Working with the Software Images

Information About Software Images

You can archive (download and upload) software image files, which contain the system software, the Cisco IOS code, and the embedded Device Manager software.

You can download a switch image file from a TFTP, FTP, or RCP server to upgrade the switch software. If you do not have access to a TFTP server, you can download a software image file directly to your PC or workstation by using a web browser (HTTP) and then by using Device Manager or Cisco Network Assistant to upgrade your switch. For information about upgrading your switch by using a TFTP server or a web browser (HTTP), see the release notes.

You can replace the current image with the new one or keep the current image in flash memory after a download.

You can use the **archive download-sw /allow-feature-upgrade** privileged EXEC command to allow installation of an image with a different feature set, for example, upgrading from the universal image to the IP services feature set. You can also use the **boot auto-download-sw** global configuration command to specify a URL to use to get an image for automatic software upgrades. When you enter this command, the master switch uses this URL in case of a version mismatch.

You upload a switch image file to a TFTP, FTP, or RCP server for backup purposes. You can use this uploaded image for future downloads to the same switch or to another of the same type.

The protocol that you use depends on which type of server you are using. The FTP and RCP transport methods provide faster performance and more reliable delivery of data than TFTP. These improvements are possible because FTP and RCP are built on and use the TCP/IP stack, which is connection-oriented.

These sections contain this configuration information:

Note For a list of software images and the supported upgrade paths, see the release notes.

Image Location on the Switch

The Cisco IOS image is stored as a *.bin* file in a directory that shows the version number. A subdirectory contains the files needed for web management. The image is stored on the system board flash memory (flash:).

You can use the **show version** privileged EXEC command to see the software version that is currently running on your switch. In the display, check the line that begins with System image file is... . It shows the directory name in flash memory where the image is stored.

You can also use the **dir** *filesystem***:** privileged EXEC command to see the directory names of other software images that you might have stored in flash memory. You can use the **archive download-sw /directory** privileged EXEC command to specify a directory once followed by a tar file or list of tar files to be downloaded instead of specifying complete paths with each tar file.

File Format of Images on a Server or Cisco.com

Software images on a server or downloaded from Cisco.com are in a file format, which contains these files:

- An *info* file, which serves as a table of contents for the file
- One or more subdirectories containing other images and files, such as Cisco IOS images and web management files

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Table 3-1 info File Description

Field	Description
version_suffix	Specifies the Cisco IOS image version string suffix.
version_directory	Specifies the directory where the Cisco IOS image and the HTML subdirectory are installed.
image_name	Specifies the name of the Cisco IOS image in the file.
ios_image_file_size	Specifies the Cisco IOS image size in the file, which is an approximate measure of the flash memory that the Cisco IOS image needs.
total_image_file_size	Specifies the size of all the images (the Cisco IOS image and the web management files) in the file, which is an approximate measure of the flash memory needed.
image_feature	Describes the core functionality of the image.
image_min_dram	Specifies the minimum amount of DRAM needed to run this image.
image_family	Describes the family of products on which the software can be installed.

Copying Image Files Using TFTP

You can download a switch image from a TFTP server or upload the image from the switch to a TFTP server.

You download a switch image file from a server to upgrade the switch software. You can overwrite the current image with the new one or keep the current image after a download.

You upload a switch image file to a server for backup purposes; this uploaded image can be used for future downloads to the same or another switch of the same type.

Note Instead of using the **copy** privileged EXEC command or the **archive tar** privileged EXEC command, we recommend using the **archive download-sw** and **archive upload-sw** privileged EXEC commands to download and upload software image files. For switch stacks, the **archive download-sw** and **archive upload-sw** privileged EXEC commands can only be used through the stack master. Software images downloaded to the stack master are automatically downloaded to the rest of the stack members.

