



Doc. No. 78-5216-02

# Release Notes for Cisco IOS Release 11.3(2)XA1 Software Feature Packs—Cisco 2600 Series Routers

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**April 20, 1998**

These release notes discuss the Cisco IOS Release 11.3(2)XA1 feature packs for Cisco 2600 series routers. These are the product numbers for the supported feature packs:

- CD26-C-11.3x= (Cisco 2600 IP Feature Pack)
- CD26-CP-11.3x= (Cisco 2600 IP Plus Feature Pack)
- CD26-B-11.3x= (Cisco 2600 IP/IPX/AT/DEC Feature Pack)
- CD26-E-11.3x= (Cisco 2600 RAS Feature Pack)
- CD26-BP-11.3x= (Cisco 2600 IP/IPX/AT/DEC Plus Feature Pack)
- CD26-AP-11.3x= (Cisco 2600 Enterprise Plus Feature Pack)
- CD26-ANP-11.3x= (Cisco 2600 Enterprise/APPN Plus Feature Pack)

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**Note** The feature packs discussed in this document contain Cisco IOS Release 11.3(2)XA1 software images and a selection of previously release images. The feature packs contain Router Software Loader (RSL) Version 7.0.

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**Note** Before running RSL, read the sections “Installing Software Images Using RSL,” page 8.

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## Contents

These release notes discuss the following topics:

- Cisco Feature Packs and Memory Requirements, page 2
- Cisco IOS Feature Sets for the Cisco 2600 Series Routers, page 4
- Installing Software Images Using RSL, page 8

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## Cisco Feature Packs and Memory Requirements

This section explains the following:

- What Is a Feature Pack?
- Cisco IOS Release 11.3(2)XA1 Feature Pack Descriptions and Memory Requirements

### What Is a Feature Pack?

The heart of a Cisco IOS software feature pack is a CD-ROM that contains a software image and Router Software Loader (RSL), a Windows 95 application that loads the image onto the access server/router. Each Cisco IOS Release 11.3 feature pack CD-ROM contains one feature set. For users without Windows 95, images can also be loaded with a Trivial File Transfer Protocol (TFTP) server application, as explained in these release notes.

Each Cisco IOS Release 11.3 software feature pack box contains the following:

- CD-ROM with the following software:
  - Feature set software image that includes bundled modem firmware
  - RSL program (Windows 95 application)
  - TFTP server application (Windows 95 application)
- Instruction booklet for using RSL
- Release notes (this document), which includes instructions for using a TFTP server application, on a system not running Windows 95 Software license, for using Cisco software in object code form on a single access server or router
- Cisco Documentation CD-ROM, which contains all Cisco IOS software documentation

### Cisco IOS Release 11.3(2)XA1 Feature Pack Descriptions and Memory Requirements

This section includes two tables:

- Table 1—Describes each feature pack image, including a brief description of each feature set, the images' UNIX and DOS filenames, and memory requirements.
- Table 2—Describes the factory default available memory and the possible memory upgrades for the Cisco 2600 series routers.

You can use Table 1 to identify the memory required for your configuration based on the image you run. You can then check this against Table 2 to determine how much memory is available on the router as the factory default and the upgrades that you can obtain to satisfy your requirements.

