.

Danger High Voltage Notice



DANGER

Danger—High Voltage notices provide information about how to avoid a situation or condition that can cause serious personal injury or death from high voltage or electric shock.



DANGER

La mention Danger—Tension élevée fournit des informations sur les moyens de prévenir une situation ou une condition qui pourrait entraîner un risque de blessure grave ou mortelle à la suite d'une tension élevée ou d'un choc électrique.



**DANGER
GEFAHR**

Hinweise mit Vorsicht – Hochspannung“ bieten Informationen dazu, wie man Situationen oder Umstände verhindert, die zu schweren Personenschäden oder Tod durch Hochspannung oder Stromschlag führen können.



**DANGER
PELIGRO**

Los avisos de Peligro-Alto voltaje brindan información acerca de cómo evitar una situación o condición que cause graves lesiones a personas o la muerte, a causa de una electrocución o de una descarga de alto voltaje.



**DANGER
PERIGO**

Avisos de Perigo—Alta Tensão oferecem informações sobre como evitar uma situação ou condição que possa causar graves ferimentos ou morte devido a alta tensão ou choques elétricos.



**DANGER
PERICOLO**

Le indicazioni Pericolo—Alta tensione forniscono informazioni per evitare situazioni o condizioni che potrebbero causare gravi danni alle persone o il decesso a causa dell'alta tensione o di scosse elettriche.

Danger Notice



DANGER

Danger notices provide information about how to avoid a situation or condition that can cause serious personal injury or death.



DANGER

La mention Danger fournit des informations sur les moyens de prévenir une situation ou une condition qui pourrait entraîner un risque de blessure grave ou mortelle.



**DANGER
GEFAHR**

Gefahrenhinweise stellen Informationen darüber bereit, wie man Situationen oder Umständen verhindert, die zu schweren Personenschäden oder Tod führen können.



**DANGER
PELIGRO**

Los avisos de Peligro brindan información acerca de cómo evitar una situación o condición que pueda causar lesiones personales graves o la muerte.



**DANGER
PERIGO**

Avisos de perigo oferecem informações sobre como evitar uma situação ou condição que possa causar graves ferimentos ou morte.



**DANGER
PERICOLO**

Le indicazioni di pericolo forniscono informazioni per evitare situazioni o condizioni che potrebbero causare gravi danni alle persone o il decesso.

Software license

This section contains the Nortel Networks software license.

Nortel Networks Inc. software license agreement

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2. Customer may terminate the license at any time. Nortel Networks may terminate the license if Customer fails to comply with the terms and conditions of this license. In either event, upon termination, Customer must either return the Software to Nortel Networks or certify its destruction.
3. Customer is responsible for payment of any taxes, including personal property taxes, resulting from Customer's use of the Software. Customer agrees to comply with all applicable laws including all applicable export and import laws and regulations.
4. Neither party may bring an action, regardless of form, more than two years after the cause of the action arose.
5. The terms and conditions of this License Agreement form the complete and exclusive agreement between Customer and Nortel Networks.
6. This License Agreement is governed by the laws of the country in which Customer acquires the Software. If the Software is acquired in the United States, then this License Agreement is governed by the laws of the state of New York.

Safety messages

This chapter describes the different precautionary notices used in this document. This chapter also contains precautionary notices that you must read for safe operation of the Nortel Ethernet Routing Switch 8300.

Notices

Notice paragraphs alert you about issues that require your attention. The following sections describe the types of notices.

Attention Notice

ATTENTION

An attention notice provides important information regarding the installation and operation of Nortel products.

Caution ESD Notice

**CAUTION
ESD**

ESD notices provide information about how to avoid discharge of static electricity and subsequent damage to Nortel products.

**CAUTION
ESD (décharge électrostatique)**

La mention ESD fournit des informations sur les moyens de prévenir une décharge électrostatique et d'éviter d'endommager les produits Nortel.

**CAUTION
ACHTUNG ESD**

ESD-Hinweise bieten Information dazu, wie man die Entladung von statischer Elektrizität und Folgeschäden an Nortel-Produkten verhindert.



CAUTION

PRECAUCIÓN ESD (Descarga electrostática)

El aviso de ESD brinda información acerca de cómo evitar una descarga de electricidad estática y el daño posterior a los productos Nortel.



CAUTION

CUIDADO ESD

Os avisos do ESD oferecem informações sobre como evitar descarga de eletricidade estática e os conseqüentes danos aos produtos da Nortel.



CAUTION

ATTENZIONE ESD

Le indicazioni ESD forniscono informazioni per evitare scariche di elettricità statica e i danni correlati per i prodotti Nortel.

Caution Notice



CAUTION

Caution notices provide information about how to avoid possible service disruption or damage to Nortel products.



CAUTION

ATTENTION

La mention Attention fournit des informations sur les moyens de prévenir une perturbation possible du service et d'éviter d'endommager les produits Nortel.



CAUTION

ACHTUNG

Achtungshinweise bieten Informationen dazu, wie man mögliche Dienstunterbrechungen oder Schäden an Nortel-Produkten verhindert.



CAUTION

PRECAUCIÓN

Los avisos de Precaución brindan información acerca de cómo evitar posibles interrupciones del servicio o el daño a los productos Nortel.



CAUTION

CUIDADO

Os avisos de cuidado oferecem informações sobre como evitar possíveis interrupções do serviço ou danos aos produtos da Nortel.

**CAUTION
ATTENZIONE**

Le indicazioni di attenzione forniscono informazioni per evitare possibili interruzioni del servizio o danni ai prodotti Nortel.

Warning Notice**WARNING**

Warning notices provide information about how to avoid personal injury when working with Nortel products.

**WARNING
AVERTISSEMENT**

La mention Avertissement fournit des informations sur les moyens de prévenir les risques de blessure lors de la manipulation de produits Nortel.

**WARNING
WARNUNG**

Warnhinweise bieten Informationen dazu, wie man Personenschäden bei der Arbeit mit Nortel-Produkten verhindert.

**WARNING
ADVERTENCIA**

Los avisos de Advertencia brindan información acerca de cómo prevenir las lesiones a personas al trabajar con productos Nortel.

**WARNING
AVISO**

Os avisos oferecem informações sobre como evitar ferimentos ao trabalhar com os produtos da Nortel.

**WARNING
AVVISO**

Le indicazioni di avviso forniscono informazioni per evitare danni alle persone durante l'utilizzo dei prodotti Nortel.

Danger High Voltage Notice**DANGER**

Danger—High Voltage notices provide information about how to avoid a situation or condition that can cause serious personal injury or death from high voltage or electric shock.



DANGER

La mention Danger—Tension élevée fournit des informations sur les moyens de prévenir une situation ou une condition qui pourrait entraîner un risque de blessure grave ou mortelle à la suite d'une tension élevée ou d'un choc électrique.



**DANGER
GEFAHR**

Hinweise mit Vorsicht – Hochspannung“ bieten Informationen dazu, wie man Situationen oder Umstände verhindert, die zu schweren Personenschäden oder Tod durch Hochspannung oder Stromschlag führen können.



**DANGER
PELIGRO**

Los avisos de Peligro-Alto voltaje brindan información acerca de cómo evitar una situación o condición que cause graves lesiones a personas o la muerte, a causa de una electrocución o de una descarga de alto voltaje.



**DANGER
PERIGO**

Avisos de Perigo—Alta Tensão oferecem informações sobre como evitar uma situação ou condição que possa causar graves ferimentos ou morte devido a alta tensão ou choques elétricos.



**DANGER
PERICOLO**

Le indicazioni Pericolo—Alta tensione forniscono informazioni per evitare situazioni o condizioni che potrebbero causare gravi danni alle persone o il decesso a causa dell'alta tensione o di scosse elettriche.

Danger Notice



DANGER

Danger notices provide information about how to avoid a situation or condition that can cause serious personal injury or death.



DANGER

La mention Danger fournit des informations sur les moyens de prévenir une situation ou une condition qui pourrait entraîner un risque de blessure grave ou mortelle.

**DANGER
GEFAHR**

Gefahrenhinweise stellen Informationen darüber bereit, wie man Situationen oder Umständen verhindert, die zu schweren Personenschäden oder Tod führen können.

**DANGER
PELIGRO**

Los avisos de Peligro brindan información acerca de cómo evitar una situación o condición que pueda causar lesiones personales graves o la muerte.

**DANGER
PERIGO**

Avisos de perigo oferecem informações sobre como evitar uma situação ou condição que possa causar graves ferimentos ou morte.

**DANGER
PERICOLO**

Le indicazioni di pericolo forniscono informazioni per evitare situazioni o condizioni che potrebbero causare gravi danni alle persone o il decesso.

New in this release

The following sections details what's new in *Nortel Ethernet Routing Switch 8300 Release Notes — Software*, NN46200-401 for Release 4.1.

Features

See the following sections for information about feature changes:

- [“New hardware” \(page 27\)](#)
- [“New software” \(page 27\)](#)

New hardware

The new hardware includes the following:

- a new version of the 8393SF/CPU with 256 MB of DRAM
- a 256 MB memory upgrade for the 8393SF/CPU with 128 MB of DRAM
- the 8005DC power supply
- the 8005DI DC dual input DC-DC switching power supply

For more information about these new features, see [“New hardware features in Release 4.1” \(page 31\)](#).

New software

For Release 4.1, the Ethernet Routing Switch 8300 supports the following new features:

- IPv6 management stack
- Nortel Secure Network Access (NSNA) 2.0 and 3.0 Lite
- Virtual Routing Forwarding (VRF) Lite
- V mode
- Routed Split MultiLink Trunking (RSMLT)
- Multicast VLAN Registration (MVR) Protocol
- Equal Cost MultiPath (ECMP)

- Deep Packet Pattern Matching Filters
- Rapid Spanning Tree Protocol (RSTP)
- Multiple Spanning Tree Protocol (MSTP)
- Link Aggregation Control Protocol (LACP)
- Virtual Link Aggregation Control Protocol (VLACP)

For more information about these new features, see “[New software features in Release 4.1](#)” (page 33).

