
Chapter 15

Updating Software Images and Configuration Files

This chapter describes how to copy and save configuration files and software image files.

NOTE: If you are attempting to transfer a file using TFTP but have received an error message, see “Diagnostic Error Codes and Remedies for TFTP Transfers” on page 18-26.

Determining the Software Versions Installed and Running on a Device

Use the following methods to display the software versions running on the device and the versions installed in flash memory.

Determining the Flash Image Version Running on the Device

To determine the flash image version running on a device, enter the following command at any level of the CLI:

```
ProCurveRS# show version
  SW: Version 07.5.04T53 Hewlett-Packard Company
      Compiled on Oct 28 2001 at 15:54:49 labeled as H2R07504
      (3265004 bytes) from Primary H2R07504.bin
  HW: ProCurve HP9308 Routing Switch, SYSIF version 21
=====
SL 1: 8 Port Gig Management Redundant Module, M2, ACTIVE
      Serial #: F12345678
2048 KB BRAM, SMC version 1, ICBM version 21
  512 KB PRAM(512K+0K) and 2048*8 CAM entries for DMA 0, version 0209
  512 KB PRAM(512K+0K) and shared CAM entries for DMA 1, version 0209
  512 KB PRAM(512K+0K) and 2048*8 CAM entries for DMA 2, version 0209
  512 KB PRAM(512K+0K) and shared CAM entries for DMA 3, version 0209
=====
Active management module:
  240 MHz Power PC processor 603 (version 7/1201) 63 MHz bus
  512 KB boot flash memory
  8192 KB code flash memory
  256 KB SRAM
  128 MB DRAM
The system uptime is 12 seconds
The system : started=cold start
```

The version information is shown in bold type in this example.

- “07.5.04T53” indicates the flash code version number. The “T53” is used by HP for record keeping.
- “labeled as H2R07504” indicates the flash code image label. The label indicates the image type and version and is especially useful if you change the image file name.
- “Primary H2R07500.bin” indicates the flash code image file name that was loaded.

Determining the Boot Image Version Running on the Device

To determine the boot image running on a device, enter the following command at any level of the CLI:

```
ProCurveRS> show flash
Active management module:
Code Flash Type: AMD 29F032B, Size: 64 * 65536 = 4194304, Unit: 2
Boot Flash Type: AMD 29F040, Size: 8 * 65536 = 524288
Compressed Pri Code size = 3265004, Version 07.5.04T53 (H2R07504.bin)
Compressed Sec Code size = 3620593, Version 07.1.24T53 (H2R07206.bin)
Maximum Code Image Size Supported: 3866112 (0x003afe00)
Boot Image size = 149436, Version 07.02.99 (bootrom.bin)
```

The boot code version is shown in bold type.

This command actually is showing the files installed on the management module’s flash memory. However, since the boot code must be stored on the flash module, the boot code version listed here is also the version that the device booted with.

Determining the Image Versions Installed in Flash Memory

Enter the **show flash** command to display the boot and flash images installed on the management module. An example of the command’s output is shown in “Determining the Boot Image Version Running on the Device”.

- The “Compressed Pri Code size” line lists the flash code version installed in the primary flash area.
- The “Compressed Sec Code size” line lists the flash code version installed in the secondary flash area.
- The “Boot Image size” line lists the boot code version installed in flash memory. The device does not have separate primary and secondary flash areas for the boot image. The flash memory module contains only one boot image.

Image File Types

The following table lists the boot and flash image file types supported on each HP device. For information about a specific version of code, see the release notes.

Product	Boot Image	Flash Image
9315M	EP module:	EP module or Standard M2 or M4 module:
9308M	<ul style="list-style-type: none"> • M2Bxxxxx.bin (all flash images) 	<ul style="list-style-type: none"> • H2Rxxxxx.bin (Routing Switch code)
9304M	Standard M4 module:	T-Flow module:
	<ul style="list-style-type: none"> • M2Bxxxxx.bin 	<ul style="list-style-type: none"> • TSPxxxxx.bin (TSP code)
	T-Flow module:	
	<ul style="list-style-type: none"> • M2Bxxxxx.bin (all MP images) • VSB07100.bin 	

Product	Boot Image	Flash Image
10 Gigabit Ethernet modules	The Gigabit Ethernet modules do not have boot code separate from the management module. However, they do have Field-Programmable Gate Arrays (FPGAs). See the next column.	The modules do not have flash code separate from the management module. However, they do have Field-Programmable Gate Arrays (FPGAs). To determine the versions that are running on the modules, enter the show flash command. The version information is listed separately for each 10 Gigabit Ethernet module in the chassis.

Upgrading Software in Release 07.6.04 and Later

NOTE: This section applies to software releases 07.6.04 and later. For upgrade information regarding a specific software release, see the release notes for that release.

Beginning with release 07.6.04, a new and improved compression algorithm is used to generate flash code images. The new compression algorithm allows the software images to contain more features. Boot code version 07.6.04 and later knows how to decompress and load the new images. Boot code versions earlier than 07.6.04 do not know how to decompress and load the new images. In addition, flash code versions 07.6.04 and later know how to copy images that use the new compression method to flash memory. Earlier versions do not.

(To determine which boot code version is running on your device, use the **show flash** command. The line that begins "Boot Image size" lists the boot code version, at the end of the line.)

If you are upgrading your device from flash code release 07.6.01b or earlier to release 07.6.04, you must first upgrade the management module's boot code to version 07.6.04 or later. In addition, you must use flash code release 07.6.01b or later to copy the 07.6.04 flash code image file to flash memory.