**Table 1 Cisco Feature Pack Image Filenames and Memory Requirements**

Model Number	CD-ROM Title	UNIX Image Name	DOS Image Name	Flash Memory Req'd	Main Memory Req'd	RSL Installer Description
CD26-C-11.3x=	Cisco 2600 IP Feature Pack Release 11.3(2)XA1 RSL Version 7.0	c2600-i-mz.113-2.XA1	80255201	4 MB	16 MB	Cisco IOS 2600 Series IP Feature Set 11.3(2)XA1
CD26-CP-11.3x=	Cisco 2600 IP Plus Feature Pack Release 11.3(2)XA1 RSL Version 7.0	c2600-is-mz.113-2.XA1	80255101	8 MB	20 MB	Cisco IOS 2600 Series IP Plus Feature Set 11.3(2)XA1
CD26-B-11.3x=	Cisco 2600 IP/IPX/AT/DEC Feature Pack Release 11.3(2)XA1 RSL Version 7.0	c2600-d-mz.113-2.XA1	80255001	8 MB	16 MB	Cisco IOS 2600 Series IP/IPX/AT/DEC Feature Set 11.3(2)XA1
CD26-E-11.3x=	Cisco 2600 RAS Feature Pack Release 11.3(2)XA1 RSL Version 7.0	c2600-c-mz.113-2.XA1	80254901	4 MB	16 MB	Cisco IOS 2600 Series Remote Access Server Feature Set 11.3(2)XA1
CD26-BP-11.3x=	Cisco 2600 IP/IPX/AT/DEC Plus Feature Pack Release 11.3(2)XA1 RSL Version 7.0	c2600-ds-mz.113-2.XA1	80254801	8 MB	24 MB	Cisco IOS 2600 Series IP/IPX/AT/DEC Plus Feature Set 11.3(2)XA1
CD26-AP-11.3x=	Cisco 2600 Enterprise Plus Feature Pack Release 11.3(2)XA1 RSL Version 7.0	c2600-js-mz.113-2.XA1	80254701	8 MB	24 MB	Cisco IOS 2600 Series Enterprise Plus Feature Set 11.3(2)XA1
CD26-ANP-11.3x=	Cisco 2600 Enterprise/APPN Plus Feature Pack Release 11.3(2)XA1 RSL Version 7.0	c2600-ajs-mz.113-2.XA1	80254601	8 MB	32 MB	Cisco IOS 2600 Series Enterprise/APPN Plus Feature Set 11.3(2)XA1

**Note** You can use a calculator on the Web ([www.cisco.com/techtools/mem-calc.html](http://www.cisco.com/techtools/mem-calc.html)) to estimate the amount of memory that will be required for your Cisco 2600 configuration.

**Table 2 Cisco 2600 Default Memory and Upgrade Options**

Memory Type	Default	Upgrade Options
DRAM	16 MB	4-MB DRAM DIMM: MEM2600-4D= 8-MB DRAM DIMM: MEM2600-8D= 16-MB DRAM DIMM: MEM2600-16D= 32-MB DRAM DIMM: MEM2600-32D=

Memory Type	Default	Upgrade Options
Flash	4 MB	4-MB Flash SIMM: MEM2600-4FS= 8-MB Flash SIMM: MEM2600-8FS= 16-MB Flash SIMM: MEM2600-16FS=

## Cisco IOS Feature Sets for the Cisco 2600 Series Routers

The Cisco IOS software is packaged into “feature sets” (also called “software images”). There are many different feature sets available, and each feature set contains a specific subset of Cisco IOS features. The feature set matrix is used to see the overall feature set organization.

### Feature Set Matrix

The feature set matrix (see Table 3) shows the new feature set organization and lists which feature sets are available on the Cisco 2600 for Cisco IOS Release 11.3(2)XA1. The matrix uses the following symbols:

Feature Set Matrix Symbol	Description
Basic	This feature is offered in the basic feature set.
Plus	This feature is offered in the Plus feature set

**Table 3 Feature Set Matrix for the Cisco 2600 Series**

Standard Feature Sets	Cisco 2600 Series Routers
IP	Basic, Plus
Desktop (IP/IPX/AppleTalk/DEC)	Basic, Plus
Enterprise	Basic, Plus

### Feature Set Table

To determine what features are available with each feature set, see Table 4. The table summarizes what features you can use when running a specific feature set on the Cisco 2600 series routers for Cisco IOS Release 11.3(2)XA1. The feature set table uses the following symbols:

Feature Set Table Symbol	Description
Yes	This feature is offered in the feature set.
No	This feature is not offered in the feature set.

Table 4 Cisco IOS Software Feature Sets for the Cisco 2600 Series

Feature	Feature Set						
	IP	IP Plus	IP/IPX/AT/DEC	IP/IPX/AT/DEC Plus	Enterprise Plus	Enterprise/APPN Plus	Remote Access Server
<b>IBM Support</b>							
APPN High Performance Routing	No	No	No	No	No	Yes	No
APPN MIB Enhancements	No	No	No	No	No	Yes	No
APPN over Ethernet LAN Emulation	No	No	No	No	No	Yes	No
APPN Scalability Enhancements	No	No	No	No	No	Yes	No
Bisync Enhancements, includes: — Bisync 3780 Support — BSC Extended Addressing — Block Serial Tunneling (BSTUN) over Frame Relay	No	Yes	No	Yes	Yes	Yes	No
Cisco MultiPath Channel (CMPC)	No	No	No	No	No	No	No
DLSw+ Enhancements, includes: — Backup Peer Extensions for Encapsulation Types — DLSw+ Border Peer Caching — DLSw+ MIB Enhancements — DLSw+ SNA Type of Service — LLC2-to-SDLC Conversion between PU4 Devices — NetBIOS Dial-on-Demand Routing — UDP Unicast Enhancement	No	Yes	No	Yes	Yes	Yes	No
FRAS Enhancements, includes: — FRAS Boundary Network Node Enhancement — FRAS Dial Backup over DLSw+ — FRAS DLCI Backup — FRAS Host — FRAS MIB — SRB over Frame Relay	No	Yes	No	Yes	Yes	Yes	No
TN3270 LU Nailing	No	No	No	No	No	No	No
TN3270 Server Enhancements	No	No	No	No	No	No	No
Token Ring LANE	No	No	No	No	No	No	No