Other changes

See the following sections for information about changes that are not feature-related:

- “[File names for upgrade](#)” (page 28)
- “[Document changes](#)” (page 28)

File names for upgrade

File names are updated; see “[File names for this release](#)” (page 43)

Document changes

This document is reformatted to comply with the Nortel Customer Documentation Standards. For more information, see *Nortel Ethernet Routing Switch 8300 Documentation Roadmap*, NN46200-101.

Getting help

If you purchased a service contract for your Nortel product from a distributor or authorized reseller, contact the technical support staff for that distributor or reseller for assistance.

If you purchased a Nortel service program, you can get help by contacting one of the Nortel Technical Solutions Centers found at <http://www.nortel.com/callus>; or visit our Technical Support site at <http://www.nortel.com/support>.

Express Routing Codes

An Express Routing Code (ERC) is available for many Nortel products and services.

When you use an ERC, your call is routed to a technical support person who specializes in supporting that particular product or service. To locate an ERC for any product or service, go to <http://www.nortel.com/erc>.

Introduction

This document describes new features, and known limitations, known issues, and resolved issues for Nortel Ethernet Routing Switch 8300 Software Release 4.1. Use this document to help you optimize the functionality of your Ethernet Routing Switch 8300.

For information about how to upgrade your version of Device Manager, see *Nortel Ethernet Routing Switch 8300 User Interface Fundamentals*, NN46200-103.

Navigation

- [“Important notices and new features” \(page 31\)](#)
- [“Resolved issues” \(page 61\)](#)
- [“Known issues” \(page 65\)](#)
- [“Known limitations” \(page 69\)](#)

Important notices and new features

This section describes the supported and unsupported hardware and software features in the Ethernet Routing Switch 8300 Software Release 4.1, fixes to previously-known issues, and any remaining known issues.

Navigation

- [“New hardware features in Release 4.1” \(page 31\)](#)
- [“New software features in Release 4.1” \(page 33\)](#)
- [“File names for this release” \(page 43\)](#)
- [“Important information and restrictions” \(page 44\)](#)
- [“Supported software and hardware capabilities” \(page 49\)](#)

New hardware features in Release 4.1

The following sections describe the new hardware features in Release 4.1.

New hardware features navigation

- [“New 8393SF/CPU with 256 MB of DRAM” \(page 31\)](#)
- [“Optional memory upgrade for the 8393SF/CPU” \(page 32\)](#)
- [“8005DC power supply” \(page 33\)](#)
- [“8005DI DC dual input DC-DC switching power supply ” \(page 33\)](#)

New 8393SF/CPU with 256 MB of DRAM

A new version of the 8393SF/CPU with 256 MB of DRAM is now available. The new sales part number for this module version is DS1404118-E5.

If you install the new 8393SF/CPU with 256 MB of DRAM , you see the following displayed when you are booting the system:

```
Type=8393SF/256
```

When you enter the command `show sys info card`, the following is included in the display:

FrontType : CPU8x1000BaseSFP w/256M

FrontDescr : 8393 w/256M,CP/SF with uplinks

Optional memory upgrade for the 8393SF/CPU

Software Release 4.1 requires 256 MB of memory to support some scaled environments. An upgrade from 128 MB to 256 MB of memory is available for the 8393SF/CPU. As well, a new 8393SF/CPU version with 256 MB is available; the 8394SF/CPU already ships with 256 MB of DRAM.

If you have an 8393SF/CPU, you can use one of the following options:

- A chargeable field upgrade from 128 MB of DRAM to 256 MB of DRAM is available for the 8393SF/CPU. To upgrade a 128 MB 8393SF/CPU to 256 MB, contact Nortel Technical Logistics Support (1-800-4NORTEL, ERC 275) and request service order number N0192403. The cost for this service is \$2000.00. An advanced replacement Return Material Authorization (RMA) will be issued for the original 128 MB SF/CPU. Nortel will send you an 8393SF/CPU with 256 MB of DRAM to install in your system; return the original 128 MB SF/CPU using the standard RMA process. Copy software files from the original module to the new module. Remove the files from the original module before shipping the module to Nortel. SFPs should be removed and retained, not returned to Nortel.
- As mentioned, a new version of the 8393SF/CPU with 256 MB of DRAM is also available. The part number for this module is DS1404118-E5.

You can directly upgrade an Ethernet Routing Switch 8300 system (at Software Release 4.0.x.x or 3x.x.x) that is configured with the 8393SF/CPU and 128 MB of memory to Software Release 4.1 without upgrading to 256 MB of memory if the current memory utilization is at a maximum of 80% and you make no configuration or feature changes to the system as part of the upgrade to Software Release 4.1.

ATTENTION

80% utilization is a conservative estimate. Systems as high as 90% utilization can successfully upgrade; however, such systems may not be able to scale (for example, FDB entries), or add additional features or functions. Therefore, Nortel highly recommends that you upgrade high-utilization systems to 256 MB. Because scaling is not always controllable, Nortel cannot guarantee the operation of such systems.

ATTENTION

For the 8393SF/CPU with 128 MB of DRAM, if the memory utilization of a system running 4.1.0.0 software exceeds 95%, a log message is generated as a warning. Under these conditions, Nortel highly recommends that you upgrade the memory to 256 MB to avoid any potentially negative system operations.

To view current memory utilization, use the **show sys perf** command.

8005DC power supply

The 8005 DC power supply provides 1462 watts (W) of power to the switch. You can use this power supply separately or in a redundant configuration. This power supply has no Power Over Ethernet (POE) capability.

For more information about the 8005DC power supply, see *Nortel Ethernet Routing Switch 8300 Installation — DC Power Supply*, NN46200-310.

8005DI DC dual input DC-DC switching power supply

The 8005DI DC dual input DC-DC is a dual input DC-DC switching power supply . This power supply provides two main outputs (3.38 VDC and 12 VDC) and a separate fan output (12 VDC) with a total maximum power rating of 1462 W. You can use this power supply separately, in parallel, or in a redundant configuration. This power supply has no Power over Ethernet (POE) capability.

For more information about the 8005DI DC dual input DC-DC switching power supply, see *Nortel Ethernet Routing Switch 8300 Installation — DC Power Supply*, NN46200-310.

New software features in Release 4.1

The following sections introduce the new software features in Release 4.1.

New software features Navigation

- [“Virtual Routing Forwarding Lite” \(page 34\)](#)
- [“V mode” \(page 34\)](#)
- [“Equal Cost MultiPath ” \(page 35\)](#)
- [“Routed Split MultiLink Trunking” \(page 35\)](#)
- [“IPv6 Management Stack” \(page 36\)](#)
- [“Multicast VLAN Registration Protocol” \(page 36\)](#)
- [“Link Aggregation Control Protocol ” \(page 36\)](#)
- [“Virtual Link Aggregation Control Protocol” \(page 37\)](#)
- [“Rapid Spanning Tree Protocol/ 802.1w” \(page 37\)](#)

- “Multiple Spanning Tree Protocol/802.1s” (page 38)
- “Deep Packet Pattern Matching filters ” (page 38)
- “HSecure operational improvements” (page 38)
- “Output Redirection Enhancement for the CLI show command (Q01654490-01)” (page 39)
- “Regular Expression Enhancement for the CLI grep command (Q01656405-01)” (page 40)
- “Future support for Nortel Secure Network Access 2.0” (page 42)
- “Future support for Nortel Secure Network Access Lite 3.0” (page 43)

Virtual Routing Forwarding Lite

You can use the Virtual Router Forwarding (VRF) Lite feature to allow a single Ethernet Routing Switch 8300 switch to act as many virtual routers (up to 128 virtual routers). Each virtual router copies the behavior of a dedicated hardware router by providing separate routing functionality, and is treated by the network as a separate physical router. Release 4.1 supports OSPF, RIP, and static routes, but it does not support multicast routing except on the base VRF (VRF 0: Global Routing Table [GRT]).

Ethernet Routing Switch 8300 Software Release 4.1 does not support inter-VRF policies including Inter-VRF Forwarding.

For more information about VRF Lite, see the following documents:

- *Nortel Ethernet Routing Switch 8300 Configuration — IP Routing Protocols*, NN46200-519
- *Nortel Ethernet Routing Switch 8300 Configuration — IP Routing* , NN46200-518

V mode

You must enable V mode on the Ethernet Routing Switch 8300 to support the VRF Lite feature and deep packet pattern matching filters. The following modules support V mode:

- 8394SF/CPU
- 8308XL
- 8348GB
- 8348GTX
- 8348GTX-PWR

You can select V mode by using the true selection in the V mode bootconfig flags commands in the CLI or NNCLI. V mode is not yet supported by Device Manager.

Non-V modules cannot operate in V mode: the non V modules are as follows:

- 8393SF/CPU
- 8324GTX
- 8324FX
- 8348TX
- 8348TX-PWR

For more information about V mode, see the following documents:

- *Nortel Ethernet Routing Switch 8300 Administration*, NN46200-604
- *Nortel Ethernet Routing Switch 8300 Configuration — IP Routing Protocols*, NN46200-519

Equal Cost MultiPath

With Equal Cost Multipath (ECMP), the Ethernet Routing Switch 8300 can determine up to four equal-cost paths to the same destination prefix. You can use the four paths for load sharing of traffic. ECMP supports Open Shortest Path Protocol (OSPF), Routing Information Protocol (RIP), and static routes.

For more information about ECMP, see *Nortel Ethernet Routing Switch 8300 Configuration — IP Routing*, NN46200-518.

Routed Split MultiLink Trunking

With Split MultiLink Trunking (SMLT), the switch can achieve rapid failover for network failures in Layer 2 environments. This improves high availability and redundancy while allowing all links to be active simultaneously in Layer 3 environments.

Routed Split MultiLink Trunking (RSMLT), an extension for SMLT, provides rapid failover for Layer 3 networks, using Layer 3 protocols, such as IP-RIP, IP-OSPF, or Static. RSMLT is not dependent on the routing protocol used in the network. The router redundancy is achieved by synchronizing the required forwarding information between Inter-Switch Trunk (IST) core Peer Switches.