These sections contain this configuration information:

Preparing to Download or Upload an Image File Using TFTP

Before you begin downloading or uploading an image file by using TFTP, do these tasks:

- Ensure that the workstation acting as the TFTP server is properly configured. On a Sun workstation, make sure that the /etc/inetd.conf file contains this line:

  ```
  tftp dgram udp wait root /usr/etc/in.tftpd in.tftpd -p -s /tftpboot
  ```

  Make sure that the /etc/services file contains this line:

  ```
  tftp 69/udp
  ```

  Note You must restart the inetd daemon after modifying the /etc/inetd.conf and /etc/services files. To restart the daemon, either stop the inetd process and restart it, or enter a **fastboot** command (on the SunOS 4.x) or a **reboot** command (on Solaris 2.x or SunOS 5.x). For more information on the TFTP daemon, see the documentation for your workstation.

- Ensure that the switch has a route to the TFTP server. The switch and the TFTP server must be in the same subnetwork if you do not have a router to route traffic between subnets. Check connectivity to the TFTP server by using the **ping** command.
- Ensure that the image to be downloaded is in the correct directory on the TFTP server (usually /tftpboot on a UNIX workstation).
- For download operations, ensure that the permissions on the file are set correctly. The permission on the file should be world-read.
- Before uploading the image file, you might need to create an empty file on the TFTP server. To create an empty file, enter the **touch** *filename* command, where *filename* is the name of the file you will use when uploading the image to the server.
- During upload operations, if you are overwriting an existing file (including an empty file, if you had to create one) on the server, ensure that the permissions on the file are set correctly. Permissions on the file should be world-write.

Downloading an Image File Using TFTP

You can download a new image file and replace the current image or keep the current image.

Beginning in privileged EXEC mode, follow Step 1 to download a new image from a TFTP server and to overwrite the existing image. To keep the current image, follow Step 2.

	Command	Purpose
Step 1	**archive download-sw** [**/directory**] **/overwrite /reload tftp:**[[*//location*]*/directory*]*/image-name1***.tar** [*image-name2***.tar** *image-name3***.tar** *image-name4***.tar**] **Example:** `Switch# archive download-sw /overwrite /relaod tftp:172.20.10.30/saved/myImage.tar`	(Optional) Downloads the image files from the TFTP server to the switch, and overwrites the current image. • **/directory**—(Optional) Specifies a directory for the images. • **/overwrite—** Overwrites the software image in flash memory with the downloaded image. • **/reload—** Reloads the system after downloading the image unless the configuration has been changed and not been saved. • ***//location***—The IP address of the TFTP server. • */directory/image-name1***.tar** [*/directory/image-name2***.tar** *image-name3***.tar** *image-name4***.tar**]—The directory (optional) and the images to download.
Step 2	**archive download-sw** [**/directory**] **/leave-old-sw /reload tftp:**[[*//location*]*/directory*]*/image-name1***.tar** [*image-name2***.tar** *image-name3***.tar** *image-name4***.tar**] **Example:** `Switch# archive download-sw /leave-old-sw /relaod tftp:172.20.10.30/saved/myImage.tar`	(Optional) Downloads the images file from the TFTP server to the switch and saves the current image. • **/directory**—(Optional) Specifies a directory for the images. • **/leave-old-sw**—Saves the old software version after a download. • **/reload—** Reloads the system after downloading the image unless the configuration has been changed and not been saved. • ***//location***—The IP address of the TFTP server. • */directory/image-name1***.tar** [*/directory/image-name2***.tar** *image-name3***.tar** *image-name4***.tar**]—The directory (optional) and the images to download.

The download algorithm verifies that the image is appropriate for the switch model and that enough DRAM is present, or it aborts the process and reports an error. If you specify the **/overwrite** option, the download algorithm removes the existing image on the flash device whether or not it is the same as the new one, downloads the new image, and then reloads the software.

Note If the flash device has sufficient space to hold two images and you want to overwrite one of these images with the same version, you must specify the **/overwrite** option.

