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Nortel VPN Router Upgrades — Server Software Release 8.0

NORTEL

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Preface

This guide provides information about how to upgrade the server software on the Nortel VPN Router.

Before you begin

This guide is for network managers who monitor and maintain the Nortel VPN Router. This guide assumes that you have experience with system administration and that you are familiar with network management.

Text conventions

This guide uses the following text conventions:

- | | |
|--------------------------|---|
| angle brackets (<>) | Indicate that you choose the text to enter based on the description inside the brackets. Do not type the brackets when entering the command.
Example: If the command syntax is ping <ip_address> , you enter ping 192.32.10.12 |
| bold Courier text | Indicates command names and options and text that you need to enter.
Example: Use the show health command.
Example: Enter terminal paging {off on} . |

braces ({})	<p>Indicate required elements in syntax descriptions where there is more than one option. You must choose only one of the options. Do not type the braces when entering the command.</p> <p>Example: If the command syntax is ldap-server source {external internal}, you must enter either ldap-server source external or ldap-server source internal, but not both.</p>
brackets ([])	<p>Indicate optional elements in syntax descriptions. Do not type the brackets when entering the command.</p> <p>Example: If the command syntax is show ntp [associations], you can enter either show ntp or show ntp associations.</p> <p>Example: If the command syntax is default rsvp [token-bucket {depth rate}], you can enter default rsvp, default rsvp token-bucket depth, or default rsvp token-bucket rate.</p>
ellipsis points (. . .)	<p>Indicate that you repeat the last element of the command as needed.</p> <p>Example: If the command syntax is more diskn:<directory>/...<file_name>, you enter more and the fully qualified name of the file.</p>
<i>italic text</i>	<p>Indicates new terms, book titles, and variables in command syntax descriptions. Where a variable is two or more words, the words are connected by an underscore.</p> <p>Example: If the command syntax is ping <ip_address>, <i>ip_address</i> is one variable and you substitute one value for it.</p>
plain Courier text	<p>Indicates system output, for example, prompts and system messages.</p> <p>Example: File not found.</p>

separator (.)	Shows menu paths. Example: Choose Status, Health Check .
vertical line ()	Separates choices for command keywords and arguments. Enter only one choice. Do not type the vertical line when entering the command. Example: If the command syntax is terminal paging {off on} , you enter either terminal paging off or terminal paging on , but not both.

Related publications

For more information about the Nortel VPN Router, see the following publications:

- Release notes provide the most recent information, including brief descriptions of the new features, problems fixed in this release, and known problems and workarounds.
- *Nortel VPN Router Configuration — Client* (NN46110-306) provides information to install and configure client software for the VPN Router.
- *Nortel VPN Router Configuration — TunnelGuard* (NN46110-307) provides information to configure and use the TunnelGuard feature.
- *Nortel VPN Router Installation and Upgrade — Client Software Release 8.01* (NN46110-409) provides information to upgrade the Nortel VPN Client to the most recent release.
- *Nortel VPN Router Configuration — Basic Features* (NN46110-500) introduces the product and provides information about initial setup and configuration.
- *Nortel VPN Router Configuration — SSL VPN Services* (NN46110-501) provides instructions to configure services on the SSL VPN Module 1000, including authentication, networks, user groups, and portal links.
- *Nortel VPN Router Configuration — Advanced Features* (NN46110-502) provides configuration information for advanced features such as the Point-to-Point Protocol (PPP), Frame Relay, and interoperability with other vendors.
- *Nortel VPN Router Configuration — Tunneling Protocols* (NN46110-503) provides configuration information for the tunneling protocols IPsec, Layer 2 Tunneling Protocol (L2TP), Point-to-Point Tunneling Protocol (PPTP), and Layer 2 Forwarding (L2F).
- *Nortel VPN Router Configuration — Routing* (NN46110-504) provides instructions to configure the Border Gateway Protocol (BGP), Routing Information Protocol (RIP), Open Shortest Path First (OSPF), Virtual Router Redundancy Protocol (VRRP), Equal Cost Multipath (ECMP), routing policy services, and client address redistribution (CAR).
- *Nortel VPN Router Using the Command Line Interface* (NN46110-507) provides syntax, descriptions, and examples for the commands that you can use from the command line interface (CLI).