The RSMLT implementation in Release 4.1 also supports RSMLT L2 Edge. RSMLT L2 Edge provides support for similar Layer 2 environments as does basic SMLT without the need for VRRP. RSMLT Edge is now the recommended configuration rather than SMLT with VRRP, although either configuration can be used.

For more information about RSMLT and RSMLT L2 Edge, see *Nortel Ethernet Routing Switch 8300 Configuration — IP Routing*, NN46200-518.

IPv6 Management Stack

The IPv6 Management Stack provides management capabilities through IPv6 to the Ethernet Routing Switch 8300. Release 4.1 supports IPV6 addressing for Telnet, Simple Network Management Protocol version 3 (SNMPv3) and Secure Shell (SSH). Release 4.1 supports IPv6 management only through out-of-band management on the management port. This release does not support routing, tunnelling, or IPv6 management through I/O module ports.

For more information about the IPv6 Management Stack, see *Nortel Ethernet Routing Switch 8300 Configuration — IP Routing*, NN46200-518.

Multicast VLAN Registration Protocol

The Multicast VLAN Registration (MVR) Protocol is an edge feature that permits the single multicast VLAN to be shared in the network while clients remain in separate VLANs. MVR is designed for use with supported applications such as wide-scale deployment of multicast traffic across an Ethernet ring-based service-provider network.

For more information about MVR, see *Nortel Ethernet Routing Switch 8300 Configuration — IP Multicast Routing Protocols*, NN46200-520.

Link Aggregation Control Protocol

Link Aggregation Control Protocol (LACP) allows bundling of a set of ports into a port group which is then represented as one logical interface to upper layer protocols. LACP dynamically manages switch ports and port memberships to form a Link Aggregation Group (LAG). LACP also provides a protocol to detect link layer failure and to determine link integrity as opposed to just Layer 1 physical link states. LACP is a point-to-point only protocol.

For more information about LACP (802.3ad), see *Nortel Ethernet Routing Switch 8300 Configuration — Link Aggregation, MLT and SMLT*, NN46200-517.

Virtual Link Aggregation Control Protocol

Virtual Link Aggregation Control Protocol (VLACP) is a Nortel extension of LACP. While VLACP provides only link integrity checking and no dynamic link group management, you can use it for end-to-end detection in a network as well as for point-to-point detection.

You can use VLACP either with single links or with MLTs, but do not use it with LACP-enabled MLTs.

If a Multilink Trunk (MLT) link group spans across a service provider network, a single-link failure on one side of the connection is not always detected. By providing an end-to-end failure mechanism that does not use LACP, and is based on the LACP protocol, the Ethernet Routing Switch 8300 provides a unique solution to improve network availability.

VLACP works at a port-to-port level but does not perform link aggregation. LACP and VLACP are independent features and are not interoperable. You can also use VLACP with SMLT or RSMLT configurations.

ATTENTION

Nortel recommends that you configure VLACP timers in multiples of 200ms, with lowest supported value being 400ms. If the configuration is not set to a multiple of 200ms, then the system will automatically run with the next higher value that maps to a multiple of 200ms. Therefore a config value of 500ms, will actually operate as if set to 600ms. VLACP timers do not have to match on opposite sides of a link. (Q01795980).

ATTENTION

For Release 4.1.0.0, VLACP and SLPP functions require an Advanced License. These features are both being moved under the Basic License. To find support for either or both of these features without requiring an Advanced License, users must move to 4.1.1.0 code. 4.1.0.0 code will only support these features via an Advanced License. Advanced Licenses will NOT be supplied to customers running 4.1.0.0 code to get support for these features.

For more information about VLACP, see *Nortel Ethernet Routing Switch 8300 Configuration — Link Aggregation, MLT and SMLT*, NN46200-517.

Rapid Spanning Tree Protocol/ 802.1w

802.1w is an evolution of the 802.1d that provides rapid convergence of the spanning tree by assigning port roles and by determining the active topology.

The Rapid Spanning Tree Protocol (RSTP)/802.1w provides a faster convergence time than the traditional Spanning Tree Protocol (STP).

802.1w can also revert back to 802.1d in order to interoperate with legacy bridges on a per-port basis.

For more information about RSTP, see *Nortel Ethernet Routing Switch 8300 Configuration — VLANs and Spanning Tree*, NN46200-516.

Multiple Spanning Tree Protocol/802.1s

The Multiple Spanning Tree Protocol (MSTP)/802.1s allows VLANs to be grouped into multiple spanning tree instances.

The ability to be grouped is important for resiliency as one failure in one domain does not impact other domains, as is the case for the regular Spanning Tree protocol. 802.1s provides other advantages as well, such as load-balancing.

For more information about MSTP, see *Nortel Ethernet Routing Switch 8300 Configuration — VLANs and Spanning Tree*, NN46200-516.

Deep Packet Pattern Matching filters

The Ethernet Routing Switch 8300 Release 4.1 offers deep-packet inspection to detect and block attacks that directly target applications and data using the packet payload. Using deep packet pattern match filters, the switch can identify the traffic content and completely block, rate limit, or shape this content, and can apply any filter rule to the packet. Deep packet pattern match filters rely on ACL-based filters that operate based on matches of up to 80 bytes deep in the packet, and can be configured up to the bit level.

You must enable V mode on the Ethernet Routing Switch 8300 to support deep packet pattern matching filters.

For more information about Deep Packet Pattern Matching Filters, see *Nortel Ethernet Routing Switch 8300 Configuration — QoS and IP Filtering*, NN46200-515.

HSecure operational improvements

When you set the HSecure flag to true using the CLI, you are prompted with the following messages:

- Warning: For security purposes, all insecure services – TFTP, FTP, Rlogin, Telnet, SNMP will be disabled. Individually enable the required services.
- Warning: If your CLI session is running over Telnet or Rlogin, you will be disconnected and will not be able to reconnect, without additional configuration changes. SSH will not be affected.
- Are you sure you want to continue (y/n) ?

You cannot set the HSecure flag to true using SNMP or Device Manager.

Previously, for a non-secure access such as Telnet, your session would be dropped prior to the warning messages appearing (non-secure services are disabled). With Release 4.1, the warning messages appear with a (y/n) continue option.

With Release 4.1, services can be enabled on an individual basis as required (for example SNMP) after setting HSecure to true. This was allowed previously but not maintained for all services across a re-boot. Now all individual service settings are maintained across a re-boot when the HSecure flag is set to true.

If you have a standby CPU, confirm the following:

- that all boot config flags in the standby CPU and the master CPU are configured the same, especially the hsecure flag before a re-boot
- Nortel suggests that you enable the savetostandby flag before you initiate a bootconfig save operation

As previously indicated, other services that may have been individually enabled, will now stay enabled after the re-boot.

For more information about password enforcement using the HSecure flag, see *Nortel Ethernet Routing Switch 8300 Commissioning* (NN46200-308).

If you set the HSecure flag to false the following messages will appear:

- WARNING: The change made will take effect only after the configuration is saved and the chassis is rebooted.
- Warning: Please change the hsecure flag on the standby CPU immediately.

Output Redirection Enhancement for the CLI show command (Q01654490-01)

This enhancement provides a mechanism to save the output of the CLI `show` command to a file on FLASH or PCMCIA.

Syntax

```
[show command] > [file]
```

[`show command`] is an instance of the CLI show command (for example `show ip arp info` or `show vlan info fdb-entry <vid>`).
[`file`] is the file name in the format `/pcmcia/<file> | /flash/<file>`. The file name, including the directory structure, can be up to 99 characters.

Regular Expression Enhancement for the CLI `grep` command (Q01656405-01)

Based on the existing CLI `grep` command, this enhancement provides a mechanism to `grep` the specified text file by using regular expression.

Syntax

```
grep <string> <file>
```

<string> is the character string to be matched, from 1 to 600 characters. <file> is a file name, in the form /pcmcia/<file> or /flash/<file>, from 1 to 99 characters.

The general usage of this enhancement includes using wildcard to search for expected MAC addresses:

1. Redirect the output of the `show vlan info fdb-entry <vid>` command to a file by running the `show vlan info fdb-entry <vid> > /flash/fdbentry.log` command.
2. Use wildcards to search expected MAC by using the `grep <regular expression> /flash/fdbentry.log` command. The `grep` will consider each line of the file as one independent string, and it will perform the regular expression searching according to the input criteria pattern.

This feature does not support the matching a string across lines. For example: if at the end of the first line there is a string such as "exam" and at the beginning of the second line there is a string such as "ple", the search criteria "example" will not match across these two lines.

The following table describes the operators that are supported for the regular expression.

Operator	Functional Description	Examples
.	Dot: Matches any single character.	A.A matches AxA and A2A etc G..D matches strings such as GooD, GabD and G12D etc
\	Backslash: Matches (escapes) special characters like ".*[]^?\$" etc. For example, if the user want to look for "[" in the string, the "\" should be specified as input.	192\.16\. matches 192.16.10.10 but not 192.168.10.10 \. allows a period to be matched as a period
[]	Square brackets: Matches the characters or a range of characters separated by a hyphen, within left and right square brackets.	[01357a-z] matches 1, 7, and w, but not 2, 6, or W.

Operator	Functional Description	Examples
^	Caret: Matches the character or null string at the beginning of an input string.	<code>^BCD</code> matches BCDE, but not ABCDE
?	Question Mark: Matches zero or one occurrence of the pattern. It has to be used with parentheses to be differentiated from the common help sign.	<code>(Go?d)</code> matches god and good
\$	Dollar sign: Matches the character or null string at the end of an input string.	<code>BCD\$</code> matches ABCD, but not ABCDE
*	Asterisk: Matches zero or more sequences of the character preceding the asterisk.	<code>A*</code> matches any occurrence of the number A including none
+	Plus: Matches one or more sequences of the character preceding the plus sign.	<code>A+</code> requires there to be at least one character A in the string to be matched
() []	Nest characters for matching. Separate endpoints of a range with a dash (-).	<code>(ab)*</code> matches any number of the two-character string ab <code>([A-Za-z][0-9])+</code> matches one or more instances of letter-digit pairs: b8 and W4, as examples.
 	Vertical line: Concatenates constructs. Matches one of the characters or character patterns on either side of the vertical bar.	<code>A(B C)D</code> matches ABD and ACD, but not AD, ABCD, ABBD, or ACCD

The following considerations apply:

- 1. The backslash("\") only applies to the Regular Expressions Operators listed in the above table (such as ".", "\", "[]" etc). However, if the backslash is applied to the normal letters (a-z A-Z) or numbers (0-9) ---- like "\a" or "\0", we will consider it as normal letter or number.
- 2. In the common command line interface (i.e. CLI/NNCLI, Solaris's sh/csh/ksh etc), the question mark "?" is always considered as a sign of asking for the help information of the current command. So, in this feature, we will use parentheses mark to specify that this question mark is for Regular Expression. For example, `(Go?d)` matches god and good.
- 3. Up to 9 pairs of parentheses in one regular expression are supported.