If you specify the **/leave-old-sw**, the existing files are not removed. If there is not enough space to install the new image and keep the current running image, the download process stops, and an error message is displayed.

The algorithm installs the downloaded image on the system board flash device (flash:). The image is placed into a new directory named with the software version string, and the BOOT environment variable is updated to point to the newly installed image.

If you kept the old image during the download process (you specified the **/leave-old-sw** keyword), you can remove it by entering the **delete /force /recursive** *filesystem***:/***file-url* privileged EXEC command. For *filesystem*, use **flash:** for the system board flash device. For *file-url*, enter the directory name of the old image. All the files in the directory and the directory are removed.

Caution For the download and upload algorithms to operate properly, do *not* rename image names.

Uploading an Image File Using TFTP

You can upload an image from the switch to a TFTP server. You can later download this image to the switch or to another switch of the same type.

Use the upload feature only if the web management pages associated with Device Manager have been installed with the existing image.

Beginning in privileged EXEC mode, follow this step to upload an image to a TFTP server:

	Command	Purpose
Step 1	**archive upload-sw tftp:**[[*//location*]*/directory*]*/image-name***.tar** **Example:** `Switch# archive upload-sw tftp:172.20.10.30/saved/myImage.tar`	Uploads the currently running switch image to the TFTP server. • *//location*—The IP address of the TFTP server. • */directory/image-name***.tar**—The directory (optional) and the name of the software image to be uploaded.

The **archive upload-sw** privileged EXEC command builds an image file on the server by uploading these files in order: info, the Cisco IOS image, and the web management files. After these files are uploaded, the upload algorithm creates the file format.

Caution For the download and upload algorithms to operate properly, do *not* rename image names.

Copying Image Files Using FTP

You can download a switch image from an FTP server or upload the image from the switch to an FTP server.

You download a switch image file from a server to upgrade the switch software. You can overwrite the current image with the new one or keep the current image after a download.

You upload a switch image file to a server for backup purposes. You can use this uploaded image for future downloads to the switch or another switch of the same type.

Note Instead of using the **copy** privileged EXEC command or the **archive tar** privileged EXEC command, we recommend using the **archive download-sw** and **archive upload-sw** privileged EXEC commands to download and upload software image files. For switch stacks, the **archive download-sw** and **archive upload-sw** privileged EXEC commands can only be used through the stack master. Software images downloaded to the stack master are automatically downloaded to the rest of the stack members.

These sections contain this configuration information:

Preparing to Download or Upload an Image File Using FTP

You can copy images files to or from an FTP server.

The FTP protocol requires a client to send a remote username and password on each FTP request to a server. When you copy an image file from the switch to a server by using FTP, the Cisco IOS software sends the first valid username in this list:

- The username specified in the **archive download-sw** or **archive upload-sw** privileged EXEC command if a username is specified.
- The username set by the **ip ftp username** *username* global configuration command if the command is configured.
- Anonymous.

The switch sends the first valid password in this list:

- The password specified in the **archive download-sw** or **archive upload-sw** privileged EXEC command if a password is specified.
- The password set by the **ip ftp password** *password* global configuration command if the command is configured.
- The switch creates a password named *username@switchname.domain*. The *username* variable is the username associated with the current session, *switchname* is the configured hostname, and *domain* is the domain of the switch.

The username and password must be associated with an account on the FTP server. If you are writing to the server, the FTP server must be properly configured to accept the FTP write request from you.

Use the **ip ftp username** and **ip ftp password** commands to specify a username and password for all copies. Include the username in the **archive download-sw** or **archive upload-sw** privileged EXEC command if you want to specify a username only for that operation.

If the server has a directory structure, the image file is written to or copied from the directory associated with the username on the server. For example, if the image file resides in the home directory of a user on the server, specify that user's name as the remote username.

