Upgrading the Software

You can upgrade your software in the following ways:

- From the Cisco IOS command-line interface (CLI)
- From the ROM monitor

Cisco recommends upgrading your software from the CLI for the following reasons:

- You can leave your router running during the software upgrade, but if you upgrade from the ROM monitor, you have to power down your router.
- Your overall software upgrade time is shorter if you use the CLI than if you upgrade from the ROM monitor. (The software upgrade time from the CLI can vary depending on the amount of activity on the link and whether the Trivial File Transfer Protocol [TFTP] server is local or remote.)

To upgrade your software from the CLI, you need a Cisco 805 router that is running Cisco IOS software and a TFTP server.

Upgrading Software from the CLI

Follow these steps to upgrade the software:

Step 1 To download a current Cisco IOS release, go to the following URL. This URL is subject to change without notice.

http://www.cisco.com/cgi-bin/ibld/all.pl?i=support&c=3

The Service and Support window is displayed.

Step 2 Follow this path:

Cisco IOS Software: Cisco IOS Release *release_number***: Download Cisco IOS Software**

Step 3 Select the appropriate information in each section of the Cisco IOS Planner window.

- Platform
- Release
- Software feature

Step 4 Transfer the software release to your TFTP server.

The download of software from the TFTP server to the router can occur through either the router Ethernet or serial port. You can initiate a session with the TFTP server through either the console port or a Telnet session.

Step 5 Modify Flash memory so that you can load your new software image in Flash memory and yet the run the old image:

```
router# erase flash
```

Step 6 From the privileged EXEC mode, download the software from the TFTP server:

```
router# copy tftp://ip/filename flash:filename
```

ip is either the IP address of the TFTP server or if you have the domain name system (DNS) set up, the name of the TFTP server.

Step 7 Enter global configuration mode:

```
router# configure
router(config)#
```

Step 8 Specify the image that the router loads at startup:

```
router(config)# boot system flash filename
```

filename is the file stored in Flash memory that you specified in Step 6.

Exit to privileged EXEC mode:

```
router(config)# exit
router#
```

Step 9 Save your configuration changes to nonvolatile RAM (NVRAM):

```
router# copy running-config startup-config
```

Step 10 Reload the operating system:

```
router# reload
```

Upgrading Software from ROM Monitor

Follow these steps to upgrade your software:

Step 1 To download a current Cisco IOS release, go to the following URL. This URL is subject to change without notice.

http://www.cisco.com/kobayashi/sw-center

The Software Center window is displayed.

Step 2 Follow this path:

Cisco IOS Software: Cisco IOS Release *release_number***: Download Cisco IOS Software**

Step 3 Select the appropriate information in each section of the Cisco IOS Planner window.

- Platform
- Release
- Software feature

Transfer the software release to one of the sources described in Table B-1.

Table B-1 Software Image Download Sources

Source	Source Connection to Router
TFTP server	Data passes through Ethernet or serial port. Session is initiated through console port or Telnet session.
Host running the XMODEM protocol and terminal emulation software such as HyperTerm.[1]	Router console port.

1 For information on terminal emulation software and the appropriate console settings so that the host and router can communicate, refer to Chapter 2, "Cisco IOS Basic Skills."

Step 4 Enter the ROM monitor by performing the following steps:

(a) Reload the software by doing one of the following:

- Enter the following command from privileged EXEC mode:

```
router# reload
```

- Turn the router to STANDBY, wait 5 seconds, and then turn it to ON again.

(b) Immediately press **Escape**, **Control-C**, or **Break**.

The router enters the ROM monitor as indicated by the following prompt:

```
boot#
```

Step 5 Set up a default filename for the software image:

```
boot# set file-name=filename
```

Step 6 Download your software.

Follow the procedure in the "Downloading Software from a TFTP Server" section or in the "Downloading Software from a Host Running XMODEM and a Terminal Emulator" section later in this appendix.