- *Nortel VPN Router Configuration — Firewalls, Filters, NAT, and QoS* (NN46110-508) provides instructions to configure the Stateful Firewall and VPN Router interface and tunnel filters.
- *Nortel VPN Router Security — Servers, Authentication, and Certificates* (NN46110-600) provides instructions to configure authentication services and digital certificates.
- *Nortel VPN Router Troubleshooting — Server* (NN46110-602) provides information about system administrator tasks such as recovery and instructions to monitor VPN Router status and performance. This document provides troubleshooting information and event log messages.
- *Nortel VPN Router Administration* (NN46110-603) provides information about system administrator tasks such as backups, file management, serial connections, initial passwords, and general network management functions.
- *Nortel VPN Router Troubleshooting — Client* (NN46110-700) provides information to troubleshoot installation and connectivity problems with the Nortel VPN Client.

Printed technical manuals

To print selected technical manuals and release notes for free, directly from the Internet, go to www.nortel.com/documentation, find the product for which you need documentation, then locate the specific category and model or version for your hardware or software product. Use Adobe Reader to open the manuals and release notes, search for the sections you need, and print them on most standard printers. Go to the Adobe Systems Web site at www.adobe.com to download a free copy of the Adobe Reader.

How to get help

This section explains how to get help for Nortel products and services.

Finding the most recent updates on the Nortel Web site

The content of this documentation was current at the time the product was released. To check for updates to the most recent documentation and software for VPN Router, click one of the following links.

Link	Web site
Most recent software	Nortel page for VPN Router software located at support.nortel.com/go/ main.jsp?cscat=SOFTWARE&resetFilter=1&poid =12325
Most recent documentation	Nortel page for VPN Router documentation located at support.nortel.com/go/ main.jsp?cscat=DOCUMENTATION&poid=12325

Getting help from the Nortel Web site

The best way to get technical support for Nortel products is from the Nortel Technical Support Web site:

www.nortel.com/support

This site provides quick access to software, documentation, bulletins, and tools to address issues with Nortel products. From this site, you can perform the following activities:

- download software, documentation, and product bulletins
- search the Technical Support Web site and the Nortel Knowledge Base for answers to technical issues
- sign up for automatic notification of new software and documentation for Nortel equipment
- open and manage technical support cases

Getting help over the phone from a Nortel Solutions Center

If you do not find the information you require on the Nortel Technical Support Web site, and you have a Nortel support contract, you can also get help over the phone from a Nortel Solutions Center.

In North America, call 1-800-4NORTEL (1-800-466-7835).

Outside North America, go to the following Web site to obtain the phone number for your region:

www.nortel.com/callus

Getting help from a specialist by using an Express Routing Code

To access some Nortel Technical Solutions Centers, you can use an Express Routing Code (ERC) to quickly route your call to a specialist in your Nortel product or service. To locate the ERC for your product or service, go to the following Web site:

www.nortel.com/erc

Getting help through a Nortel distributor or reseller

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.

New in this release

The following sections detail what's new in *Nortel VPN Router Upgrades — Server Software Release 8.0* (NN46110-407) for Release 8.0:

- [“Features” on page 15](#)
- [“Other changes” on page 15](#)

Features

For information about feature-related changes, see the following section:

- [“DHCP” on page 15](#)
- [“Two factor authentication” on page 15](#)

DHCP

Release 8.0 introduces changes if you use an address pool on an external Dynamic Host Configuration Protocol (DHCP) server. For more information, see [“DHCP change” on page 18](#).

Two factor authentication

Release 8.0 introduces two factor authentication, with impacts on group inheritance. For more information, see [“Two factor authentication” on page 19](#).