Table 4 Cisco IOS Software Feature Sets for the Cisco 2600 Series (Continued)

Feature	Feature Set						
	IP	IP Plus	IP/IPX/AT/DEC	IP/IPX/AT/DEC Plus	Enterprise Plus	Enterprise/APPN Plus	Remote Access Server
Tunneling of Asynchronous Security Protocols	No	Yes	No	Yes	Yes	Yes	No
<b>Internet</b>							
DRP Server Agent	Yes	Yes	Yes	Yes	Yes	Yes	No
DRP Server Agent Enhancements	Yes	Yes	Yes	Yes	Yes	Yes	No
<b>IP Routing</b>							
Easy IP (Phase 1)	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Hot Standby Router Protocol (HSRP) over ISL in Virtual LAN Configurations	No	Yes	Yes	Yes	Yes	Yes	No
IP Enhanced IGRP Route Authentication	Yes	Yes	Yes	Yes	Yes	Yes	Yes
TCP Enhancements, includes: — TCP Selective Acknowledgment — TCP Timestamp	Yes	Yes	Yes	Yes	Yes	Yes	Yes
<b>LAN Support</b>							
AppleTalk Access List Enhancements	No	No	Yes	Yes	Yes	Yes	No
DECnet Accounting	No	No	Yes	Yes	Yes	Yes	No
IPX Named Access Lists	No	No	Yes	Yes	Yes	Yes	Yes
IPX SAP-after-RIP	No	No	Yes	Yes	Yes	Yes	Yes
NLSP Enhancements	No	No	No	No	Yes	Yes	No
NLSP Multicast Support	No	No	Yes	Yes	Yes	Yes	No
<b>Management</b>							
Cisco Call History MIB Command Line Interface	No	No	No	No	No	No	No
Cisco IOS Internationalization	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Entity MIB, Phase 1	Yes	Yes	Yes	Yes	Yes	Yes	Yes
SNMPv2C	Yes	Yes	Yes	Yes	Yes	Yes	Yes
SNMP Inform Requests	No	No	No	No	Yes	Yes	Yes
Virtual Profiles	Yes	Yes	Yes	Yes	Yes	Yes	Yes
<b>Multimedia</b>							
IP Multicast Load Splitting across Equal-Cost Paths	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Table 4 Cisco IOS Software Feature Sets for the Cisco 2600 Series (Continued)

Feature	Feature Set						
	IP	IP Plus	IP/IPX/AT/DEC	IP/IPX/AT/DEC Plus	Enterprise Plus	Enterprise/APPN Plus	Remote Access Server
IP Multicast over ATM Point-to-Multipoint Virtual Circuits	No	No	No	No	No	No	No
IP Multicast over Token Ring LANs	Yes	Yes	Yes	Yes	Yes	Yes	Yes
PIM Version 2	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Stub IP Multicast Routing	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Voice over IP	No	Yes	No	Yes	Yes	Yes	Yes
<b>Quality of Service</b>							
RTP Header Compression	Yes	Yes	Yes	Yes	Yes	Yes	Yes
<b>Security</b>							
Double Authentication	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Encrypted Kerberized Telnet	No	No	No	No	No	No	No
HTTP Security	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Per-User Configuration	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Reflexive Access Lists	Yes	Yes	Yes	Yes	Yes	Yes	Yes
TCP Intercept	No	No	No	No	Yes	Yes	No
Vendor-Proprietary RADIUS Attributes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
<b>Switching</b>							
AppleTalk Routing over ISL and IEEE 802.10 in Virtual LANs	No	No	Yes	Yes	Yes	Yes	No
CLNS and DECnet Fast Switching over PPP	No	No	No	No	Yes	Yes	No
DECnet/VINES/XNS over ISL, includes: — Banyan VINES Routing over ISL Virtual LANs — DECnet Routing over ISL Virtual LANs — XNS Routing over ISL Virtual LANs	No	No	No	No	Yes	No	No
Fast-Switched Policy Routing	Yes	Yes	Yes	Yes	Yes	Yes	Yes
IPX Routing over ISL Virtual LANs	No	No	Yes	Yes	Yes	Yes	No
VIP Distributed Switching Support for IP Encapsulated in ISL	No	No	No	No	No	No	No