To summarize, if you are upgrading from a pre-07.6.01b release to release 07.6.04 or later:

1. Upgrade the boot code on the management module to version 07.6.04.
2. Upgrade the flash code on the management module to version 07.6.01b, then reload the software.
3. Upgrade the flash code on the management module to version 07.6.04, then reload the software.

If you are upgrading from release 07.6.01b to release 07.6.04 or higher:

1. Upgrade the boot code on the management module to version 07.6.04.
2. Upgrade the flash code on the management module to version 07.6.04, then reload the software.

Upgrading Software (Non-T-Flow)

For easy software image management, all HP devices support the download and upload of software images between the flash modules on the devices and a Trivial File Transfer Protocol (TFTP) server on the network.

The management module contains two flash memory modules:

- **Primary flash** – The default local storage device for image files and configuration files.
- **Secondary flash** – A second flash storage device. You can use the secondary flash to store redundant images for additional booting reliability or to preserve one software image while testing another one.

Only one flash device is active at a time. By default, the primary image will become active upon reload.

You can update the software contained on a flash module using TFTP to copy the update image from a TFTP server onto the flash module. In addition, you can copy software images and configuration files from a flash module to a TFTP server.

NOTE: HP devices are TFTP clients but not TFTP servers. You must perform the TFTP transaction from the HP device. You cannot “put” a file onto the HP device using the interface of your TFTP server.

NOTE: If you are upgrading redundant management modules, the flash code is automatically copied from the active management module to the standby module when you reload. However, the boot code is not automatically copied. See “File Synchronization Between the Active and Standby Redundant Management Modules” on page 3-11.

Upgrading the Boot Code

To upgrade the boot code on a management module, use the following CLI method.

USING THE CLI

1. Place the new boot code on a TFTP server to which the HP device has access.
2. Enter either of the following commands at the Privileged EXEC level of the CLI (example: `ProCurveRS#`) to copy the boot code from the TFTP server into the flash memory of the management module:
 - **copy tftp flash <ip-addr> <image-file-name> boot**
 - **ncopy tftp <ip-addr> <image-file-name> flash boot**
3. Verify that the code has been successfully copied by entering the following command at any level of the CLI:
 - **show flash**

The line that begins “Boot Image size” lists the boot code version, at the end of the line.
4. If the boot code version is correct, reload the software by entering one of the following commands:
 - **reload** (this command boots from the default boot source, which is the primary flash area by default)
 - **boot system flash primary | secondary**

Upgrading the Flash Code

When you upgrade the flash code, you must upgrade the flash code on the management module (if the chassis contains any) to the same software release, **before** you reboot.

The following sections describe how to upgrade the flash code.

Upgrading the Flash Code on a Management Module

To upgrade flash code on a management module:

1. Place the new flash code on a TFTP server to which the HP device has access.
2. Enter either of the following commands at the Privileged EXEC level of the CLI (example: `ProCurveRS#`) to copy the flash code from the TFTP server into the flash memory of the management module:
 - **copy tftp flash <ip-addr> <image-file-name> primary | secondary**
 - **ncopy tftp <ip-addr> <image-file-name> flash primary | secondary**
3. Verify that the flash code has been successfully copied by entering the following command at any level of the CLI:
 - **show flash**

The line that begins “Compressed Pri Code size” lists the flash code version in the primary flash, at the end of the line. Similarly, the line that begins “Compressed Sec Code size” lists the flash code version in the secondary flash.
4. If the flash code version is correct, go to Step 6. Otherwise, go to Step 1.
5. Reload the software by entering one of the following commands:

- **reload** (this command boots from the default boot source, which is the primary flash area by default)
- **boot system flash primary | secondary**

NOTE: When you reload the software after upgrading the flash code, the device displays a message stating that the configuration has changed and asking whether you want to save the changes. This occurs even if you do not make any configuration changes. The message occurs because the flash code places its version number in the device's running-config when you load the code onto the device. You can select either to reload without saving the configuration change or save the change and reload. If the only change to the running-config is the flash code version number, then your choice does not affect the operation of the device.

Upgrading Software (T-Flow)

If you need to upgrade the boot or flash code on the Management Processor (MP) or a T-Flow Switching Processor (TSP), use the following procedures.

The MP and TSPs run separate software. The MP runs chassis management software. The TSPs run Layer 2 and Layer 3 software. The procedures for upgrading MP and TSPs are different.

NOTE: The MP and TSP flash code must have the same version number. Otherwise, the TSP functions are disabled. You can display the version numbers of the MP and TSPs by entering the **show vm-state** command. Also, if the version numbers are different, the command output displays a message.

NOTE: If you are upgrading from a TFTP server, make sure the chassis has network (IP) access to the server.

NOTE: If you are upgrading redundant management modules, the flash code is automatically copied from the active management module to the standby module when you reload. However, the boot code is not automatically copied. See "File Synchronization Between the Active and Standby Redundant Management Modules" on page 3-11.

NOTE: When you reload the software after upgrading the flash code, the device displays a message stating that the configuration has changed and asking whether you want to save the changes. This occurs even if you do not make any configuration changes. The message occurs because the flash code places its version number in the device's running-config when you load the code onto the device. You can select either to reload without saving the configuration change or save the change and reload. If the only change to the running-config is the flash code version number, then your choice does not affect the operation of the device.