Other changes

For information about changes that are not feature related, see the following section:

- [“New document” on page 16](#)

New document

Nortel VPN Router Upgrades — Server Software Release 8.0 (NN46110-407) is a new document for Release 8.0

Chapter 1

Software upgrade

The purpose of an upgrade is to update the software from the existing version to a newer version. In addition to an upgrade, you can also revert to a previous version. Reverting to a previous version is called a downgrade.

The software version_number uses the format Vaa_bb.ccc. Major upgrades use Vaa_00.ccc while maintenance upgrades use Vaa_05.ccc. ccc represents the software build.

Maintenance upgrades typically do not include new features. See the release notes for a specific release to verify functionality changes.

Some examples of software versions for the Nortel VPN Router are:

- V07_00.062
- V07_05.300
- V07_05.350
- V08_00.026

You must have a support contract with Nortel or through a Nortel partner to obtain maintenance upgrades.

To upgrade the VPN Router, download the latest Nortel software using the File Transfer Protocol (FTP). Because FTP servers are often different, check your server documentation for information about how to set paths.

You can download the latest software from the following locations:

- Nortel Web site
- your own FTP site if you previously downloaded the software from the Nortel FTP site

- Nortel software CD

If an FTP server does not use standard FTP port numbers, you cannot use it to download FTP servers for Nortel software. For more information, contact Nortel Customer support.



Note: You cannot upgrade the software through a branch office tunnel that translates the management address with dynamic Network Address Translation (NAT).

If file retrieval fails, the VPN Router retries the transfer. The WU-FTP server does not support this behavior and can cause the negotiation to fail. Explore connectivity issues as the first possible level of failure.

This chapter includes the following topics:

- [“Upgrade preparation” on page 18](#)
- [“Upgrade tasks” on page 19](#)

Upgrade preparation

This section provides the information you need before you upgrade the software on VPN Router. This section includes the following topics:

- [“DHCP change” on page 18](#)
- [“Two factor authentication” on page 19](#)

DHCP change

If you use an IP address pool on an external Dynamic Host Configuration Protocol (DHCP) server, you must make changes before you upgrade to Release 8.0 to prevent VPN service interruption. The pool name on the external server must match the pool name you configure for the group on the VPN Router. In previous software releases, you can specify a pool name on the VPN Router that does not exist on the DHCP server. Beginning with Release 8.0, if the pool names do not match, users in the group cannot form Nortel VPN Client connections with the router.

Two factor authentication

Release 8.0 introduces two factor authentication. Two factor authentication improves security because users must supply two credentials to gain network access. One credential is something the user knows, for example, a user name and password, or preshared key, while the other credential is something stored on the user workstation or on a card (a certificate).

After you upgrade to 8.0, if you enable two factor authentication for a parent group, this configuration propagates to children groups, regardless of the inheritance configuration. For more information about two factor authentication, see *Nortel VPN Router Security — Servers, Authentication, and Certificates* (NN46110-600).

Upgrade tasks

This section provides the tasks you must complete to upgrade the software version on the VPN Router. This section includes the following tasks:

- [“Removing previous software versions” on page 19](#)
- [“Checking available disk space” on page 20](#)
- [“Creating a control tunnel to upgrade from a remote location” on page 20](#)
- [“Creating a recovery diskette” on page 21](#)
- [“Backing up system files” on page 22](#)
- [“Retrieving the new software” on page 22](#)
- [“Preventing file access problems” on page 24](#)
- [“Applying the software” on page 25](#)
- [“Verifying the upgrade” on page 25](#)

Removing previous software versions

Nortel recommends that you keep a maximum of four software versions on the system disk. If four versions exist on the Upgrades window, you must delete one version before you download another version.

- 1 Choose **Admin, File System**.

The File System Maintenance window appears.

2 Select the hard drive (*/ide0/*).

3 Click **Display**.

A list of the versions on the VPN Router appears.

4 Select the version you want to view, and then click **Details**. After the window refreshes, you see the directory that you just selected. Click **Delete Directory**.