Table 4 Cisco IOS Software Feature Sets for the Cisco 2600 Series (Continued)

Feature	Feature Set						
	IP	IP Plus	IP/IPX/ AT/DEC	IP/IPX/ AT/DEC Plus	Enterprise Plus	Enterprise/ APPN Plus	Remote Access Server
<b>Terminal Services</b>							
Virtual Templates for Protocol Translation	No	No	No	No	Yes	Yes	Yes
<b>WAN Optimization</b>							
ATM MIB Enhancements	No	No	No	No	No	No	No
PAD Enhancements	No	No	No	No	Yes	Yes	Yes
PAD Subaddressing	Yes	Yes	Yes	Yes	Yes	Yes	Yes
<b>WAN Services</b>							
Bandwidth Allocation Control Protocol	Yes	Yes	Yes	Yes	Yes	Yes	No
Dialer Watch	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Enhanced Local Management Interface (ELMI)	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Frame Relay Enhancements	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Frame Relay MIB Extensions	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Frame Relay Router ForeSight	Yes	Yes	Yes	Yes	Yes	Yes	Yes
ISDN Advice of Charge	No	No	No	No	No	No	No
ISDN Caller ID Callback	Yes	Yes	Yes	Yes	Yes	Yes	No
ISDN NFAS	No	No	No	No	No	No	No
Layer 2 Forwarding—Fast Switching	No	Yes	No	Yes	Yes	Yes	Yes
Leased Line ISDN at 128 kbps	Yes	Yes	Yes	Yes	Yes	Yes	No
MS Callback	Yes	Yes	Yes	Yes	Yes	Yes	Yes
PPP over ATM	No	No	No	No	No	No	No
Telnet Extensions for Dialout	No	No	No	No	No	No	Yes
X.25 Enhancements	Yes	Yes	Yes	Yes	Yes	Yes	Yes
X.25 on ISDN	No	No	No	No	No	No	No
X.25 Switching between PVCs and SVCs	Yes	Yes	Yes	Yes	Yes	Yes	Yes
X.28 Emulation	Yes	Yes	Yes	Yes	Yes	Yes	Yes

## Installing Software Images Using RSL

The Router Software Loader application contained on the feature pack CD-ROM is designed to work with a PC running Microsoft Windows 95. Refer to the booklet included with the CD-ROM for instructions to install the software images.



This section describes several solutions to problems you might encounter when using RSL. These solutions are additions to RSL's online help.

## Recovering from a Connection Error

If you are unable to connect to your access server or router, this installation tip provides a possible recovery solution. If you are not experiencing a connection error, you can skip this section.

In some cases, you might receive the following error message while connecting to the target router:

```
"Failed to configure the router to enable the Cisco IOS software image and configuration file upload and download operations. You may want to check the router to make sure that the selected interface exists."
```

If you encounter this message, try increasing the Short Timeout value, which is set to 25 seconds, in the Options dialog box, especially if one of the following situations applies:

---

**Note** Increasing the Short Timeout value might increase the time it takes for RSL to connect to the target router.

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- You are connecting to a router that has a large configuration file.
- You are connecting to a Cisco AS5200 access server. A Cisco AS5200 requires up to 45 seconds to write a configuration to nonvolatile random-access memory (NVRAM), due to the amount of interfaces that must be checked during this process. Increase the Short Timeout value to 60 seconds.

## Restoring the Startup Configuration

In some cases, RSL is unable to restore the startup configuration. If this happens, take the following steps:

- Step 1** Ensure that all cables are properly attached to both the router and the PC.
- Step 2** Restart RSL and connect using the **Preconfigured router** option.
- Step 3** When asked if you want to overwrite the existing startup configuration file, choose **No**.
- Step 4** When asked if you want to continue, choose **Yes**.
- Step 5** When connected, select **Download Router Configuration** in the Router Software Loader dialog box.
- Step 6** Select the appropriate file, and click **Copy configuration to the router's nonvolatile memory**.  
  