You can combine the period operator (.) and the asterisk operator (*) to implement the wildcard function. The following example matches the characters A and any characters that follow A; for example “A”, “Aabc”, “A1234”

A.*

You can reverse the matching of the range by including a caret (^) sign at the start of the range. The following example matches any letter except the ones listed:

[^a-gptw]

[^a-gptw] The following example matches anything except a right square bracket (]) or the letter D:

[^\]D]

The following table includes several common examples for your reference.

Expected Result	Regular Expression Pattern
String that contains “00:11:AA”	00:11:AA
String that contains “00”, “AA”, and between of them there can be any number of characters.	00.*AA
String that begins with “A” or “a”, and ends with digit 0~9.	^[Aa].[0-9]\$
String that begins with “filter”, and ends with “0xffff”	^(filter).*(0xffff)\$
String that contains the “. [] ()”, such as “[192.168.10.1]”	\[192\.168\.10\.1\]

Future support for Nortel Secure Network Access 2.0

Use the Nortel Secure Network Access (NSNA) 2.0 solution to guarantee endpoint security. NSNA provides security by enabling policy definition for role or identity-based access privileges. Policies are based on the security level of the device, user identity, and session context. NSNA additionally enforces security policy compliance to ensure that the required anti-virus applications, definitions or software patches are in effect before any user is granted access to the enterprise network.

NSNA also provides VLAN-based Media Access Control (MAC) authentication.

For more information about NSNA 2.0, see *Nortel Ethernet Routing Switch 8300 Security*, NN46200-605.

Future support for Nortel Secure Network Access Lite 3.0

Nortel Secure Network Access (NSNA) Lite 3.0 supports an NSNA VLAN on a non-NSNA port and Fail Open. With Fail Open, users can connect to the network when SNAS is unable to control the security of the switches.

For more information about NSNA Lite 3.0, see *Nortel Ethernet Routing Switch 8300 Security*, NN46200-605.

File names for this release

This section describes the Ethernet Routing Switch 8300 Software Release 4.1 software files and the hardware they support.

Table 1
Software files

Module or file type	Description	File name	Size in bytes
Software tar file	Tar file of all software files	v4.1.0.tar.gz	
Ethernet Routing Switch images			
Boot monitor image	Required SF/CPU firmware for the Ethernet Routing Switch 8300	p83b4100.img	1.0 MB
Runtime image	Required Ethernet Routing Switch 8300 image	p83a4100.img	8.5 MB
Runtime image for I/O modules	Runtime image required for I/O modules	p83r4100.dld	2.2 MB
Pre-boot monitor image	This pre-boot image file is only required to be loaded when upgrading from software release 2.0.0.1 and the pre-boot image version is below Release 3.7.	p83f4100.img	230 786
Software license	Needed for licensed features.	license.dat	variable

Table 1
Software files (cont'd.)

Module or file type	Description	File name	Size in bytes
MIB (zip file)	Zip file containing MIBs. This compressed .mib file contains a file named "manifest", which contains a list of the MIBs supported by the switch, including the private MIBs.	p83a4100.mib.zip p83a4100.mib (private MIB)	542 KB 3.3 MB
MD5 checksum file	Required for integrity check; contains Message Digest 5 (MD5) checksums for all files	p83a4100.md5	745
AES/SNMPv3 image	Encryption module required for SNMPv3 Advanced Encryption Standard (AES) and DES support	p83c4100.aes; only available from www.nortel.com/support	26 KB
3DES	Encryption module required for Secure Shell (SSH) Triple Data Encryption Standard (3DES) support	p83c4100.img; only available from www.nortel.com/support	51 MB
Device Manager images			
Solaris for SPARC image	Required for Device Manager for Solaris	jdm_6130_solaris_sparc.sh	
Microsoft Windows image	Required for Device Manager for Windows	jdm_6130.exe	
Linux image	Required for Device Manager for Linux	jdm_6130_linux.sh	

Important information and restrictions

This section describes important information and restrictions.

Important information and restrictions navigation

- [“Ensuring Device Manager Online Help displays correctly” \(page 45\)](#)
- [“Upgrading an advanced software license” \(page 45\)](#)
- [“Upgrading the switch to Release 4.1 software” \(page 46\)](#)
- [“Supported software and hardware capabilities” \(page 49\)](#)

Ensuring Device Manager Online Help displays correctly

Nortel supports the following two browsers for Java Device Manager Online Help:

- Netscape
- Internet Explorer

If you use Netscape as your Web browser, to ensure that the topics and table of contents display correctly when you make a context call to on-product Help, perform the following procedure once before you request Help on a topic:

1. Start the Netscape browser.
2. From the Tools menu, select **Options** (An Options window opens.)
3. In the Security and Privacy panel of the Options window, click **Site Controls**. (An Options - Site Controls window opens.)
4. Ensure that the **Site List** tab is selected.
5. Select **Local Files** in the Master Settings area of the window.
6. Select **Internet Explore** in the Rendering Engine area of the window.
7. Click **OK** to close the Options - Site Controls window.

Upgrading an advanced software license

Under some circumstances, you may require a new license. This depends on the version of the license file you are currently using. If you are running a pre-4.1 Release, you can use the show license command to check your version number. If the version number has a non zero value, you will require a new Advanced or Premier license in order to properly function with Release 4.1. Note that the show license command in Release 4.1 no longer shows a version number field. If you have any issues running any licensed feature, before you contact Technical Support, first obtain an updated license. If this does not resolve the issue, then contact Technical Support.

For information about how to install a Premier license, see *Nortel Ethernet Routing Switch 8300 Administration*, NN46200-604.

Upgrading the switch to Release 4.1 software

You can directly upgrade an Ethernet Routing Switch 8300 system (at Software Release 4.0.x.x or 3x.x.x) that is configured with the 8393SF/CPU module and 128 MB of memory to Software Release 4.1 without upgrading to 256 MB of memory if the following conditions exist:

- The current memory utilization is 80% or lower.
- You make no configuration or feature changes to the system as part of the upgrade to Software Release 4.1.

To view current memory utilization, use the `show sys perf` command.

ATTENTION

If the current memory utilization of the Ethernet Routing Switch 8300 system is greater than 80%, Nortel recommends that you upgrade the memory of the 8393SF/CPU module to 256 MB before you upgrade to Software Release 4.1.0.0.

For more information about the procedure to upgrade the switch to Release 4.1 software, see *Nortel Ethernet Routing Switch 8300 Upgrades — Software Release 4.1*, NN46200-400.

This section discusses issues related to the upgrading of the Ethernet Routing Switch 8300 to the current software.

Prerequisites

Before upgrading to Ethernet Routing Switch 8300 Software Release 4.1 you must do the following:

- Consult *Ethernet Routing Switch 8300 Commissioning*, NN46200-308 for security-related issues.
- Read the entire upgrade procedure before attempting to upgrade the software on the switch. The upgrade procedure causes interruption of normal switch operation. Refer to *Nortel Ethernet Routing Switch 8300 Upgrades — Software Release 4.1*, NN46200-400.
- Take special note of the following cautionary messages:
 - The configuration file generated with software release 4.1 contains options that are not backward-compatible with software release 3.0.x or earlier. Loading a 4.0.0.0 configuration file on a 3.0.x or earlier run-time image generates errors and causes the image to abort loading the configuration file.
 - Before executing any copy command (that uses the TFTP protocol), be aware that if there is any failure (including TFTP server not available, or TFTP Time Out), then the file on the flash (or the PCMCIA) is deleted if the name of this file is the same as the one that you specified in the copy command. For example:

If the server is not available, or if the `copy 111.111.1.11:p83a4100.img /flash/p83a4100.img` file on the server does not exist, the `p83a4100.img` file is deleted on the flash (if previously existing). To preserve the original file, you can either rename or make a backup copy of this file on the PCMCIA or flash before you begin the copy process.

**CAUTION**

Ensure your files are copied correctly to the flash. Nortel recommends that you use the MD5 checksum. Refer to “MD5 Command” in Nortel Ethernet Routing Switch 8300 Upgrades — Software Release 4.0 (NN46200-400).

- When you install files on the onboard flash or PCMCIA, verify flash capacity before downloading the files.

ATTENTION

As a precaution, before you upgrade or downgrade your switch software, make a copy of the switch configuration file specified in the `boot.cfg` file using the following CLI command:

```
copy/<device>/<config filename> <ftpServerIPAddr>:<config filename.old>
```

where device can be PCMCIA or flash.

- Nortel recommends that you have a copy of the `boot.cfg` file in the `/flash` directory. During bootup, if the `/flash/boot.cfg` file is not present, and if there is a PCMCIA card present, the 8300 Series switch searches for the file `/pcmcia/boot.cfg`. If a PCMCIA card is not present, or if the file `/pcmcia/boot.cfg` is not present, then the 8300 Series switch boots using the default boot-configuration settings.

**CAUTION**

If you are using a PCMCIA card manufactured by SanDisk, the 8300 Series switch may be unable to access the `/pcmcia/boot.cfg` file during bootup. This limitation has only been observed during bootup. No limitation has been observed when accessing the SanDisk device after bootup.