Before you begin downloading or uploading an image file by using FTP, complete these tasks:

- Ensure that the switch has a route to the FTP server. The switch and the FTP server must be in the same subnetwork if you do not have a router to route traffic between subnets. Check connectivity to the FTP server by using the **ping** command.
- If you are accessing the switch through the console or a Telnet session and you do not have a valid username, make sure that the current FTP username is the one that you want to use for the FTP download. You can enter the **show users** privileged EXEC command to view the valid username. If you do not want to use this username, create a new FTP username by using the **ip ftp username** *username* global configuration command. This new name will be used during all archive operations. The new username is stored in NVRAM. If you are accessing the switch through a Telnet session and you have a valid username, this username is used, and you do not need to set the FTP username. Include the username in the **archive download-sw** or **archive upload-sw** privileged EXEC command if you want to specify a username for that operation only.

- When you upload an image file to the FTP server, it must be properly configured to accept the write request from the user on the switch.

For more information, see the documentation for your FTP server.

Downloading an Image File Using FTP

You can download a new image file and overwrite the current image or keep the current image.

Beginning in privileged EXEC mode, follow Steps 1 through 7 to download a new image from an FTP server and to overwrite the existing image. To keep the current image, follow Steps 1 to 6 and Step 8.

	Command	Purpose
Step 1	**configure terminal** **Example:** `Switch# configure terminal`	(Optional) Enters global configuration mode on the switch. This step is required only if you override the default remote username or password.
Step 2	**ip ftp username** *username* **Example:** `Switch(confg)# ip ftp username NetAdmin1`	(Optional) Changes the default remote FTP username.
Step 3	**ip ftp password** *password* **Example:** `Switch(confg)# ip ftp password adminpassword`	(Optional) Changes the default FTP password.
Step 4	**end** **Example:** `Switch(confg)# end`	Returns to privileged EXEC mode.

	Command	Purpose
Step 5	**archive download-sw** [**/directory**] **/overwrite /reload ftp:**[[*//username*[*:password*]*@location*]*/directory*] */image-name1*.**tar** [*image-name2*.**tar** *image-name3*.**tar** *image-name4*.**tar**] **Example:** `Switch# archive download-sw /overwrite /relaod ftp:172.20.10.30/saved/myImage.tar`	(Optional) Downloads the image files from the FTP server to the switch, and overwrites the current image. • **/directory**—(Optional) Specifies a directory for the images. • **/overwrite—** Overwrites the software image in flash memory with the downloaded image. • **/reload—** Reloads the system after downloading the image unless the configuration has been changed and not been saved. • *//username*[**:***password*]—The username and password associated with an account on the FTP server. For more information, see the "Preparing to Download or Upload an Image File Using FTP" section on page 3-6. • *@location*—The IP address of the FTP server. • */directory/image-name1*.**tar** [*/directory/image-name2*.**tar** *image-name3*.**tar** *image-name4*.**tar**]—The directory (optional) and the images to download.
Step 6	**archive download-sw** [**/directory**] **/leave-old-sw /reload ftp:**[[*//username*[*:password*]*@location*]*/directory*] */image-name1*.**tar** [*image-name2*.**tar** *image-name3*.**tar** *image-name4*.**tar**] **Example:** `Switch# archive download-sw /leave-old-sw /relaod ftp:172.20.10.30/saved/myImage.tar`	(Optional) Downloads the image files from the FTP server to the switch and saves the current image. • **/directory**—(Optional) Specifies a directory for the images. • **/leave-old-sw**—Saves the old software version after a download. • **/reload—** Reloads the system after downloading the image unless the configuration has been changed and not been saved. • *//username*[**:***password*]—The username and password associated with an account on the FTP server. For more information, see the "Preparing to Download or Upload an Image File Using FTP" section on page 3-6. • *@location*—The IP address of the TFTP server. • */directory/image-name1*.**tar** [*/directory/image-name2*.**tar** *image-name3*.**tar** *image-name4*.**tar**]—The directory (optional) and the images to download.