The router should now contain the startup configuration it had before the initial RSL connection.
- Step 7** Exit RSL.

---

**Note** In the previous situation, the router's configuration register (**config-register 0xnnnn**) is not restored.

---

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**Note** If you enter **Ctrl-Alt-Delete** to terminate RSL, the router's configuration and configuration register are not restored. However, in this case, the configuration file is not deleted from the PC, so it can be restored using the previous steps.

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## Helpful Hints

The following information about RSL operations can help you with the installation process:

- If you have added any static entries to the PC's Address Resolution Protocol (ARP) table, one of them might be deleted by RSL. This entry will need to be manually reentered into the PC's ARP table.
- If the router's running configuration at connection time is not the same as the router's startup configuration, the exact configuration will not be restored. Any changes that you have made since the last time a **copy running-config startup-config** or **write memory** command was entered will be lost.
- RSL will restore the router's running configuration, but some configuration commands will not be restored. However, the startup configuration will be correct. You can restore the exact running configuration by rebooting the router. Commands not restored to the running configuration include the following interface configuration commands: **no shutdown**, **no ringspeed**, and **media-type aui**.

## Alternatives to the RSL

The RSL is designed to work with a PC running Microsoft Windows 95 and is the recommended method for downloading software to the router. The booklet included with the RSL CD-ROM explains how to perform this simple install process. However, two alternatives are available for installing router software:

- Use the console or auxiliary port
- Use a TFTP server application

## Installing the Router Software Using the Console or Auxiliary Port

This section explains how to use the **copy xmodem flash** command to install the router software from the CD-ROM onto the router.

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**Note** The transfer takes place only on the port at which you issue the command. If you download via the console, all console output is discarded for the duration of the transfer. You can only download files to the router; you cannot copy files from the router. Cisco recommends using the auxiliary port for this type of software download. The auxiliary port has hardware flow control and full modem control. In addition, the transfer does not occupy the system console.

---

The following example shows how to use the **copy xmodem flash** command on a Cisco 2600 series router.

```
Router# copy xmodem flash
**** WARNING ****
x/ymodem is a slow transfer protocol limited to the current speed
```

```

settings of the auxiliary/console ports. The use of the auxiliary
port for this download is strongly recommended.
During the course of the download no exec input/output will be
available.

----- ***** -----

Proceed? [confirm]y
Use crc block checksumming? [confirm]y
Max Retry Count [10]:
Perform image validation checks? [confirm]y
Xmodem download using crc checksumming with image validation
Continue? [confirm]y
Partition  Size  Used      Free      Bank-Size  State      Copy Mode
  1         4096K  3259K    836K      4096K      Read/Write Direct
  2         4096K   0K      4095K    4096K      Read/Write Direct

[Type ?<no> for partition directory; ? for full directory; q to abort]
Which partition? [default = 1] 2

System flash directory, partition 2:
File Length  Name/status
  1    68     TESTFILE
[132 bytes used, 4194172 available, 4194304 total]
Destination file name? c2611-i-mz.0918
Erase flash device before writing? [confirm]y
Flash contains files. Are you sure you want to erase? [confirm]y

Copy '' from server
  as 'c2611-i-mz.0918' into Flash WITH erase? [yes/no]y
Erasing device... eeeeeeeeeeeeeeeeeee ...erased
Ready to receive file.....C
Verifying checksum... OK (0x5DE8)
Flash device copy took 00:12:06 [hh:mm:ss]

```

## Installing the Router Software Using a TFTP Server Application

Use this TFTP server application method as an alternative to using the RSL to install the router software from the CD-ROM. You can perform this procedure using a PC (running Microsoft Windows 95 or Microsoft Windows 3.1), a Macintosh, or a UNIX system. You can use either the **copy tftp flash** or **copy rcp flash** command to download the router software to the router.

First obtain a TFTP application or a remote copy protocol (rcp) application to set up your computer as a TFTP server or an rcp server. Use the RSL or the TFTP server included on the feature pack CD-ROM to install the router software only if you are using a PC running Windows 95. For other operating systems, a number of TFTP or rcp applications are available from independent software vendors or available as shareware from public sources on the World Wide Web.