Upgrading the MP Boot Code

To upgrade the MP boot code, use the same methods as for any other management module.

USING THE CLI

To upgrade MP boot code from a TFTP server, enter a command such as the following:

```
ProCurveRS# copy tftp flash 192.168.1.170 M2B07300.bin boot
```

Syntax: copy tftp flash <ip-addr> <image-file-name> boot

USING THE WEB MANAGEMENT INTERFACE

You cannot perform this procedure using the Web management interface.

Upgrading the TSP Boot Code

To upgrade the TSP boot code, use the following CLI method.

USING THE CLI

To upgrade TSP boot code from a TFTP server, enter a command such as the following:

```
ProCurveRS# vm copy tftp flash 192.168.1.170 VSB07300.bin boot
```

Syntax: vm copy tftp flash <ip-addr> <image-file-name> boot

USING THE WEB MANAGEMENT INTERFACE

You cannot perform this procedure using the Web management interface.

Upgrading the MP Flash Code

To upgrade the MP flash code, use the same methods as for any other management module.

USING THE CLI

To upgrade MP flash code (management software) from a TFTP server, enter a command such as the following:

```
ProCurveRS# copy tftp flash 192.168.1.170 TlRS07300.bin primary
```

This command copies Layer 2 flash code from a TFTP server into the primary flash memory area for the MP. When you reload the software, the MP will boot the new code.

Syntax: copy tftp flash <ip-addr> <image-file-name> primary | secondary

To copy flash code from one flash memory area to the other, enter a command such as the following:

```
ProCurveRS# copy flash flash secondary
```

This command copies the flash code in the primary flash memory area to the secondary flash memory area for the MP.

Syntax: copy flash flash primary | secondary

The **primary** parameter copies the image in the secondary flash area to the primary flash area.

The **secondary** parameter copies the image in the primary flash area to the secondary flash area.

USING THE WEB MANAGEMENT INTERFACE

1. Log on to the device using a valid user name and password for read-write access. The System configuration dialog is displayed.
2. Click on the plus sign next to Command in the tree view to expand the list of command options.
3. Click on the plus sign next to TFTP under Command in the tree view to expand the list of TFTP options.
4. Select the Image link to display the TFTP Image panel.
5. Enter the address of the TFTP server in the TFTP Server IP field.
6. Enter the image file name in the Image File Name field.
7. Specify the destination of the image file you are transferring by selecting Primary or Secondary next to Flash.
8. Click on the Copy from Server button to start the file transfer.

Upgrading the TSP Flash Code

To upgrade the TSPs, use the following CLI method.

USING THE CLI

To upgrade the TSPs, enter a command such as the following at the Privileged EXEC level of the CLI:

```
ProCurveRS# vm copy tftp flash 109.157.22.26 TSP07300.bin primary
```

This command upgrades the TSPs by copying a flash code image from a TFTP server to the primary flash for each of the TSPs on the module.

To copy the flash code from the primary flash to the secondary flash for each of the TSPs on the module, enter a command such as the following:

```
ProCurveRS# vm copy flash flash secondary
```

Syntax: vm copy tftp flash <tftp-server-ip-addr> <image-file-name> primary | secondary

Syntax: vm copy flash flash primary | secondary

The **primary** and **secondary** parameters identify either the primary or secondary flash on the TSPs. For each command, the parameter specifies the destination of the copy operation.

[USING THE WEB MANAGEMENT INTERFACE](#)

This procedure is not supported in the Web management interface.

Changing the Default Boot Source

By default, the T-Flow's processors boot from the primary flash areas on the module. Each processor boots from its own primary flash. The MP boots first, then the TSPs boot.

You can change the default boot source to one of the following:

- Primary flash (the default)
- Secondary flash
- Interactive

The interactive option pauses during bootup of the TSPs to allow you to select the boot source for the TSPs. You must use this method if you want to boot the TSPs from a TFTP server. Otherwise, this method is used for troubleshooting.

To change the default boot source, use one of the following methods:

[USING THE CLI](#)

To change the default boot source, enter commands such as the following at the global CONFIG level of the CLI:

```
ProCurveRS(config)# vm boot secondary
ProCurveRS(config)# write memory
```

This command configures the module to boot from the secondary flash by default.

NOTE: The **write memory** command saves the change to the startup-config file. You must save the configuration change for the change to remain in effect after you reboot.

Syntax: vm boot primary | secondary | interactive

The **primary** and **secondary** parameters specify a flash memory location. The **interactive** parameter causes the device to pause during bootup to allow you to specify the boot source for the TSPs. You must use this method if you want to boot the TSPs from a TFTP server. Otherwise, the **interactive** parameter is used for troubleshooting.

To configure the module to pause during booting to allow you to specify the boot source, enter the following command:

```
ProCurveRS(config)# vm boot interactive
```

After you set the boot source to interactive and reboot, enter a command such as the following at the Privileged EXEC level of the CLI to boot the TSPs:

```
ProCurveRS# vm boot tftp 192.168.1.170 TSP07300.bin
```

This command copies the TSP flash code image from the specified TFTP server to a TSP address space from which the TSP can boot.

Syntax: vm boot primary | secondary | tftp <ip-addr> <image-file-name>

USING THE WEB MANAGEMENT INTERFACE

1. Log on to the device using a valid user name and password for read-write access. The System configuration dialog is displayed.
2. Click on the plus sign next to Configure in the tree view to expand the list of configuration options.
3. Click on the plus sign next to System.
4. Select the Boot Sequence link to display the Boot Sequence List panel.
5. Select the primary boot source by clicking on the radio button next to the name.