A new window appears to verify that you want to delete the directory. If more than one image exists on the hard drive, follow this process to delete all older image upgrades.

Checking available disk space

Before you upgrade your software, use one of the following methods to make sure enough available disk space exists:

- From the graphical user interface (GUI), choose **Status, Statistics, File System**. The last line lists the free space on the disk.
- From the CLI, enter **show status statistics system file-system**. The last line lists the free space on the disk.



Note: Some restrictions apply if you use a VPN Router 1010, 1050, or 1100. To export the configuration and Lightweight Directory Interchange Format (LDIF) files from the device, use FTP to move the files to a server and view the file size. If the combined size of the LDIF and configuration files is less than 1 MB, you can upgrade to the most recent version. The VPN Router 1010, 1050, and 1100 permit a maximum of two images on the flash disk. You must remove the second image (if present) prior to downloading an upgrade.

Creating a control tunnel to upgrade from a remote location

To upgrade the software on a VPN Router from a remote location, you must create a user control tunnel at the physical location of the VPN Router. User control tunnels provide secure access to a remote VPN Router so that you can manage it over a network.

You can create a user control tunnel through the serial port on the VPN Router or with the GUI. After you create a user under the group Control Tunnels, it automatically becomes a control tunnel user.

- 1 Connect the serial cable (one ships with the VPN Router) from the VPN Router serial port to a terminal or to the communications port on a PC.
- 2 Turn on the PC or the terminal.
- 3 On the PC, start HyperTerminal or another terminal emulation program and press **Enter**.
The Welcome window appears.
- 4 Enter the VPN Router administrator user name, and then the password.
The serial main menu appears.
- 5 Type **5** (Create A User Control Tunnel (IPsec) Profile).
- 6 Enter the user ID that you plan to use to log on remotely to the VPN Router.
- 7 Enter the password that you plan to use.
- 8 Enter the password again.
- 9 After the router prompts you for an IP address, enter a static IP address to assign to the user during the control tunnel connection. If the router uses an address pool, you do not need to enter a static IP address.

Creating a recovery diskette

Before you upgrade the VPN Router, create a recovery diskette. You must perform this task on the VPN Router itself.

- 1 Insert a blank diskette into the floppy drive.
- 2 Choose **Admin, Recovery**, and then click **Create Diskette**.



Note: If you use a diskless system, for example, a VPN Router 1100, the router stores the recovery image in flash memory.

Backing up system files

Before you upgrade, use one of the following methods to verify that a recent automatic backup exists.

- 1 If you are at a remote site, connect to the VPN Router through a tunnel (branch office or user control).
- 2 Choose **Admin, Auto Backup** and ensure that the router performed a recent automatic backup to an FTP server.

If a recent backup does not exist, use the following steps to create the backup on the Automatic Backup window:

- 3 Type an IP address or host name, path, interval, FTP user ID, and password.
- 4 Select the **Enabled** box for the server information you enter in the preceding step.
- 5 Click **Backup** to start the backup immediately.

This action saves your entire hard drive, including the Lightweight Directory Access Protocol (LDAP) and configuration files.

Retrieving the new software

For Version 4.80 and later, the VPN Router release image is a compressed .zip file so that each individual file does not download separately. The VPN Router decompresses the image as it retrieves it. You must then apply the new image.

- 1 Save the zip file (for example, V04_80.114.tar.gz) on the FTP server that you use for the upgrade.

```
D:\ftp>dir
Volume in drive D has no label.
Volume Serial Number is 9B29-6769
Directory of D:\ftp
06/18/2003  01:20p         <DIR>          .
06/18/2003  01:20p         <DIR>          ..
06/18/2003  06:53a           31,779,808  V04_80.069.tar.gz
```



Note: Do not attempt to create your own zip archive. Use the .tar.gz file that Nortel distributes.

2 Choose Admin, Upgrades.

The Upgrades window appears.