The download algorithm verifies that the image is appropriate for the switch model and that enough DRAM is present, or it aborts the process and reports an error. If you specify the **/overwrite** option, the download algorithm removes the existing image on the flash device, whether or not it is the same as the new one, downloads the new image, and then reloads the software.

Note If the flash device has sufficient space to hold two images and you want to overwrite one of these images with the same version, you must specify the **/overwrite** option.

If you specify the **/leave-old-sw** option, the existing files are not removed. If there is not enough space to install the new image and keep the running image, the download process stops, and an error message is displayed.

The algorithm installs the downloaded image onto the system board flash device (flash:). The image is placed into a new directory named with the software version string, and the BOOT environment variable is updated to point to the newly installed image.

If you kept the old image during the download process (you specified the **/leave-old-sw** keyword), you can remove it by entering the **delete /force /recursive** *filesystem***:/***file-url* privileged EXEC command. For *filesystem*, use **flash:** for the system board flash device. For *file-url*, enter the directory name of the old software image. All the files in the directory and the directory are removed.

Caution For the download and upload algorithms to operate properly, do *not* rename image names.

Uploading an Image File Using FTP

You can upload an image from the switch to an FTP server. You can later download this image to the same switch or to another switch of the same type.

Use the upload feature only if the web management pages associated with Device Manager have been installed with the existing image.

Beginning in privileged EXEC mode, follow these steps to upload an image to an FTP server:

	Command	Purpose
Step 1	**configure terminal** **Example:** `Switch# configure terminal`	(Optional) Enters global configuration mode on the switch. This step is required only if you override the default remote username or password.
Step 2	**ip ftp username** *username* **Example:** `Switch(confg)# ip ftp username NetAdmin1`	(Optional) Changes the default remote FTP username.
Step 3	**ip ftp password** *password* **Example:** `Switch(confg)# ip ftp password adminpassword`	(Optional) Changes the default FTP password.

	Command	Purpose
Step 4	**end** **Example:** `Switch(confg)# end`	Returns to privileged EXEC mode.
Step 5	**archive upload-sw ftp:**[[**//**[*username*[**:***password*]**@**]*location*]*/directory*]**/***image-name***.tar**. **Example:** `Switch# archive upload-sw ftp://172.20.10.30/myImage.tar`	Uploads the currently running switch image to the FTP server. • ***//username*:*password***—The username and password associated with an account on the FTP server. For more information, see the "Preparing to Download or Upload an Image File Using FTP" section on page 3-6. • ***@location***—The IP address of the FTP server. • ***/directory/image-name*.tar**—The directory (optional) and the name of the software image to be uploaded.

The **archive upload-sw** command builds an image file on the server by uploading these files in order: info, the Cisco IOS image, and the web management files. After these files are uploaded, the upload algorithm creates the file format.

Caution For the download and upload algorithms to operate properly, do *not* rename image names.

Copying Image Files Using RCP

You can download a switch image from an RCP server or upload the image from the switch to an RCP server.

You download a switch image file from a server to upgrade the switch software. You can overwrite the current image with the new one or keep the current image after a download.

You upload a switch image file to a server for backup purposes. You can use this uploaded image for future downloads to the same switch or another of the same type.

Note Instead of using the **copy** privileged EXEC command or the **archive tar** privileged EXEC command, we recommend using the **archive download-sw** and **archive upload-sw** privileged EXEC commands to download and upload software image files. For switch stacks, the **archive download-sw** and **archive upload-sw** privileged EXEC commands can only be used through the stack master. Software images downloaded to the stack master are automatically downloaded to the rest of the stack members.

These sections contain this configuration information:

Preparing to Download or Upload an Image File Using RCP

RCP provides another method of downloading and uploading image files between remote hosts and the switch. Unlike TFTP, which uses User Datagram Protocol (UDP), a connectionless protocol, RCP uses TCP, which is connection-oriented.