NOTE: You cannot select the interactive option using the Web management interface. To select this option, use the CLI.

6. To specify a secondary boot source, go to step 5. The device tries the boot sources in the order you specify them.
7. Select Add to add the change to the device's running-config.
8. If you want the change to remain in effect following the next system reload, select the Save link to save the configuration change to the startup-config file.

Using SNMP to Upgrade Software

You can use a third-party SNMP management application such as HP OpenView to upgrade software on an HP device.

NOTE: In software releases earlier than 07.5.0.xx, the SNMP agent does not check for type validity with the SNMP version. In software release 07.5.xx and above, the SNMP agent does not send a reply for a varbind, if the type of the varbind is not a known type for that version of SNMP. For example, MIB objects of type Counter64 cannot be retrieved using a v1 packet, as Counter64 is a v2c and v3 type.

NOTE: Make sure you use the correct procedure for your device and processor type. For example, do not use the Management Processor procedure to upgrade the Switching Processors on a module.

NOTE: The syntax shown in this section assumes that you have installed HP OpenView in the "/usr" directory.

NOTE: HP recommends that you make a backup copy of the startup-config file before you upgrade the software. If you need to run an older release, you will need to use the backup copy of the startup-config file.

Management Processorredundant Management ProcessorManagement Processornhphp 22 – Download the flash code into the device's secondary flash area.

Upgrading Switching Processors on a Routing Switch

Use this procedure to upgrade flash code on the Switching Processors on the T-Flow Redundant Management Module.

1. Configure a read-write community string on the HP device, if one is not already configured. To configure a read-write community string, enter the following command from the global CONFIG level of the CLI:

```
snmp-server community <string> ro | rw
```

where <string> is the community string and can be up to 32 characters long.

2. On the HP device, enter the following command from the global CONFIG level of the CLI:

```
no snmp-server pw-check
```

This command disables password checking for SNMP set requests. If a third-party SNMP management application does not add a password to the password field when it sends SNMP set requests to an HP device, by default the HP device rejects the request.

3. From the command prompt in the UNIX shell, enter the following command:

```
/usr/OV/bin/snmpset -c <rw-community-string> <hp-ip-addr> 1.3.6.1.4.1.1991.1.1.2.1.5.0  
ipaddress <tftp-ip-addr> 1.3.6.1.4.1.1991.1.1.2.1.6.0 octetstringascii <file-name>  
1.3.6.1.4.1.1991.1.1.2.1.56.0 integer 2  
1.3.6.1.4.1.1991.1.1.2.1.57.0 integer <slotnum>  
1.3.6.1.4.1.1991.1.1.2.1.7.0 integer <command-integer>
```

where:

<rw-community-string> is a read-write community string configured on the HP device.

<hp-ip-addr> is the HP device's IP address.

<tftp-ip-addr> is the TFTP server's IP address.

<file-name> is the image file name.

The **2** represents the T-Flow module

<slotnum> is the slot that contains the module you are upgrading. To upgrade all modules of the type you specified, enter 0 (zero):

<command-integer> is one of the following:

24 – Download the flash code into the device's primary flash area.

25 – Download the flash code into the device's secondary flash area.

Changing the Block Size for TFTP File Transfers

When you use TFTP to copy a file to or from an HP device, the device transfers the data in blocks of 8192 bytes by default. You can change the block size to one of the following if needed:

- 4096
- 2048
- 1024
- 512
- 256
- 128
- 64
- 32
- 16

To change the block size for TFTP file transfers to and from the HP device, use the following CLI method.

USING THE CLI

To change the block size for TFTP file transfers, enter a command such as the following at the global CONFIG level of the CLI:

```
ProCurveRS(config)# flash 2047
```

```
set flash copy block size to 2048
```

Syntax: [no] flash <num>

The software rounds up the <num> value you enter to the next valid power of two, and displays the resulting value. In this example, the software rounds the value up to 2048.

NOTE: If the value you enter is one of the valid powers of two for this parameter, the software still rounds the value up to the next valid power of two. Thus, if you enter 2048, the software rounds the value up to 4096.

USING THE WEB MANAGEMENT INTERFACE

You cannot configure this option using the Web management interface.

Rebooting

You can use boot commands to immediately initiate software boots from a software image stored in primary or secondary flash on a ProCurve Routing Switch or from a BootP or TFTP server. You can test new versions of code on a Routing Switch or choose the preferred boot source from the console boot prompt without requiring a system reset.

NOTE: It is very important that you verify a successful TFTP transfer of the boot code *before* you reset the system. If the boot code is not transferred successfully but you try to reset the system, the system will not have the boot code with which to successfully boot.

By default, the Routing Switch first attempts to boot from the image stored in its primary flash, then its secondary flash, and then from a TFTP server. You can modify this booting sequence at the global CONFIG level of the CLI using the **boot system...** command.

USING THE CLI

To initiate an immediate boot from the CLI, enter one of the **boot system...** commands as described in the *Command Line Interface Reference for ProCurve 9300/9400 Series Routing Switches*.

USING THE WEB MANAGEMENT INTERFACE

To initiate an immediate boot from the primary boot source:

1. Click on the plus sign next to Command in the tree view to expand the list of command options.
2. Select the Reload option.
3. Select Yes when the Web management interface asks you whether you really want to reload.