- In NNCLI mode, if you use a configuration file from a previous release, the configuration loading process can fail. This failure is because the functionality of the `end` command is redefined in Software Release 4.1.
-
- You can directly upgrade an Ethernet Routing Switch 8300 system (at Software Release 4.0.x.x or 3x.x.x) that is configured with the 8393SF/CPU module and 128 MB of memory to Software Release

4.1 without upgrading to 256 MB of memory if the following conditions exist:

- The current memory utilization is 80% or lower.
- You make no configuration or feature changes to the system as part of the upgrade to Software Release 4.1.

To view current memory utilization, use the **show sys perf** command.

ATTENTION

If the current memory utilization of the Ethernet Routing Switch 8300 system is greater than 80%, Nortel recommends that you upgrade the memory of the 8393SF/CPU module to 256 MB before you upgrade to Software Release 4.1.0.0.

Note about DLD files

When the boot configuration is saved in runtime, the current bootp DLD image names are saved in the boot.cfg file. If you load a new image without removing the bootp DLD entry references from the boot.cfg, then the new version of the file is not downloaded to the I/O boards.

- On boot up, if a DLD file is not configured in boot.cfg, the CP code searches for a DLD file with the following file name:
p83r<stream name><version>.dld
The stream name and version must match the CP image being initialized. If this file is found, its checksum is verified and it is downloaded to the I/O boards. If the boot configuration is saved, this is the DLD file name saved in boot.cfg.
- If the CP does not find this DLD file name in its flash, it searches for the following default file name:
p83r<stream name>.dld
Only the stream name must match the CP image being initialized. If this file is found, its checksum is verified and it is downloaded to the I/O boards. If the boot configuration is saved, this is the DLD file name saved in boot.cfg.

To make the system boot from the default DLD files, first clear the DLD file references made by boot.cfg.

Step	Action
1	Enter the boot monitor.
2	Enter the following command: <code>bootp image default</code> This clears the DLD file entries so that the new version of

p83r<stream name><version>.dld or p83r<stream name>.dld is loaded.

**CAUTION**

Do not interrupt the DLD download after it has started or failure can occur.

--End--

Supported software and hardware capabilities

This section lists the known limits for the Ethernet Routing Switch 8300 Software Release 4.1 and JDM 6.0.7.0 of the Ethernet Routing Switch 8300 Series software. These capabilities will be enhanced in subsequent software releases.

Feature	Maximum number supported	
Media Access Control (MAC)/forwarding data bases (FDB) Entries	Up to 16 000	
Address Resolution Protocol (ARP) Entries	Up to 2994	ATTENTION Dynamic ARP 2994 Static ARP 500
Spanning Tree Groups (STG)	Up to 64	
VLANs	Maximum number of VLAN IDs 4000 By-Port up to 512 IP Based By-Port up to 2000 non-IP Based	
MultiLink Trunk (MLT) Groups	Up to 31	ATTENTION <ul style="list-style-type: none"> For 8348TX, 8348TX-PWR, and 8324FX ports, you can use only Link Aggregation Groups 1-7. For 8348GB, 8324GTX, 8348GTX, and 8348GTX-PWR ports and 8393SF/CPU, you can use Link Aggregation Groups 1-31.
Split Multilink Trunking (SMLT) Groups	Up to 30 with 1 IST group	
Max Number of Links per MLT/SMLT/inter-switch trunking (IST) group	8	
Internet Protocol (IP) Interfaces	Up to 512	

Feature	Maximum number supported	
Static Routes	Up to 1000	
Routing Information Protocol (RIP)	Up to 8000 RIP Routes	
Open Shortest Path First (OSPF)	Up to 6 OSPF areas Up to 80 adjacency Up to 8000 OSPF routes	
OSPF combinations	TBD	
Virtual Router Redundancy Protocol (VRRP) Instances	Up to 256	
Virtual Routing Forwarding Instances	Up to 128	ATTENTION VRF OSPF Instances 12 VRF RIP Instances 24
Internet Group Management Protocol (IGMP) Snoop	Maximum number of IGMP Interfaces: 500 VLANs Maximum number of IGMP groups: 2000 IGMP Joins/sec: 200 IGMP Leaves/sec: 200	
Protocol Independent Multicast (PIM)	Up to 128 PIM neighbors Up to 512 (Source, Group) pairs	
Extensible Authentication Protocol over LAN (EAPoL) 802.1X supplicants	Up to 8 supplicants per port	
Remote Access Dial-in User Service (RADIUS) Media Access Control (MAC) centralization clients	Up to 8 supplicants per port	
Link Layer Discovery Protocol (LLDP) Neighbors	Up to 384	
IP Filters		
ACL	Up to 512 (IP or non-IP based)	
ACT	With one ACL, up to 34 (IP or non-IP based)	
ACE	With one ACL and one ACT, up to 128 (IP or non-IP based)	
ACG	With one ACL, one ACT and one ACE, up to 1 024 (IP or non-IP based)	
Multicast VLAN Registry	Up to 256 receiver VLANs	

Supported Standards (IEEE, RFCs and others)

This section identifies the 802 standards, RFCs, and network management MIBs supported in this release.

Supported Standards	
802.1D	MAC Bridges (Spanning Tree Protocol)
802.1p	Traffic Class Expediting
802.1Q	Virtual LANs
802.1X	Port-Based Network Access Control (Extensible Authentication Protocol)
802.1AB	Station and Media Access Control Connectivity Discovery (LLDP)
802.3	10BASE-T (ISO/IEC 8802-3, Clause 14)
802.3u	100BASE-T (ISO/IEC 8802-3, Clause 25)
802.3u	Auto-Negotiation on Twisted Pair (ISO/IEC 8802-3, Clause 28)
802.3x	100Mb/s Full Duplex Operation
802.3z	Gigabit Ethernet (1000BASE-X)
802.3ab	1000BASE-T
802.3ae	10Gb/s Ethernet (10GBASE-X)

Supported IPv4 standards	
RFC 768	User Datagram Protocol (UDP)
RFC 783	Trivial File Transfer Protocol (TFTP) v2
RFC 791	IP
RFC 792	Internet Control Message Protocol (ICMP)
RFC 793	Transmission Control Protocol (TCP)

Supported IPv4 standards	
RFC 826	Ethernet Address Resolution Protocol
RFC 854	Telnet protocol
RFC 903	Reverse ARP
RFC 1058	RIP
RFC1112	Host Extensions for IP Multicasting
RFC1157	Simple Network Management Protocol (SNMP)
RFC1213	TCP/IP Management Information Base (MIB)-II
RFC1493	Bridge MIB
RFC 1519	Classless Inter-Domain Routing (CIDR)
RFC1541	Dynamic Host Configuration Protocol (DHCP)
RFC1542	Bootstrap Protocol (Clarifications and Extensions)
RFC1591	Domain Name System
RFC1757	Remote Network Monitoring
RFC1812	IPv4 Router Requirements
RFC1850	OSPFv2 MIB
RFC1866	HyperText Markup Language v2
RFC 2068	Hypertext Transfer Protocol (HTTP) v1.1
RFC 2138	RADIUS Authentication
RFC2139	RADIUS Accounting

Supported IPv4 standards	
RFC 2328	OSPFv2
RFC 2236	IGMPv2
RFC2338	VRRP
RFC 2362	Protocol Independent Multicast-Sparse Mode (PIM-SM)
RFC2453	RIPv2
RFC2474	Differentiated Services in IPv4 and IPv6
RFC2475	Differentiated Services
RFC2570	Simple Network Management Protocol (SNMP)v3
RFC2571	SNMP Frameworks
RFC2572	SNMP Message Processing and Dispatching
RFC2573	SNMPv3 Applications
RFC2574	SNMPv3 User-based Security Model (USM)
RFC2575	SNMPv3 View-based Access Control Model (VACM)
RFC2576	SNMP Coexistence of v1, v2, & v3 of Internet Network Management Framework
RFC2597	Assured Forwarding per hop behavior (PHB) Group
RFC2598	Expedited Forwarding PHB
RFC2665	Ethernet MIB
RFC2737	Entity MIBv2

Supported IPv4 standards	
RFC2787	VRRP MIB
RFC 2819	Remote Monitoring (RMON) MIB
RFC2863	Interfaces Group MIB

The Ethernet Routing Switch 8300 is an SNMPv1/v2/v2c/v3 agent with Industry Standard MIBs, as well as private MIB extensions, which ensures compatibility with existing network management tools.

These MIBs are provided with different versions of code. Consult the Nortel website where a file named mib.zip contains all these MIBs, and a special file named manifest for the order of the MIB compilation.

Standard MIB name	IEEE	File name
802.1ab	802.1ab	ieee8021ab.mib ieee8021ab1x.mib ieee8021ab3x.mib ieee8021abMed.mib
EaPoL (802.1X)	802.1X	ieee8021x.mib

Standard MIB name	RFC	File name
IANA Interface type	n/a	iana_if_type.mib
SMI	RFC1155	rfc1155.mib
SNMP	RFC1157	rfc1157.mib
MIB for network management of TCP/IP based Internet MIBs	RFC 1213	rfc1213.mib
A convention for defining traps for use with SNMP	RFC 1215	rfc1215.mib
RIP version 2 MIB extensions	RFC1389	rfc1389.mib
Definitions of Managed Objects for Bridges	RFC1493	rfc1493.mib
Evolution of the Interface Groups for MIB2	RFC1573	rfc1573.mib
Definitions of Managed Objects for the Ethernet-like Interface types	RFC1643	rfc1643.mib

Standard MIB name	RFC	File name
Definitions of Managed Objects for the Fourth Version of the Border Gateway Protocol (BGP-4) using SMIv2	RFC1657	rfc1657.mib
RIP version 2 MIB extensions	RFC1724	rfc1724.mib
Remote Network Monitoring Management Information Base (RMON) Note: Ethernet Routing Switch 8300 supports Alarms, Events, Statistics and History.	RFC1757/RFC2819	rfc1757.mib
OSPF Version 2 Management Information Base	RFC1850	rfc1850.mib
Management Information Base of the Simple Network Management Protocol (SNMPv2)	RFC1907	rfc1907.mib
Remote Network Monitoring Management Information Base (RMON) version 2 using SMIv2	RFC2021	rfc2021.mib
IP Forwarding Table MIB	RFC2096	rfc2096.mib
The Interfaces Group MIB using SMIv2	RFC2233	rfc2233.mib
An Architecture for Describing SNMP Management Frameworks	RFC2571	rfc2571.mib
Message Processing and Dispatching for the Simple Network Management Protocol (SNMP)	RFC2572	rfc2572.mib
SNMP Applications	RFC2573	rfc2573.mib
User-based Security Model (USM) for version 3 of the Simple Network Management Protocol (SNMP)	RFC2574	rfc2574.mib
Coexistence between Version 1, Version 2, and Version 3 of the Internet-standard Network Management Framework	RFC2576	rfc2576.mib
Definitions of Managed Object for Bridges with Traffic Classes, Multicast Filtering, and Virtual LAN extensions	RFC2674	rfc2674.mib