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**Note** To use an RCP application, follow the same procedure, and substitute “RCP” for “TFTP” in the instructions. Use the **copy rcp flash** command instead of the **copy tftp flash** command.

---

- Step 1** Install any TFTP server application on the PC. (A PC application is included on the feature pack CD-ROM for Microsoft Windows 95 only.)
- Step 2** Launch the TFTP server application on the PC, usually by double-clicking the application icon or its \*.exe filename.
- Step 3** Set up the PC as a TFTP server by using the TFTP server application setup or configuration facility.

Most TFTP server applications include a setup facility that allows you to specify the PC as a server. For example, from the TFTP menu of one application, you can select **Settings** to display a panel that includes a checkbox beside the word **Server**, which allows you to configure the local PC as a server.

The TFTP server also allows the selection of a root directory. You must select the directory in which the Cisco IOS files reside, for example, (d:\cpswinst\images).



**Caution** Make sure you set up your local PC as a TFTP server. If you overlook this step, you cannot perform the copy procedure. This reminder also applies if you are using RCP instead of TFTP.

**Step 4** Establish a console session from your local PC (which is now configured as a TFTP server) to the Cisco router by using one of these methods:

- Connect the PC com port to the router console port.

This is the recommended method. When you reload the router with the new image in Step 16, you remain connected to the router. (If you use Telnet, you lose connection to the router.)

- Establish a Telnet session from the PC to the router.



**Caution** Make sure your PC is set up to communicate with the connected LAN port on the router.

**Step 5** Connect your PC Ethernet port to the corresponding router LAN port. Use the 10BaseT crossover cable to connect to an Ethernet port. Use straight-through cables if you are connecting via a 10BaseT hub, a 100BaseT hub, or a Token Ring MAU.

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**Note** We recommend that you back up the router configuration before upgrading the router software.

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**Step 6** Enter **yes** when asked if the system configuration has been modified:

```
# System configuration has been modified. Save? yes
```

**Step 7** Enter **yes** when asked to confirm the reload:

```
Proceed with reload? [confirm] yes
```

Wait for the router to reload.

**Step 8** If the `password` prompt appears, enter the password:

```
Password:
```

**Step 9** At the `router` prompt, enter **enable** and then the password:

```
Router (boot )> enable
```

```
Password:
```

- Step 10** At the `router` prompt, enter the following command to copy the new software image from the PC CD-ROM drive to the router:

```
Router(boot)(config)# copy tftp flash
```

In the next series of steps, you download the Cisco IOS Release 11.3 image that you want installed on your router.

- Step 11** When prompted, enter the IP address of your PC, as in the following example:

```
Address or name of remote host [255.255.255.255]? 131.108.1.1
```

This is the IP address of your local PC, not that of the router.

- Step 12** When prompted, enter the filename of the Cisco IOS Release 11.3 image to be copied to the router, as in the following example:

```
Source file name? 80255201.bin
```

This example specifies the DOS image name of the IP feature set for Cisco 1600 series routers (as shown in Table 1 in the section, “Cisco Feature Packs and Memory Requirements”).

- Step 13** In response to the destination address prompt, enter the destination UNIX image filename, and press **Enter**.

This is the name of the image file on the router, not the full path of the image on the CD-ROM attached to the PC. Refer to Table 1 in the section, “Cisco Feature Packs and Memory Requirements” for the UNIX image filename.

```
Destination file name [80255201.bin]? c2600-i-mz.113-2.XA1
```

- Step 14** Enter **yes** in response to the prompt asking if you want to erase the existing image copy resident in the router Flash memory before copying the new one:

```
Erase flash device before writing? [confirm] yes
```

The entire copying process takes several minutes and differs from network to network.

During the transfer process, the software displays messages indicating that it has accessed the file you have specified and is loading it.

The exclamation point (!) indicates that the copy process is taking place. Each exclamation point (!) indicates that ten packets have been transferred successfully. A checksum verification of the image occurs after the image is written to Flash memory.

- Step 15** Enter the following commands to reset the configuration register to 0x2102:

```
Router(boot)(config)# config terminal
Router(boot)(config)# config-reg 0x2102
Router(boot)(config)# end
```

- Step 16** Enter the **reload** command to reload the router:

```
Router# reload
```

After reload is complete, the router should be running the desired Cisco IOS image. Use the **show version** command to verify.