To initiate an immediate boot from a boot source other than the primary boot source:

1. Click on the plus sign next to Configure in the tree view to expand the list of configuration options.
2. Click on the plus sign next to System in the tree view to expand the list of system configuration options.

3. Select the [Boot Sequence](#) link to display the following panel.

Boot Sequence List

Sequence	Instruction
1	Primary Flash

Boot Sequence

Primary Flash

Secondary Flash

TFTP Server

IP Address:
 File Name:

BOOTP Server

[\[Home\]](#)
[\[Site Map\]](#)
[\[Logout\]](#)
[\[Save\]](#)
[\[Frame Enable\]](#)
[\[Disable\]](#)
[\[TELNET\]](#)

4. If the boot source with sequence 1 (the primary boot source) listed in the Boot Sequence List is the boot source you want to use for the reload, use the procedure above. The device will use this boot source first. Otherwise, go to the next step.
5. If the boot source with sequence 1 is not the boot source you want to use, select the boot source that is listed as the primary source, then click Delete.
6. Click the boot source you want to use as the primary source. If you select TFTP server, enter the server's IP address and the image file name you want the device to download from the server.
7. Click the Apply button to save the change to the device's running-config file.
8. Click the [Save](#) link at the bottom of the dialog. Select Yes when prompted to save the configuration change to the startup-config file on the device's flash memory.
9. Click on the plus sign next to Command in the tree view to expand the list of command options.
10. Select the [Reload](#) option.
11. Select Yes when the Web management interface asks you whether you really want to reload.

NOTE: While TFTP transfers are in process, a red bar labeled "processing" is displayed on the screen. When the TFTP transfer is actively transferring image or configuration data, a green bar labeled 'loading' is displayed. When a successful transfer is complete, the message "TFTP transfer complete" is displayed.

If a problem with the transfer occurs, one of the error codes listed in "Diagnostic Error Codes and Remedies for TFTP Transfers" on page 18-26 is displayed.

Loading and Saving Configuration Files

For easy configuration management, all ProCurve Routing Switches support both the download and upload of configuration files between the Routing Switch and a TFTP server on the network.

You can upload either the startup configuration file or the running configuration file to the TFTP server for backup and use in booting the system.

- **Startup configuration file** – This file contains the configuration information that is currently saved in flash. To display this file, enter the **show configuration** command at any CLI prompt.

- **Running configuration file** – This file contains the configuration active in the system RAM but not yet saved to flash. These changes could represent a short-term requirement or general configuration change. To display this file, enter the **show running-config** or **write terminal** command at any CLI prompt.

Each device can have one startup configuration file and one running configuration file. The startup configuration file is shared by both flash modules. The running configuration file resides in DRAM.

When you load the startup-config file, the CLI parses the file three times.

1. During the first pass, the parser searches for **system-max** commands. A **system-max** command changes the size of statically configured memory.
2. During the second pass, the parser implements the **system-max** commands if present and also implements trunk configuration commands (**trunk** command) if present.
3. During the third pass, the parser implements the remaining commands.

Replacing the Startup Configuration with the Running Configuration

After you make configuration changes to the active system, you can save those changes by writing them to flash memory. When you write configuration changes to flash memory, you replace the startup configuration with the running configuration.

USING THE CLI

To replace the startup configuration with the running configuration, enter the following command at any Enable or CONFIG command prompt:

```
ProCurveRS# write memory
```

USING THE WEB MANAGEMENT INTERFACE

1. Click on the plus sign next to Command in the tree view to expand the list of command options.
2. Select the Save to Flash option.
3. Select Yes when the Web management interface asks you whether you really want to save the configuration changes to flash.

Replacing the Running Configuration with the Startup Configuration

If you want to back out of the changes you have made to the running configuration and return to the startup configuration, use one of the following methods.

USING THE CLI

To replace the startup configuration with the running configuration, enter the following command at the Privileged EXEC level of the CLI:

```
ProCurveRS# reload
```

USING THE WEB MANAGEMENT INTERFACE

1. Click on the plus sign next to Command in the tree view to expand the list of command options.
2. Select the Reload option.
3. Select No when the Web management interface asks you whether you really want to save the configuration changes to flash.

Logging Changes to the Startup-Config File

You can configure an HP device to generate a Syslog message when the startup-config file is changed. The trap is enabled by default.

The following Syslog message is generated when the startup-config file is changed:

```
startup-config was changed
```

If the startup-config file was modified by a valid user, the following Syslog message is generated:

```
startup-config was changed by <username>
```

[USING THE CLI](#)

To disable or re-enable Syslog messages when the startup-config file is changed, use the following command:

Syntax: [no] logging enable config-changed

[USING THE WEB MANAGEMENT INTERFACE](#)

You cannot disable logging of startup-config changes using the Web management interface.

Copying a Configuration File to or from a TFTP Server

To copy the startup-config or running-config file to or from a TFTP server, use one of the following methods.

NOTE: You can name the configuration file when you copy it to a TFTP server. However, when you copy a configuration file from the server to an HP device, the file is always copied as “startup-config” or “running-config”, depending on which type of file you saved to the server.

[USING THE CLI](#)

To initiate transfers of configuration files to or from a TFTP server using the CLI, enter one of the following commands:

- **copy startup-config tftp** <tftp-ip-addr> <filename> – Use this command to upload a copy of the startup configuration file from the Routing Switch to a TFTP server.
- **copy running-config tftp** <tftp-ip-addr> <filename> – Use this command to upload a copy of the running configuration file from the Routing Switch to a TFTP server.
- **copy tftp startup-config** <tftp-ip-addr> <filename> – Use this command to download a copy of the startup configuration file from a TFTP server to a Routing Switch.