Standard MIB name	RFC	File name
Textual Conventions for Internet Network Addresses	RFC2851	rfc2851.mib
The Interface Group MIB	RFC2863	rfc2863.mib
Internet Group Management Protocol MIB	RFC2933	rfc2933.mib
The Advanced Encryption Standard (AES) Cipher Algorithm in the SNMP Used-based Security Model	RFC3826	rfc3826.mib
VRRP (Virtual Router Redundancy Protocol)	RFC2787	rfc2787.mib

Supported Standards	
Rapid City MIB	rapid_city.mib
Rapid City MIB	synro.mib
Other SynOptics definitions	s5114roo.mib
Other SynOptics definitions	s5tcs112.mib
Other SynOptics definitions	s5emt103.mib
Nortel IGMP MIB	rfc_igmp.mib
Nortel VRRP MIB	vrrp_rcc.mib
Nortel MIB definitions	wf_com.mib
OSPF Version 2 Management Information Base-Nortel	rfc1850t_rcc.mib

Ethernet Routing Switch 8010/8006 chassis support

With Releases 4.1 and later, Nortel does not recommend or support the use of Ethernet Routing Switch 8300 modules in an Ethernet Routing Switch 8010 or Ethernet Routing Switch 8006 chassis.

Supported SFPs

This section lists the transceivers supported by the Ethernet Routing Switch 8300.

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

SFP order number	SFP type	Reach
AA1419025	1470nm/Gray 1000BASE CWDM	Up to 40 km
AA1419026	1490nm/Violet 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

SFP order number	SFP type	Reach
AA1419069 ATTENTION Release 3.0 is required for recognition of this SFP.	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 ATTENTION Release 3.0 is required for recognition of this SFP.	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

For detailed information about SFPs, refer to *Nortel Ethernet Routing Switch 8300 Installation — SFPs and XFPs*, NN46200-307.

Supported XFPs

XFPs are hot-swappable input/output enhancement components designed for use with Nortel products to allow 10 Gigabit Ethernet ports to link with other 10 Gigabit Ethernet ports. Digital diagnostic monitoring (DDM) provides real-time access to device operating parameters. All XFPs come with DDM capability.

All Nortel XFPs use LC connectors to provide precision keying, low interface losses, and space savings.

[Table 2 "XFP models" \(page 58\)](#) lists and describes the Nortel XFP models.

Table 2
XFP models

Model number	Product name	Description
10GBASE-SR	AA1403005-E5	850 nanometers (nm). The range is up to <ul style="list-style-type: none"> • 22 m using 62.5 micrometer (μm), 160 megaHertz times km (MHz-km) MMF • 33 m using 62.5 μm, 200 MHz-km MMF • 66 m using 62.5 μm, 500 MHz-km MMF

Model number	Product name	Description
		<ul style="list-style-type: none"> • 82 m using 50 μm, 500 MHz-km MMF • 82 m using 50 μm, 500 MHz-km MMF
10GBASE-LR/LW	AA1403001-E5	1310 nm SMF. The range is up to 10 km.
10GBASE-ER/EW	AA1403003-E5	1550 nm SMF. The range is up to 40 km.
10GBASE-ZR/ZW	AA1403006-E5	1550 nm SMF. The range is up to 80 km.
10GBASE-LRM	AA1403007-E6	1310 nm MMF. The range is up to 220m.

Hot-removal/hot-insertion of Ethernet Routing Switch 8300 modules

In general, after you hot-insert or hot-remove an Ethernet Routing Switch 8300 module, you must wait 30 seconds before performing another hot-insertion or hot-removal of a module.

Hot-removal of master CPU

In a dual CPU configuration, both CPUs require the same set of images at all times. When you insert a new CPU in the Ethernet Routing Switch 8300, ensure that it has the same set of boot and runtime images as the existing CPU.

Removing the master CPU can result in a configuration loss for the removed CPU if it is replaced in the Ethernet Routing Switch 8300. To avoid this situation, follow these instructions if you need to remove a master CPU from an 8300 chassis:

Step	Action
1	Use the save to standby option to automatically save both the boot and the configuration files to both CPUs (master and standby).
2	If you are using the out-of-band Ethernet port of the 8393SF/CPU or 8394SF/CPU module for management, add a virtual IP address.

The virtual IP address allows access to the master CPU whether the master CPU is slot 5 or slot 6.

- 3 Perform a soft reset on the master CPU to cause failover to occur.
- 4 Wait until the new master comes up and the old master becomes the standby.
- 5 Remove the standby CPU.
If you need to reinsert this CPU, you must wait at least 60 seconds.

--End--

Note that if you remove the master CPU without following this procedure and then save the configuration after removal, the new configuration does not contain the removed CPU configuration. You then need to reconfigure the CPU ports.

To avoid this issue, back up the existing configuration file before saving any configuration. After you insert the removed CPU, you can then reboot the switch with the backup configuration file to restore the configuration. For more information about warm standby, see *Nortel Ethernet Routing Switch 8300 Planning and Engineering Network Design Guidelines*, (NN46200-200).

Resolved issues

Use the information in this section to learn about all issues fixed for Release 4.1.

Resolved issues navigation

- [“Platform resolved issues” \(page 61\)](#)
- [“CLI and NNCLI resolved issues” \(page 62\)](#)
- [“Device Manager resolved issues” \(page 63\)](#)
- [“Layer 2 resolved issues” \(page 63\)](#)
- [“IP Unicast resolved issues” \(page 63\)](#)
- [“Bandwidth management resolved issues” \(page 63\)](#)
- [“Security resolved issues” \(page 64\)](#)
- IPv6 resolved issues
- [“MLT/SMLT resolved issues” \(page 64\)](#)
- [“Switch management resolved issues” \(page 64\)](#)

Hardware resolved issues

CR references	Description

Platform resolved issues

Table 3
Platform resolved issues

CR references	Description
Q01744042	The power-limit allocation function of PoE modules (config poe card <slot_number> power-limit <value>) functions properly now for all values within the acceptable range.

Table 3
Platform resolved issues (cont'd.)

CR references	Description
Q01749411	All I/O modules will now be properly initialized after being hot swapped.
Q01588716-01	Link negotiation between 8348GTX / 8348GTX-POE / 8324GTX card and any external devices using Broadcom NICs will now operate properly under all conditions.
Q01678495	Previously during a hotswap and hot insertion, LLDP-tx-tlv dot1, dot3 and MED could experience some issues. This is no longer seen.
Q01692535	The pd_detect_type is displayed differently with the CLI and NNCLI than with Device Manager, when the POE oper state is off. The CLI and NNCLI shows the current status, and Device Manager shows the current configuration.

CLI and NNCLI resolved issues

Table 4
CLI and NNCLI resolved issues

CR references	Description
Q01153279-01	In CLI and NNCLI modes, the description for the "default-metric" now is defined as the following: Set the value of the default metric to apply to routes imported into the RIP domain. This metric sets the value used for routes not learned through RIP if a route policy does not specify a metric for a particular protocol (OSPF etc). The value 0 is used to deconfigure this parameter and restore the default value (the default value is 8).
Q01824082	The configuration of "autotopology" in NNCLI now takes effect properly across a system reboot.

Device Manager resolved issues

Table 5
Device Manager resolved issues

CR references	Description
Q01785567	JDM: static arp cannot create when same ip existed in arp entry. In Device Manager you cannot create or modify ARP while an ARP entry with the same IP already exists.
Q01523005	Some MIB counters have been changed from 32 bits to 64 bits to correctly show potentially larger values for statistics.

Layer 2 resolved issues

Table 6
Layer 2 resolved issues

CR references	Description
Q01826915	The ERS8300 no longer has connectivity issues and incorrectly sends out packets with a destination MAC address of all Zeros, when any host is switched between different ports of the same VLAN.

IP Unicast resolved issues

Table 7
IP Unicast resolved issues

CR references	Description
Q01812274	Static routes now become inactive when their next hop is unreachable.
Q01783625	An ARP entry for a VRRP IP address will now be correctly populated, if a VRRP transition happens.

Bandwidth management resolved issues

Table 8
Bandwidth management resolved issues

CR references	Description
Q01399831	Clear filter statistics command now functions properly.

Security resolved issues

Table 9
Security resolved issues

CR references	Description
Q01755998	

MLT/SMLT resolved issues

Table 10
MLT/SMLT resolved issues

CR references	Description
Q01740028-02	MAC updating because of a remote SMLT port down no longer adversely affects CPU utilization.

Switch management resolved issues

Table 11
Switch management resolved issues

CR references	Description
Q01802262	A SNMP MIB walk for the table "rcBridgeNewFd bTable", the system now returns the results that are contiguous in the lexicographical ordering.
Q01746661	The system login banner and boot banner of the ERS8300 are correctly shown as "Ethernet Routing Switch" now.
Q01744400-01	The value of the "Usage" column, which is under the Menu "Edit" -> "Security" -> "Access Policies" in JDM, now increases when the device is accessed via SNMP (i.e. JDM or other SNMP device managers).
Q01789274-02	The port scanning over the management port no longer can cause system instability.
Q01646621-01	There is no longer an error message displayed when the command to show the dhcp-relay counters is executed under CLI.

Known issues

Use the information in this section to learn more about known issues in Ethernet Routing Switch 8300 Release 4.1. These are to be resolved in a future release. Where applicable, use the workarounds provided for the known issues.