## Related Documentation

All documents mentioned in this section are available as printed manuals or electronic documents. (See the section “Online Navigation” for more information on accessing electronic documentation.)

The following documentation is related to these release notes:

- Cisco 2600-Specific Documentation
- Cisco IOS Documentation Set and Related Supporting Documents
- Software Configuration Tips on the Cisco TAC Home Page

## Cisco 2600-Specific Documentation

The following documents are specific to the Cisco 2600 series routers:

- *Cisco 2600 Software Configuration Guide*
- *Cisco 2600 Manager Guide*
- *Regulatory Compliance and Safety Information*

## Cisco IOS Documentation Set and Related Supporting Documents

The following documents apply to the Cisco 2600 series routers:

- *Release Notes for Cisco IOS Release 11.3*
- *Product-Specific Release Notes*
- *Cisco IOS Release 11.3(2)XA1 New Feature Documentation*
- *Cisco IOS Release 11.3 Configuration Guides/Command References*
- *Cisco IOS Software Command Summary*
- *System Error Messages*
- *Cisco Management Information Base (MIB) User Quick Reference*
- *Debug Command Reference*
- *Access Services Quick Configuration Guide*
- *Cisco IOS Software Release 11.3 and 11.3(2)XA1 Caveats*

The Cisco IOS configuration guides, command references, and chapter topics are as follows:

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<b>Books</b>	<b>Chapter Topics</b>
• <i>Configuration Fundamentals Configuration Guide</i>	Access Server and Router Product Overview
• <i>Configuration Fundamentals Command Reference</i>	User Interface
	System Images and Configuration Files
	Using ClickStart, AutoInstall, and Setup
	Interfaces
	System Management

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<b>Books</b>	<b>Chapter Topics</b>
<ul style="list-style-type: none"> <li>• <i>Security Configuration Guide</i></li> <li>• <i>Security Command Reference</i></li> </ul>	Network Access Security Terminal Access Security Accounting and Billing Traffic Filters Controlling Router Access Network Data Encryption with Router Authentication
<ul style="list-style-type: none"> <li>• <i>Access Services Configuration Guide</i></li> <li>• <i>Access Services Command Reference</i></li> </ul>	Terminal Lines and Modem Support Network Connections AppleTalk Remote Access SLIP and PPP XRemote LAT Telnet TN3270 Protocol Translation Configuring Modem Support and Chat Scripts X.3 PAD Regular Expressions
<ul style="list-style-type: none"> <li>• <i>Wide-Area Networking Configuration Guide</i></li> <li>• <i>Wide-Area Networking Command Reference</i></li> </ul>	ATM Dial-on-Demand Routing (DDR) Frame Relay ISDN LANE PPP for Wide-Area Networking SMDS X.25 and LAPB
<ul style="list-style-type: none"> <li>• <i>Network Protocols Configuration Guide, Part 1</i></li> <li>• <i>Network Protocols Command Reference, Part 1</i></li> </ul>	IP IP Routing
<ul style="list-style-type: none"> <li>• <i>Network Protocols Configuration Guide, Part 2</i></li> <li>• <i>Network Protocols Command Reference, Part 2</i></li> </ul>	AppleTalk Novell IPX
<ul style="list-style-type: none"> <li>• <i>Network Protocols Configuration Guide, Part 3</i></li> <li>• <i>Network Protocols Command Reference, Part 3</i></li> </ul>	Apollo Domain Banyan VINES DECnet ISO CLNS XNS

Books	Chapter Topics
• <i>Bridging and IBM Networking Configuration Guide</i>	Transparent Bridging
• <i>Bridging and IBM Networking Command Reference</i>	Source-Route Bridging
	Remote Source-Route Bridging
	DLSw+
	STUN and BSTUN
	LLC2 and SDLC
	IBM Network Media Translation
	DSPU and SNA Service Point Support
	SNA Frame Relay Access Support
	APPN
	NCIA Client/Server Topologies
	IBM Channel Attach
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• <i>Cisco IOS Software Command Summary</i>	
• <i>Access Services Quick Configuration Guide</i>	
• <i>System Error Messages</i>	
• <i>Debug Command Reference</i>	
• <i>Cisco Management Information Base (MIB) User Quick Reference</i>	

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**Note** The *Cisco Management Information Base (MIB) User Quick Reference* publication is no longer being published. For the latest list of MIBs supported by Cisco, see the **Cisco Network Management Toolkit** on Cisco Connection Online (CCO). On CCO, go to **Software and Support**, select **Software Center**, and click on **Network Management Products**. Next, select **Cisco Network Management Toolkit** and click on **Cisco MIBs**.