[USING THE WEB MANAGEMENT INTERFACE](#)

To initiate transfers of configuration files to and from a TFTP server using the Web management interface:

1. Log on to the device using a valid user name and password for read-write access. The System configuration dialog is displayed.
2. Click on the plus sign next to Command in the tree view to expand the list of command options.
3. Click on the plus sign next to TFTP under Command in the tree view to expand the list of TFTP options.
4. Select the [Configuration](#) link to display the following panel.

TFTP Configuration

TFTP Server IP:	209.157.22.26
Configuration File Name:	ksmith.cfg

Copy from Server to Flash
Save from Flash to Server
Save from RAM to Server

[Home](#) | [Site Map](#) | [Logout](#) | [Save](#) | [Frame Enable](#) | [Disable](#) | [TELNET](#)

5. Enter the address of the TFTP server in the TFTP Server IP field.
6. Enter the configuration file name in the Configuration File Name field.

7. Click on one of the following buttons to start the file transfer:
 - Copy from Server to Flash – downloads the configuration file from the TFTP server into the device's flash. (The flash area holds only one configuration file, so you cannot specify a primary or secondary save location for the file.)
 - Save from Flash to Server – uploads the startup-config file (the configuration file) to the TFTP server using the name you entered in the Configuration File Name field.
 - Save from RAM to Server – uploads the running-config file to the TFTP server using the name you entered in the Configuration File Name field. The running-config file contains the active system configuration, which may not match the contents of the startup-config file if you have made configuration changes but not saved them to flash. To synchronize the running-config and startup-config files, use the procedure in "Replacing the Startup Configuration with the Running Configuration" on page 18-18.

NOTE: While TFTP transfers are in process, a red bar labeled "processing" is displayed on the screen. When the TFTP transfer is actively transferring image or configuration data, a green bar labeled "loading" is displayed. When a successful transfer is complete, the message "TFTP transfer complete" is displayed.

If a problem with the transfer occurs, one of the error codes listed in "Diagnostic Error Codes and Remedies for TFTP Transfers" on page 18-26 is displayed.

Dynamic Configuration Loading

You can load dynamic configuration commands (commands that do not require a reload to take effect) from a file on a TFTP server into an HP device's running-config. You can make configuration changes off-line, then load the changes directly into the device's running-config, without reloading the software.

Usage Considerations

- Use this feature only to load configuration information that does not require a software reload to take effect. For example, you cannot use this feature to change statically configured memory (**system-max** command) or to enter trunk group configuration information into the running-config.
- Do not use this feature if you have deleted a trunk group but have not yet placed the changes into effect by saving the configuration and then reloading. When you delete a trunk group, the command to configure the trunk group is removed from the device's running-config, but the trunk group remains active. To finish deleting a trunk group, save the configuration (to the startup-config file), then reload the software. After you reload the software, then you can load the configuration from the file.
- Do not load port configuration information for secondary ports in a trunk group. Since all ports in a trunk group use the port configuration settings of the primary port in the group, the software cannot implement the changes to the secondary port.

Preparing the Configuration File

A configuration file that you create must follow the same syntax rules as the startup-config file the device creates.

- The configuration file is a script containing CLI configuration commands. The CLI reacts to each command entered from the file in the same way the CLI reacts to the command if you enter it. For example, if the command results in an error message or a change to the CLI configuration level, the software responds by displaying the message or changing the CLI level.
- The software retains the running-config that is currently on the device, and changes the running-config only by adding new commands from the configuration file. If the running config already contains a command that is also in the configuration file you are loading, the CLI rejects the new command as a duplicate and displays an error message. For example, if the running-config already contains a command that configures ACL 1, the software rejects ACL 1 in the configuration file, and displays a message that ACL 1 is already configured.
- The file can contain global CONFIG commands or configuration commands for interfaces, routing protocols, and so on. You cannot enter User EXEC or Privileged EXEC commands.

- The default CLI configuration level in a configuration file is the global CONFIG level. Thus, the first command in the file must be a global CONFIG command or “!”. The ! (exclamation point) character means “return to the global CONFIG level”.

NOTE: You can enter text following “!” as a comment. However, the “!” is not a comment marker. It returns the CLI to the global configuration level.

NOTE: In software releases earlier than 07.1.x, the CLI ignores the “!” instead of changing the CLI to the global CONFIG level, when you load the configuration using the **copy tftp running-config** <ip-addr> <filename> command. In software release 07.1.x and later, the CLI does change the CLI to the global CONFIG level, when you load the configuration using the **copy tftp running-config** <ip-addr> <filename> command or the **ncopy tftp** <ip-addr> <filename> **running-config** command.

In all releases, the CLI changes to the global CONFIG level if you load the configuration as a startup-config file instead of the running-config (using the **copy tftp startup-config** <ip-addr> <filename> command or **ncopy tftp** <ip-addr> <from-name> **startup-config** command).

NOTE: If you copy-and-paste a configuration into a management session, the CLI ignores the “!” instead of changing the CLI to the global CONFIG level. As a result, you might get different results if you copy-and-paste a configuration instead of loading the configuration using TFTP.

- Make sure you enter each command at the correct CLI level. Since some commands have identical forms at both the global CONFIG level and individual configuration levels, if the CLI’s response to the configuration file results in the CLI entering a configuration level you did not intend, then you can get unexpected results.