3 Type the IP address or the name of the FTP server.**4 Type the directory path location of the new software. The path value is the relative location of the .gz file from the FTP root in the directory. In the following example, the V04_80.069.tar.gz file exists at the root of the FTP directory.****5 Type the exact name of the code to which you want to upgrade, for example, V04_80.114.**

“FTP menu example” on page 23 shows an example upgrade to V04_80.114 from server 192.32.250.64. The file V04_80.114.tar.gz must exist at the root of the FTP directory.

Figure 1 FTP menu example

FTP/SFTP New Version from:

Sftp	Host	Path	Version	User ID	Password	Confirm Password
<input type="checkbox"/>	192.32.250.64	V04_80.114.tar.gz	V04_80.114	anon	••••••••	••••••••

Retrieve new version to disk

If you connect to the FTP server from another PC, you see the location of the file.

```
D:\ftp>ftp 192.32.250.64
Connected to 192.32.250.64.
220 entrust-ca Microsoft FTP Service (Version 2.0).
User (192.32.250.64:(none)): anon
331 Password required for anon.
Password:
230 User anon logged in.
ftp> ls V04_80.069.tar.gz
200 PORT command successful.
150 Opening ASCII mode data connection for file list.
V04_80.069.tar.gz
226 Transfer complete.
ftp: 19 bytes received in 0.62Seconds 0.03Kbytes/sec.
ftp>
```

If you want to locate the tar file in a subdirectory on the FTP server, you must prepend the subdirectory to the path, for example, `images/V04_80.114.tar.gz`.

- 6 Type the login ID to gain access to the FTP server.
- 7 Type the password that corresponds to the user ID, and confirm this password.
- 8 Click **Retrieve new version to disk**. The new version retrieval window shows the progress of your download and indicates whether the retrieval succeeds.
- 9 Click **OK**.
- 10 After the retrieval of the zipped image is complete, you can apply the new version from the list.

Preventing file access problems

During the apply process of upgrading to a new version of software, the VPN Router copies files from your current version of software to the new version before the VPN Router restarts. Because processes still run, copying files can potentially cause file access problems.

To minimize the possibility of file access problems after the upgrade, Nortel recommends that you perform the following steps before you complete the upgrade.

- 1 Disable new logins. For more information, see *Nortel VPN Router Administration* (NN46110-603).
- 2 Log off all active tunnel sessions. Choose **Status, Sessions**.
The Active Sessions window appears.
- 3 Scroll to the bottom of the window and click both Log Off buttons to log off all nonadministrative users and all branch office connections. Click **OK** to confirm your choice.



Note: The apply process logs off these sessions.

- 4 Disable RADIUS accounting. Choose **Servers, RADIUS ACCT** and disable all of the following options:

- **Internal RADIUS Accounting**
- **Interim RADIUS Accounting Record**
- **Response Timeout for RADIUS Accounting Server**
- **External RADIUS Accounting Server**

5 Click **OK**.

Applying the software

After you start the apply process, do not make queries on the VPN Router. Queries try to access files and can cause problems during the upgrade process.

1 Choose **Admin, Upgrades**.

The Upgrades window appears.

2 From the **Apply New Version** list, select the software version that you just downloaded.

3 Click **Apply** to start the upgrade process.

4 Click **OK** to confirm your choice.

The router applies the upgrade and restarts.

Verifying the upgrade

After the VPN Router restarts with the upgraded software, follow these steps:

1 Wait 2 minutes after the restart before you run queries to make sure that all startup processes read the files they need.

2 If you manage the VPN Router remotely, connect to the VPN Router over a user control tunnel.

3 Clear the cache on your browser and close all browser windows.

4 Restart your browser, log on to the VPN Router, and then choose **Status, System**. Check the Software Version box to verify the new software version.

- 5 Choose **Admin, Shutdown**, and then clear **Disable new logins**.



Caution: If you do not follow the next step, the VPN Router shuts down.

- 6 Select a system shutdown type of **None** and click **OK**.

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