Downloading Software from a TFTP Server

The following procedure describes how to download software from a TFTP server. This procedure uses the following sample network:

- Cisco 805 router with an IP address of 10.1.0.1 and a subnet mask of 255.255.255.0
- TFTP server with an IP address of 10.2.0.2
- Gateway server with an IP address of 10.1.0.2

Step 1 Set IP address for the TFTP server:

```
boot# set serv-ip = 10.2.0.2
```

Step 2 Set IP address and subnet mask for the router:

```
boot# set unit-ip = 10.1.0.1
boot# set netmask = 255.255.255.0
```

Step 3 If the TFTP server is on a different subnet than the router, set up an IP address for a gateway server:

```
boot# set gate-ip = 10.1.0.2
```

Step 4 Download the software image from the TFTP server:

```
boot# upload tftp
```

The following is a sample of output that displays while the software is downloading:

```
TFTP initiated.

File name: c800-g3n-mw
RAM size: 0x00650bc8 (6622152)
Raw size: 0x00541415 (5510228)
Image size: 0x002cbc28 (2931752)
>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>
upload: succeeded (17 seconds).
```

Step 5 Check to make sure that the software image has been downloaded to RAM:

```
boot# list
```

Step 6 Mark the old software image for deletion:

```
boot# delete filename
```

Step 7 Delete the old software image:

```
boot# erase
```

Step 8 Save the new software image to Flash memory:

```
boot# save file
```

Step 9 Check to make sure that the new software image has been saved to Flash memory:

```
boot# list
```

Step 10 Boot the new software image:

```
boot# boot flash
```

Downloading Software from a Host Running XMODEM and a Terminal Emulator

The following procedure describes how to download software from a host running XMODEM and a terminal emulator.

Step 1 Increase the router console port baud rate:

```
boot# set baud=115200
```

Step 2 Reset the console port:

```
boot# reset
```

Step 3 Optional. If you want the router console port to continue running at 115200 baud, you can save the configuration:

```
boot# save
```

Step 4 Change your host baud rate to 115200.

For the new baud rate to take effect, you might need to save the new baud rate, exit from the terminal emulator, and reestablish a new session.

Step 5 Download the software image from the host:

```
boot# upload xmodem
```

The following is a sample of output that displays while the software is downloading:

```
Ready for X/Modem upload...

[note: no status bar for xmodem transfers,
abort with Control-X or break]

upload: succeeded (312 seconds).
```

Step 6 From your host, enter the XMODEM **send** command for your terminal emulation software.

For example, if you are using HyperTerm, click the Transfer menu and select **Send File**. The Send File dialog box appears. Click **Browse** to locate the software image. Select **XMODEM** as the protocol, and click **Send**.

Step 7 Check to make sure that the software image has been downloaded to RAM:

```
boot# list
```

Step 8 Mark the old software image for deletion:

```
boot# delete filename
```

Step 9 Delete the old software image:

```
boot# erase
```

Step 10 Save the new software image to Flash memory:

```
boot# save file
```

Step 11 Check to make sure that the new software image has been saved to Flash memory:

```
boot# list
```

Step 12 Boot the new software image:

```
boot# boot flash
```

Downloading Software from a Host Running Only a Terminal Emulator

The following procedure describes how to download software from a host running a terminal emulator but not XMODEM.

Note Any failure when using this method is not detected until the software download attempt is complete. (The download attempt can take a significant amount of time.) Because of the potential time lost, Cisco recommends downloading the software from a TFTP server or a host running XMODEM.

Step 1 Increase the router console port baud rate:

```
boot# set baud=115200
```

Step 2 Reset the console port:

```
boot# reset
```

Step 3 Optional. If you want the router console port to continue running at 115200 baud, you can save the configuration:

```
boot# save
```

Step 4 Change the host baud rate to 115200.

For the new baud rate to take effect, you might need to save the new baud rate, exit from the terminal emulator, and reestablish a new session.

Step 5 Change the host to **no flow control**.

Step 6 Download the software image from the host:

```
boot# upload serial
```

The following is a sample of output that displays while the software is downloading:

```
Ready for raw ASCII upload...

File name: c800-g3n-mw
RAM size: 0x00650bc8 (6622152)
Raw size: 0x00541455 (5510228)
Image size: 0x002cbc28 (2931752)
>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>
upload: succeeded (258 seconds).
```

Step 7 On your host, set the interline and intercharacter delays to zero.

Step 8 On your host, enter a raw serial upload command to your terminal emulation software.

Step 9 Check to make sure that the software image has been downloaded to RAM:

```
boot# list
```

Step 10 Mark the old software image for deletion:

```
boot# delete filename
```

Step 11 Delete the old software image:

```
boot# erase
```

Step 12 Save the new software image to Flash memory:

```
boot# save file
```

Step 13 Check to make sure that the new software image has been saved to Flash memory:

```
boot# list
```

Step 14 Boot the new software image:

```
boot# boot flash
```