For example, if a trunk group is active on the device, and the configuration file contains a command to disable STP on one of the secondary ports in the trunk group, the CLI rejects the commands to enter the interface configuration level for the port and moves on to the next command in the file you are loading. If the next command is a spanning-tree command whose syntax is valid at the global CONFIG level as well as the interface configuration level, then the software applies the command globally. Here is an example:

The configuration file contains these commands:

```
interface ethernet 4/2
no spanning-tree
```

The CLI responds like this:

```
ProCurveRS(config)# interface ethernet 4/2
Error - cannot configure secondary ports of a trunk
ProCurveRS(config)# no spanning-tree
ProCurveRS(config)#
```

- If the file contains commands that must be entered in a specific order, the commands must appear in the file in the required order. For example, if you want to use the file to replace an IP address on an interface, you must first remove the old address using “no” in front of the **ip address** command, then add the new address. Otherwise, the CLI displays an error message and does not implement the command. Here is an example:

The configuration file contains these commands:

```
interface ethernet 3/11
ip address 10.10.10.69/24
```

The running-config already has a command to add an address to 3/11, so the CLI responds like this:

```
ProCurveRS(config)# interface ethernet 3/11
ProCurveRS(config-if-e100-3/1)# ip add 10.10.10.69/24
Error: can only assign one primary ip address per subnet
ProCurveRS(config-if-e100-3/1)#
```

To successfully replace the address, enter commands into the file as follows:

```
interface ethernet 3/11
no ip address 20.20.20.69/24
ip address 10.10.10.69/24
```

This time, the CLI accepts the command, and no error message is displayed:

```
ProCurveRS(config)# interface ethernet 3/11
ProCurveRS(config-if-e100-3/1)# no ip add 20.20.20.69/24
ProCurveRS(config-if-e100-3/1)# ip add 10.10.10.69/24
ProCurveRS(config-if-e100-3/1)
```

- Always use the **end** command at the end of the file. The **end** command must appear on the last line of the file, by itself.

Loading the Configuration Information into the Running-Config

You can load the configuration information from a TFTP server. To load the file from a TFTP server, use either of the following commands:

- **copy tftp running-config** <ip-addr> <filename>
- **ncopy tftp** <ip-addr> <filename> **running-config**

Maximum File Sizes for Startup-Config File and Running-Config

Each HP device has a maximum allowable size for the running-config and the startup-config file. If you use TFTP to load additional information into a device's running-config or startup-config file, it is possible to exceed the maximum allowable size. If this occurs, you will not be able to save the configuration changes.

The following table lists the maximum size for the running-config and the startup-config file on HP devices.

Product type	Maximum running-config and startup-config file sizes ^a
9300 series using Management 2 modules or higher	256K
9304M or 9308M using a Management 1 module	128K

a. The running-config and startup-config file can each be the size listed. The maximum size is not the maximum combined size for the running-config and startup-config files.

Determining the Size of the Running-Config in Releases 07.6.04 and Later

In software releases 07.6.04 and later, the **show running-config**, **write terminal**, and **show configuration** commands displays the size of the running-config file. In releases prior to 07.6.04, this information was not readily available.

For example:

```
ProCurveRS# show running-config
!Building configuration...
!Current configuration : 449 bytes
(remaining lines omitted)
```

```
ProCurveRS# show configuration
!Using 449 out of 262142 bytes
(remaining lines omitted)
```

NOTE: The lines displaying the size of the running-config are not actually part of the running-config itself.

Determining the Size of the Running-Config in Releases Prior to 07.6.04

To determine the size of an HP device's running-config or startup-config file, copy it to a TFTP server, then use the directory services on the server to list the size of the copied file. To copy the running-config or startup-config file to a TFTP server, use one of the following commands.

- Commands to copy the running-config to a TFTP server:
 - **copy running-config tftp** <ip-addr> <filename>
 - **ncopy running-config tftp** <ip-addr> <from-name>
- Commands to copy the startup-config file to a TFTP server:
 - **copy startup-config tftp** <ip-addr> <filename>
 - **ncopy startup-config tftp** <ip-addr> <from-name>

Using SNMP to Save and Load Configuration Information

You can use a third-party SNMP management application such as HP OpenView to save and load an HP device's configuration. To save and load configuration information using HP OpenView, use the following procedure.

NOTE: The syntax shown in this section assumes that you have installed HP OpenView in the "/usr" directory.

1. Configure a read-write community string on the HP device, if one is not already configured. To configure a read-write community string, enter the following command from the global CONFIG level of the CLI:

```
snmp-server community <string> ro | rw
```

where <string> is the community string and can be up to 32 characters long.

2. On the HP device, enter the following command from the global CONFIG level of the CLI:

```
no snmp-server pw-check
```

This command disables password checking for SNMP set requests. If a third-party SNMP management application does not add a password to the password field when it sends SNMP set requests to an HP device, by default the HP device rejects the request.

3. From the command prompt in the UNIX shell, enter the following command:

```
/usr/OV/bin/snmpset -c <rw-community-string> <hp-ip-addr> 1.3.6.1.4.1.1991.1.1.2.1.5.0  
ipaddress <tftp-ip-addr> 1.3.6.1.4.1.1991.1.1.2.1.8.0 octetstringascii <config-file-name>  
1.3.6.1.4.1.1991.1.1.2.1.9.0 integer <command-integer>
```

where:

<rw-community-string> is a read-write community string configured on the HP device.