To use RCP to copy files, the server from or to which you will be copying files must support RCP. The RCP copy commands rely on the rsh server (or daemon) on the remote system. To copy files by using RCP, you do not need to create a server for file distribution as you do with TFTP. You only need to have access to a server that supports the remote shell (rsh). (Most UNIX systems support rsh.) Because you are copying a file from one place to another, you must have read permission on the source file and write permission on the destination file. If the destination file does not exist, RCP creates it for you.

RCP requires a client to send a remote username on each RCP request to a server. When you copy an image from the switch to a server by using RCP, the Cisco IOS software sends the first valid username in this list:

- The username specified in the **archive download-sw** or **archive upload-sw** privileged EXEC command if a username is specified.
- The username set by the **ip rcmd remote-username** *username* global configuration command if the command is entered.
- The remote username associated with the current TTY (terminal) process. For example, if the user is connected to the router through Telnet and was authenticated through the **username** command, the switch software sends the Telnet username as the remote username.
- The switch hostname.

For the RCP copy request to execute successfully, an account must be defined on the network server for the remote username. If the server has a directory structure, the image file is written to or copied from the directory associated with the remote username on the server. For example, if the image file resides in the home directory of a user on the server, specify that user's name as the remote username.

Before you begin downloading or uploading an image file by using RCP, do these tasks:

- Ensure that the workstation acting as the RCP server supports the remote shell (rsh).
- Ensure that the switch has a route to the RCP server. The switch and the server must be in the same subnetwork if you do not have a router to route traffic between subnets. Check connectivity to the RCP server by using the **ping** command.
- If you are accessing the switch through the console or a Telnet session and you do not have a valid username, make sure that the current RCP username is the one that you want to use for the RCP download. You can enter the **show users** privileged EXEC command to view the valid username. If you do not want to use this username, create a new RCP username by using the **ip rcmd remote-username** *username* global configuration command to be used during all archive operations. The new username is stored in NVRAM. If you are accessing the switch through a Telnet session and you have a valid username, this username is used, and there is no need to set the RCP username. Include the username in the **archive download-sw** or **archive upload-sw** privileged EXEC command if you want to specify a username only for that operation.
- When you upload an image to the RCP to the server, it must be properly configured to accept the RCP write request from the user on the switch. For UNIX systems, you must add an entry to the .rhosts file for the remote user on the RCP server. For example, suppose the switch contains these configuration lines:

```
hostname Switch1
ip rcmd remote-username User0
```

If the switch IP address translates to *Switch1.company.com*, the .rhosts file for User0 on the RCP server should contain this line:

```
Switch1.company.com Switch1
```

For more information, see the documentation for your RCP server.

Downloading an Image File Using RCP

You can download a new image file and replace or keep the current image.

Beginning in privileged EXEC mode, follow Steps 1 through 6 to download a new image from an RCP server and overwrite the existing image. To keep the current image, go to Step 6.

	Command	Purpose
Step 1	**configure terminal** **Example:** `Switch# configure terminal`	Enters global configuration mode. This step is required only if you override the default remote username (see Steps 4 and 5).
Step 2	**ip rcmd remote-username** *username* **Example:** `Switch(config)# ip rcmd remote-username netadmin1`	(Optional) Specifies the remote username.
Step 3	**end** **Example:** `Switch(confg)# end`	Returns to privileged EXEC mode.
Step 4	**archive download-sw /overwrite /reload rcp:**[[**//***[username@location]***/***directory***]/***image-name1***.tar** [*image-name2***.tar** *image-name3***.tar** *image-name4***.tar**] **Example:** `Switch# archive download-sw /overwrite /relaod rcp://172.20.10.30/saved/myImage.tar`	Downloads the images file from the RCP server to the switch and overwrites the current image. • **/overwrite—** Overwrites the software image in flash memory with the downloaded image. • **/reload—** Reloads the system after downloading the image unless the configuration has been changed and not been saved. • **//***username*—The username associated with an account on the network server. For more information, see the "Preparing to Download or Upload an Image File Using RCP" section on page 3-11. • *@location*—The IP address of the RCP server. • */directory/image-name1***.tar** [*/directory/image-name2***.tar** *image-name3***.tar** *image-name4***.tar**]—The directory (optional) and the images to download.