Known issues navigation

- [“Platform known issues” \(page 65\)](#)
- [“Device Manager known issues” \(page 66\)](#)
- [“Layer 2 known issues” \(page 66\)](#)
- [“Multicast known issues” \(page 67\)](#)
- Bandwidth management known issues
- [“OSPF known issues” \(page 67\)](#)
- Security known issues
- [“Miscellaneous known issues” \(page 67\)](#)
- [“Known documentation issues” \(page 68\)](#)

Platform known issues

Table 12
Platform known issues

CR references	Description
Q01040803	If you change the management IP address for the switch from the command line interface, some inconsistent switch behavior can occur. Workaround: Nortel recommends that you change the management IP address for the switch from only the monitor prompt.

Device Manager known issues

Table 13
Device Manager known issues

CR references	Description
Q00834504	<p>The 802.1p-to-dscp table is not available in the Device Manager. However, it is available in the CLI and NNCLI.</p> <p>The p-to-dscp table is not available in Device Manager. However, this table is available in the CLI and NNCLI.</p>
Q00802165	<p>You cannot convert a MAC auto-learned entry to manual via the CLI and NNCLI. You can only do so via the Device Manager using the VLAN > Mac Learning > VlanMacLearning dialog boxes.</p> <p>You cannot convert a MAC autolearned entry to manual through the CLI and NNCLI. You can only do so through Device Manager using the VLAN, Mac Learning, VlanMacLearning dialog boxes.</p>
Q00780367	<p>In Device Manager, the DSCP to CoS Map table is missing the column specifying the DSCP value. This option is available in the CLI and NNCLI.</p> <p>In Device Manager, the DSCP to CoS Map table is missing a column to specify the DSCP value. This option is available in the CLI and NNCLI.</p>
Q01858129-01	<p>If you type non-printable ASCII characters (symbols) for a configuration parameter value, the system considers the input for that parameter to be a binary value in the configuration file, and the parameter value will display incorrectly.</p> <p>Workaround: Nortel recommends that you type a new value for the parameter including only printable ASCII characters.</p>

Layer 2 known issues

Table 14
Layer 2 known issues

CR references	Description
Q00860990	<p>If you remove a module that has associated static FDB or FDB-filter entries, the CLI command <code>show vlan info all</code> shows information for ports that are no longer present. This is a display issue only and does not affect the operation of the Ethernet Routing Switch 8300.</p>

Multicast known issues

Table 15
Multicast known issues

CR references	Description
Q01749914-01	From NNCLI, you cannot configure a PIM BSR on a circuitless IP (CLIP). However from regular CLI, you can perform this operation.
Q01548125	<p>Multicast group IP cannot map to the same MAC address as reserved multicast IP. Nortel recommends not to use a multicast group for user traffic for which the MAC address of that multicast IP is mapped to a reserved multicast address.</p> <p>Workaround: Nortel recommends that you do not use a multicast group for user traffic for which the MAC address of that multicast IP is mapped to a reserved multicast address.</p>
<p>ATTENTION The Ethernet Routing Switch 8300 Software Release 4.1 does not support sub-second failover on switch recovery for every Multicast SMLT (Multicast SMLT) environment.</p>	

OSPF known issues

Table 16
OSPF known issues

CR references	Description
Q01891773	<p>An OSPF router ID should not appear in the configuration file of a system that does not have OSPF configured. For systems without an Advanced or Premier License and with no OSPF support, the following invalid log message can appear: “SW WARNING Code=0x1ff0c01 Software license violation”</p> <p>Nortel recommends that users without an Advanced or Premier License ignore this message.</p> <p>Nortel recommends that users with an Advanced or Premier License investigate the cause of this message.</p>

Miscellaneous known issues

Table 17
Miscellaneous known issues

CR references	Description
Q01140665	BGP-only fields that are not applicable to RIP under the CLI Route Policies node are being displayed and need to be hidden or removed.

Known documentation issues

This section contains known issues in published documentation for Release 4.1. This information will be added to the documentation for the next release.

Installation — AC Power Supply (NN46200-301)

This document does not list the Mean Time Before Failure (MTBF) value for the 8302AC power supply. The MTBF for the 8302AC is 238,322 hours.

Known limitations

Use the information in this section to learn more about known limitations. These CRs are classified as operation not to be changed.

Known limitations navigation

- [“Hardware/software known limitations” \(page 69\)](#)
- [“Hardware known limitations” \(page 70\)](#)
- [“Platform known limitations” \(page 70\)](#)
- [“CLI and NNCLI known limitations” \(page 71\)](#)
- [“Layer 2 known limitations” \(page 72\)](#)
- [“QoS known limitations” \(page 73\)](#)
- [“Multicast known limitations” \(page 73\)](#)
- [“Bandwidth management known limitations” \(page 74\)](#)
- [“OSPF known limitations” \(page 77\)](#)
- [“Security known limitations” \(page 77\)](#)
- [“Miscellaneous limitations” \(page 77\)](#)

Hardware/software known limitations

Table 18
Hardware/software known limitations

CR references	Description
Q01813362	The 8348GTX&8348GTX-POE modules adopted an advanced technology to provide better efficiency and effectivity. There is a hardware limitation on this architecture: when a QoS shaper is configured on one port, this configuration will actually affect four related ports (3 additional ports). This affect is in groups of 4 ports like <1,5,9,13>, <2,6,10,14>, <3,7,11,15> etc. So any such configuration on any one of the same group port, affects all 4 ports. Similarly (for example), such a configuration on port 7, affects ports 3, 11 and 15.

Hardware known limitations

Table 19
Hardware known limitations

CR references	Description
Q00961155	<p>The current Ethernet Routing Switch 8300 software does not support a modular automatic power pruning function. When the total Available Power for allocation is 0 and an additional PoE module is inserted, the additional module will not receive any PoE power even if it is configured with Critical Priority.</p> <p>Workaround: Nortel recommends that you manually administratively disable a selected PoE module in order to release the power to the higher priority module.</p>

Platform known limitations

Table 20
Platform known limitations

CR references	Description
Q00851722	When the CP rate limit feature is required on MLT ports, the user must configure the rate on all MLT ports manually.
Q01439225	<p>Modifications or deletions of an OSPF area aggregate entry do not take effect unless you globally disable and then re-enable OSPF,</p> <p>Workaround: If you delete or dynamically modify an area aggregate, Nortel recommends that you globally disable and then reenable OSPF.</p>
Q01356776	If you use the port mirroring feature while monitoring LLDP packets, the mirrored packets can miss four bytes from Ethertype and chassis ID TLV.
Q01403458	<p>Tracing of LLDP task 68 above level 1 to the console can block Telnet, SNMP, and transmission and reception of LLDP frames, Ping responses and the ability to respond to ARP</p> <p>Workaround: If trace level 68 is needed for debugging purposes, Nortel recommends that you run only level 1.</p>

Table 20
Platform known limitations (cont'd.)

CR references	Description
Q01370691	<p>When you run port mirroring with the mirroring and mirrored ports on different I/O modules, the traffic analyzer can sometimes see a 4 byte tag on untagged packets.</p> <p>Workaround: Nortel recommends that if you see this situation, configure port mirroring on the same I/O module.</p>
Q00755304	<p>When you enable the VCT test, the PHY waits a fixed amount of time before sending out the TDR test pulse. This is to ensure that the link is broken and that the link partner is not sending 10/100/1000Mbps traffic. As soon as the VCT test is finished, the PHY automatically resumes normal operation. This means that auto-negotiation may start again and the link is then re-established, which will take some time.</p>

CLI and NNCLI known limitations

Table 21
CLI and NNCLI known limitations

CR references	Description
Q01041504	<p>You can use decimal as well as hex input for the user-defined PID when configuring user-defined protocol-based VLANs. CLI and NNCLI help text does not indicate that you can use both.</p>
Q01010343	<p>In the NNCLI, the command <code>eapol re-authenticate</code> displays some garbage (incorrect) characters along with the EAP authentication messages.</p> <p>In the NNCLI, the command <code>eapol re-authenticate</code> displays some incorrect characters along with the EAP authentication messages.</p>
Q00816522	<p>You cannot display the auto-learned MAC for a specific port in the NNCLI. Instead, it only shows the number of MACs learned. When you enter <code>show interfaces vlan autolearn</code>, it does not provide an option to specify a port.</p> <p>You cannot display the autolearned MAC for a specific port in the NNCLI. Instead, the NNCLI only shows the number of MACs learned. When you enter <code>show interfaces vlan autolearn</code>, the display does not provide an option to specify a port.</p>

Layer 2 known limitations

Table 22

Layer 2 known limitations

CR references	Description
Q01436928	Unlike other I/O modules, 8348GB card sends out a shutdown LLDP PDU before it goes down when administratively disabled.
Q00841632	<p>If you delete selected ports bound to multicast MAC filtering and then source the configuration (<code>source config.cfg</code>), the deleted ports do not get restored as originally configured. The reason for this is that the MAC is already learned before you source the configuration. Thus, the port does not get added to the MAC.</p> <p>If you delete selected ports bound to multicast MAC filtering and then source the configuration (<code>source config.cfg</code>), the deleted ports are not restored as originally configured. This is because the MAC is already learned before you source the configuration. Thus, the port does not get added to the MAC.</p>
Q00802887	<p>The autolearned MAC entry does not get re-learned after a conversion to manual entry and deletion until the FDB entry ages out. When you convert, you delete the manually entered MAC entry in the unknown MAC discard table. However, the FDB entry itself is not deleted.</p> <p>The autolearned MAC entry is not relearned after a conversion to manual entry and deletion until the FDB entry ages out. When you convert, you delete the manually entered MAC entry in the unknown MAC discard table. However, the FDB entry itself is not deleted.</p>

QoS known limitations

Table 23
QoS known limitations

CR references	Description
Q01256112	<p>When two different Scheduling groups are used, traffic flow is not expected. For example, if we are egressing traffic from two 8348GTX-PWR Gigabit ports into one 8348GTX-PWR Gigabit port and the two transmit streams have a QoS level of 3 and 4, if level 3 and 4 have the same scheduling group (say both are dwrr1,dwrr0 or strict priority), then traffic arrives as expected. However, if we change level 3 to DWRR1 and level 4 to DWRR0, the highest priority traffic always has less drops even though it is in a lower scheduling group i.e, 4 has a higher priority even though it has lower scheduling group.</p> <p>There are 8 hardware priority queues. By default, all queues are configured to use DWRR1 scheduling group. It is not recommend that the user change a higher priority queue to use DWRR0 while the lower priority queues still use DWRR1</p>

Multicast known limitations

Table 24
Multicast known limitations

CR references	Description
Q00889744	IGMP static receivers are not supported in the Ethernet Routing Switch 8300.
Q00791636	In the NNCLI and CLI, <code>show ip igmp interface</code> displays the IGMP snoop interfaces. Those interfaces that are not IGMP-enabled are shown as inactive if the interface is IP-enabled, or was previously IGMP snoop enabled.