<hp-ip-addr> is the HP device's IP address.

<tftp-ip-addr> is the TFTP server's IP address.

<config-file-name> is the configuration file name.

<command-integer> is one of the following:

- 20** – Upload the startup-config file from the HP device's flash memory to the TFTP server.

21 – Download a startup-config file from a TFTP server to the HP device's flash memory.

22 – Upload the running-config from the HP device's flash memory to the TFTP server.

23 – Download a configuration file from a TFTP server into the HP device's running-config.

NOTE: Command option **23** adds configuration information to the running-config on the device, and does not replace commands. If you want to replace configuration information in the device, use "no" forms of the configuration commands to remove the configuration information, then use configuration commands to create the configuration information you want. Follow the guidelines in "Dynamic Configuration Loading" on page 18-20.

Erasing Image and Configuration Files

To erase software images or configuration files, use the commands described below. These commands are valid at the Privileged EXEC level of the CLI.

USING THE CLI

- **erase flash primary** erases the image stored in primary flash of the system.
- **erase flash secondary** erases the image stored in secondary flash of the system.
- **erase startup-config** erases the configuration stored in the startup configuration file; however, the running configuration remains intact until system reboot.

USING THE WEB MANAGEMENT INTERFACE

You cannot delete image or configuration files using the Web management interface.

Scheduling a System Reload

In addition to reloading the system manually, you can configure the HP device to reload itself at a specific time or after a specific amount of time has passed.

NOTE: The scheduled reload feature requires the system clock. You can use a Simple Network Time Protocol (SNTP) server to set the clock or you can set the device clock manually. See "Specifying a Simple Network Time Protocol (SNTP) Server" on page 8-12 or "Setting the System Clock" on page 8-14.

Reloading at a Specific Time

To schedule a system reload for a specific time, use one of the following methods.

USING THE CLI

To schedule a system reload from the primary flash module for 6:00:00 AM, January 19, 2004, enter the following command at the global CONFIG level of the CLI:

```
ProCurveRS# reload at 06:00:00 01-19-04
```

Syntax: reload at <hh:mm:ss> <mm-dd-yy> [primary | secondary]

<hh:mm:ss> is the hours, minutes, and seconds.

<mm-dd-yy> is the month, day, and year.

primary | secondary specifies whether the reload is to occur from the primary code flash module or the secondary code flash module. The default is **primary**.

USING THE WEB MANAGEMENT INTERFACE

You cannot schedule a system reload using the Web management interface.

Reloading after a Specific Amount of Time

To schedule a system reload to occur after a specific amount of time has passed on the system clock, use one of the following methods.

USING THE CLI

To schedule a system reload from the secondary flash one day and 12 hours later, enter the following command at the global CONFIG level of the CLI:

```
ProCurveRS# reload after 01:12:00 secondary
```

Syntax: reload after <dd:hh:mm> [primary | secondary]

<dd:hh:mm> is the number of days, hours, and minutes.

primary | secondary specifies whether the reload is to occur from the primary code flash module or the secondary code flash module.

USING THE WEB MANAGEMENT INTERFACE

You cannot schedule a system reload using the Web management interface.

Displaying the Amount of Time Remaining Before a Scheduled Reload

To display how much time is remaining before a scheduled system reload takes place, use one of the following methods.

USING THE CLI

To display how much time is remaining before a scheduled system reload, enter the following command from any level of the CLI:

```
ProCurveRS# show reload
```

USING THE WEB MANAGEMENT INTERFACE

You cannot display information about a scheduled reload using the Web management interface.

Canceling a Scheduled Reload

To cancel a scheduled reload, use one of the following methods.

USING THE CLI

To cancel a scheduled system reload using the CLI, enter the following command at the global CONFIG level:

```
ProCurveRS# reload cancel
```

USING THE WEB MANAGEMENT INTERFACE

You cannot cancel a scheduled reload using the Web management interface.

Diagnostic Error Codes and Remedies for TFTP Transfers

If an error occurs with a TFTP transfer to or from a ProCurve Routing Switch, one of the following error codes is displayed.

Error code	Message	Explanation and action
1	Flash read preparation failed.	A flash error occurred during the download. Retry the download. If it fails again, contact customer support.
2	Flash read failed.	
3	Flash write preparation failed.	
4	Flash write failed.	
5	TFTP session timeout.	TFTP failed because of a time out. Check IP connectivity and make sure the TFTP server is running.
6	TFTP out of buffer space.	The file is larger than the amount of room on the device or TFTP server. If you are copying an image file to flash, first copy the other image to your TFTP server, then delete it from flash. (Use the erase flash... CLI command at the Privileged EXEC level to erase the image in the flash.) If you are copying a configuration file to flash, edit the file to remove unneeded information, then try again.
7	TFTP busy, only one TFTP session can be active.	Another TFTP transfer is active on another CLI session or Web management session. Wait, then retry the transfer.
8	File type check failed.	You accidentally attempted to copy the incorrect image code into the system. Retry the transfer using the correct image.
16	TFTP remote - general error.	The TFTP configuration has an error. The specific error message describes the error. Correct the error, then retry the transfer.
17	TFTP remote - no such file.	
18	TFTP remote - access violation.	
19	TFTP remote - disk full.	
20	TFTP remote - illegal operation.	
21	TFTP remote - unknown transfer ID.	
22	TFTP remote - file already exists.	
23	TFTP remote - no such user.	