	Command	Purpose
Step 5	**archive download-sw /leave-old-sw /reload rcp:**[[**//***[username@location]***/***directory*]**/***image-name1***.tar** [*image-name2***.tar** *image-name3***.tar** *image-name4***.tar**] **Example:** `Switch# archive download-sw /leave-old-sw rcp://172.20.10.30/myNewImage.tar`	Downloads the images file from the RCP server to the switch and saves the current image. • **/leave-old-sw**—Saves the old software version after a download. • **/reload—** Reloads the system after downloading the image unless the configuration has been changed and not been saved. • **//***username*—The username associated with an account on the network server. For more information, see the "Preparing to Download or Upload an Image File Using RCP" section on page 3-11. • **@***location*—The IP address of the RCP server. • **/***directory***/***image-name1***.tar** [**/***directory***/***image-name2***.tar** *image-name3***.tar** *image-name4***.tar**]—The directory (optional) and the images to download.

The download algorithm verifies that the image is appropriate for the switch model and that enough DRAM is present, or it aborts the process and reports an error. If you specify the **/overwrite** option, the download algorithm removes the existing image on the flash device whether or not it is the same as the new one, downloads the new image, and then reloads the software.

Note If the flash device has sufficient space to hold two images and you want to overwrite one of these images with the same version, you must specify the **/overwrite** option.

If you specify the **/leave-old-sw**, the existing files are not removed. If there is not enough room to install the new image and keep the running image, the download process stops, and an error message is displayed.

The algorithm installs the downloaded image onto the system board flash device (flash:). The image is placed into a new directory named with the software version string, and the BOOT environment variable is updated to point to the newly installed image.

If you kept the old software during the download process (you specified the **/leave-old-sw** keyword), you can remove it by entering the **delete /force /recursive** *filesystem***:/***file-url* privileged EXEC command. For *filesystem*, use **flash:** for the system board flash device. For *file-url*, enter the directory name of the old software image. All the files in the directory and the directory are removed.

Caution For the download and upload algorithms to operate properly, do *not* rename image names.

Uploading an Image File Using RCP

You can upload an image from the switch to an RCP server. You can later download this image to the same switch or to another switch of the same type.

The upload feature should be used only if the web management pages associated with Device Manager have been installed with the existing image.

Beginning in privileged EXEC mode, follow these steps to upload an image to an RCP server:

	Command	Purpose
Step 1	**configure terminal** **Example:** `Switch# configure terminal`	Enters global configuration mode. This step is required only if you override the default remote username (see Steps 4 and 5).
Step 2	**ip rcmd remote-username** *username*	(Optional) Specifies the remote username.
Step 3	**end**	Returns to privileged EXEC mode.
Step 4	**archive upload-sw rcp:**[[[**//**[*username*@*location*]**/***directory*]**/***image-name*.**tar**] **Example:** `Switch# archive upload-sw rcp:`	Uploads the currently running switch image to the network server. • **//***username*—The username associated with an account on the network server. For more information, see the "Preparing to Download or Upload an Image File Using RCP" section on page 3-11. • @*location*—The IP address of the RCP server. • **/***directory***/***image-name1***.tar** [**/***directory***/***image-name2***.tar** *image-name3***.tar** *image-name4***.tar**]—The directory (optional) and the images to download.

The **archive upload-sw** privileged EXEC command builds an image file on the server by uploading these files in order: info, the Cisco IOS image, and the web management files. After these files are uploaded, the upload algorithm creates the file format.

Caution For the download and upload algorithms to operate properly, do *not* rename image names.