Table 24
Multicast known limitations (cont'd.)

CR references	Description
Q00737617	<p>On an IGMP snoop device, the sender is available only if the traffic is unregistered. In other words, no receiver exists locally on the device. Otherwise, sender information will not be available on a snoop device</p> <p>.</p> <p>On an IGMP snoop device, sender information is available only if the traffic is unregistered (In other words, no receiver exists locally on the device.). If the traffic is registered, sender information is not available on an IGMP snoop device.</p>
Q01595453	The user cannot flush FDB entries learned on an MLT by flushing MAC on an MLT member.
Q01536016	When IGMP Snooping is running in a multicast square SMLT, if one of the IST trunk fails, traffic can be lost and only recovers when the IST trunk comes back up.
Q01659446	When IGMP snooping is enabled, NLB multicast mode may flood multicast traffic.

Bandwidth management known limitations

Table 25
Bandwidth management known limitations

CR references	Description
Q00879816	The VLAN ID range 1–4000 is supported under VLAN configuration for data traffic. The remainder of the VLAN ID range that displays is reserved for network control traffic. Do not configure filters to match the reserved VLAN ID range.

Table 25
Bandwidth management known limitations (cont'd.)

CR references	Description
Q00831460	<p>A common pool of 128 records exists for both policies (policers) and filter stats. If this pool is exhausted and an additional record is requested, an error message like the following appears: QOS ERROR gtcMCreateTcEntry: Failed, status = 20</p> <p>Workaround: Nortel recommends that if the error message appears, you must delete one filter stat instance or policer before adding another.</p>
Q00803181	<p>You can configure different filter remarking values for ports within an MLT.</p> <p>Workaround: Nortel recommends that you configure the same remarking values across all ports in an MLT.</p>
Q00799518	<p>When you use remark-user-priority, filter counters and stats can show invalid values.</p>
Q00797808 Q00806856	<p>Partial masking of Access-Template fields is not supported. For example, Access-Template Src Mac field defined as 00:00:00:ff:ff:ff is not a supported configuration.</p>
Q00788755	<p>There is no provision in the Ethernet Routing Switch 8300 Layer 2 commands to look up the DSCP value based on the .p bit.</p>
Q00787044	<p>If you enter <code>show filter access-list statistics</code> in the CLI when ACE MatchCountMode is disabled, an error message should appear indicating that the feature is not enabled. Currently, the console shows all 0 counters without any traffic or warning messages.</p>
Q00785991	<p>No statistics are available for traffic shaping.</p>
Q00785950	<p>In some configurations, egress counters for multicast traffic show the counter values for unicast traffic when a port belongs to a protocol-based VLAN. In such instances, these counters are not shown under the unicast counter values.</p>

Table 25
Bandwidth management known limitations (cont'd.)

CR references	Description
Q00785103	You can apply fdb-filters to ports but they act only on VLANs. For example, if you assign an fdb-filter to a port in a VLAN, all ports in that VLAN will act on the filter. If the port to which the fdb-filter is assigned is disabled or goes down unexpectedly, the filter remains in effect for all other ports in the VLAN.
Q00783246	When you poll statistics for the QoS egress-counter-set, counters are reset to zero. You cannot gather a cumulative number of packets over a period of time using this feature if you execute <code>show qos egress-stats</code> . When you poll statistics for the QoS egress-counter-set, counters are reset to zero. You cannot gather a cumulative number of packets over a period of time using this feature if you use the <code>show qos egress-stats</code> command.
Q00783246 Q00783234	The Policing remarking feature does not work when you use the <code>remark-user-priority</code> command for DiffServ remarking.
Q00765155	As it appears in the CLI, the maximum value of the committed and peak burst rate is misleading. The Ethernet Routing Switch 8300 shows only a fixed maximum value of 65535, which does not change based on the configuration. The actual maximum value is calculated from the committed and peak information rates.
Q00755441	In the Ethernet Routing Switch 8300, the VLAN QoS level is supported only on protocol-based VLANs.
Q00730427	QoS shaping does not perform correctly at lower rates. There is a 10–20% variation in the actual traffic rate as compared with the configured rate.
Q00697474	The 802.1p bit is not overwritten for untrusted Layer 2 ports. You can use filters to perform the same functions.

OSPF known limitations

Table 26
OSPF known issues

CR references	Description
Q01420932	If you set the transit delay higher than 900, the neighbors can get stuck in OSPF exchange state. Workaround: Nortel recommends that you set the transit delay timer to 900 or less.

Security known limitations

Table 27
Security known limitations

CR references	Description
Q01271108	The RADIUS accounting UDP port configuration change cannot be saved. The default port for RADIUS accounting is 1813, which works for all the current RADIUS servers and is the port to use according to RFCs. After a reboot or config source, the port returns to the default of 1813.
Q00819777	Note that tagging and EAP are mutually exclusive. If you enable EAP on a port, using auto or force-authorize, you cannot enable tagging on the port, and vice versa. Tagging and EAP are mutually exclusive. If you enable EAP on a port, using auto or force-authorize, you cannot enable tagging on the port, and conversely.

Miscellaneous limitations

Table 28
Miscellaneous limitations

CR references	Description
Q01140665	BGP-only fields that are not applicable to RIP under the CLI Route Policies node are being displayed and need to be hidden or removed.

Table 28
Miscellaneous limitations (cont'd.)

CR references	Description
Q01131665	A <code>save config</code> success message can follow a failure message. Workaround: Check flash to ensure sufficient free space and then redo the save config.
Q00773426	If you enable port mirroring on a tagged interface, the mirrored packets will not contain the 802.1Q header.

Translations of Safety Messages

This section contains translations of precautionary notices that you must read and follow for safe operation of the Ethernet Routing Switch 8300.

Electromagnetic interference caution statement

**CAUTION**

This device is a Class A product. Operation of this equipment in a residential area is likely to cause harmful interference, in which case users are required to take appropriate measures necessary to correct the interference at their own expense.

**CAUTION
ATTENTION**

Le périphérique est un produit de Classe A. Le fonctionnement de cet équipement dans une zone résidentielle risque de causer des interférences nuisibles, auquel cas l'utilisateur devra y remédier à ses propres frais.

**CAUTION
ACHTUNG**

Dies ist ein Gerät der Klasse A. Bei Einsatz des Geräts in Wohngebieten kann es Störungen des Radio- und Fernsehempfangs verursachen. In diesem Fall muss der Benutzer alle notwendigen Maßnahmen ergreifen, die möglicherweise nötig sind, um die Störungen auf eigene Rechnung zu beheben.

**CAUTION
PRECAUCIÓN**

Este es un producto clase A. El uso de este equipo en áreas residenciales puede causar interferencias nocivas, en cuyo caso, se requerirá que los usuarios tomen cualquier medida necesaria para corregir la interferencia por cuenta propia.



**CAUTION
CUIDADO**

Este dispositivo é um produto Classe A. Operar este equipamento em uma área residencial provavelmente causará interferência prejudicial; neste caso, espera-se que os usuários tomem as medidas necessárias para corrigir a interferência por sua própria conta.



**CAUTION
ATTENZIONE**

Questo dispositivo è un prodotto di Classe A. Il funzionamento di questo apparecchio in aree residenziali potrebbe causare interferenze dannose, nel cui caso agli utenti verrà richiesto di adottare tutte le misure necessarie per porre rimedio alle interferenze a proprie spese.

Electrostatic discharge caution statement



**CAUTION
ESD**

To prevent damage from electrostatic discharge, always wear an antistatic wrist strap connected to an electrostatic discharge (ESD) jack when performing maintenance on this product. Ensure that the wrist strap makes contact with your skin.



**CAUTION
ATTENTION
ESD (décharge électrostatique)**

Pour prévenir tout dommage dû à une décharge électrostatique, vous devez toujours porter un bracelet antistatique connecté à une prise pour décharge électrostatique (ESD) lors de l'exécution d'opérations de maintenance sur ce produit. Assurez-vous que le bracelet antistatique est en contact avec votre peau.



**CAUTION
ACHTUNG
ESD**

Um Schäden durch elektrostatische Entladung zu verhindern, tragen Sie bei der Instandhaltung dieses Produkts immer ein antistatisches Band am Handgelenk, das mit einer ESD-Buchse verbunden ist. Stellen Sie



CAUTION
PRECAUCIÓN
ESD (Descarga electrostática)

Para prevenir el daño producido por una descarga electrostática, use siempre una pulsera antiestática conectada a un enchufe de descarga electrostática (ESD) al realizar el mantenimiento de este producto. Asegúrese de que la pulsera antiestática haga contacto con su piel.



CAUTION
CUIDADO
ESD

Para evitar danos com descarga eletrostática, sempre use uma pulseira antiestática que esteja conectada a uma tomada de descarga eletrostática (ESD) quando estiver realizando a manutenção deste produto. Certifique-se de que a pulseira esteja em contato com sua pele.



CAUTION
ATTENZIONE
ESD

Per evitare danni derivanti da scariche elettrostatiche, indossare sempre un polsino antistatico collegato a una presa di scarico elettrostatico (ESD) durante la manutenzione del prodotto. Accertarsi che il polsino sia a contatto con la pelle.

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Nortel Ethernet Routing Switch 8300

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For information about the safety precautions, read "Safety messages" in this guide.

For information about the software license, read "Software license" in this guide.