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## Software Configuration Tips on the Cisco TAC Home Page

The following URL contains links to access helpful tips to configure your Cisco products:

[http://www.cisco.com/kobayashi/serv\\_tips.shtml](http://www.cisco.com/kobayashi/serv_tips.shtml)

This URL is subject to change without notice. If it does change, point your web browser to <http://www.cisco.com/> and follow this path: *Software & Support, Technical Tips* (button on left margin).

“Hot Tips” are popular tips and hints gathered from Cisco's Technical Assistance Center (TAC). Most of these documents are also available from the TAC's Fax-on-Demand service. To access Fax-on-Demand and receive documents at your fax machine, call 888-50-CISCO (888-502-4726). From international areas, call 415-596-4408.

The following sections are provided from the Technical Tips page:

- **Field Notices**—Designed to provide notification of critical issues regarding Cisco products. These include problem descriptions, safety or security issues, and hardware defects.
- **Hardware**—Technical Tips related to specific hardware platforms.
- **Internetworking Features**—Tips on using and deploying Cisco IOS software features and services.



- Sample Configurations—Actual configuration examples complete with topology and annotations.
- Software Products—MultiNet & Cisco Suite 100, Network Management, Cisco IOS Software Bulletins, CiscoPro Configurations.
- Special Collections—Other Helpful Documents. Frequently Asked Questions, Security Advisories, References & RFCs, Case Studies, CiscoPro Documentation CD-ROM.

## Online Navigation

You can access Cisco IOS software documentation, such as printed manuals and configuration notes, either at Cisco Connection Online (CCO) on the World Wide Web or on the Cisco Documentation CD-ROM.

## Cisco 2600 Series-Specific Documentation

- Using a web browser, follow this path on CCO:  
*Software & Support, Cisco Documentation, Access Servers and Access Routers, Modular Access Routers, Cisco 2600 Series Routers, Release Notes, Release Notes for Cisco 2600 for Cisco IOS Release 11.3(2)XA1.*
- On the Documentation CD-ROM, follow this path:  
*Cisco Product Documentation, Access Servers and Access Routers, Access Servers, Cisco 2600 Series, Cisco IOS Software, Release Notes for Cisco 2600 for Cisco IOS Release 11.3(2)XA1..*

## Cisco IOS Documentation Set and Related Supporting Documents

- Using a web browser, follow this path on CCO:  
*Software & Support*, scroll down and select *Cisco Documentation*. Next, click on *Cisco IOS Software Configuration*, and then click on *Cisco IOS Release 11.3*.
- On the Documentation CD-ROM, follow this path:  
*Cisco Product Documentation*, select *Cisco IOS Software Configuration*, and then select *Cisco IOS Release 11.3*.

Additional information about CCO and the Documentation CD-ROM is in the sections “Cisco Connection Online” and “Documentation CD-ROM” at the end of these release notes.

## Cisco Connection Online

Cisco Connection Online (CCO) is Cisco Systems’ primary, real-time support channel. Maintenance customers and partners can self-register on CCO to obtain additional information and services.

Available 24 hours a day, 7 days a week, CCO provides a wealth of standard and value-added services to Cisco’s customers and business partners. CCO services include product information, product documentation, software updates, release notes, technical tips, the Bug Navigator, configuration notes, brochures, descriptions of service offerings, and download access to public and authorized files.

CCO serves a wide variety of users through two interfaces that are updated and enhanced simultaneously: a character-based version and a multimedia version that resides on the World Wide Web (WWW). The character-based CCO supports Zmodem, Kermit, Xmodem, FTP, and Internet

e-mail, and it is excellent for quick access to information over lower bandwidths. The WWW version of CCO provides richly formatted documents with photographs, figures, graphics, and video, as well as hyperlinks to related information.

You can access CCO in the following ways:

- WWW: <http://www.cisco.com>
- WWW: <http://www-europe.cisco.com>
- WWW: <http://www-china.cisco.com>
- Telnet: [cco.cisco.com](http://cco.cisco.com)
- Modem: From North America, 408 526-8070; from Europe, 33 1 64 46 40 82. Use the following terminal settings: VT100 emulation; databits: 8; parity: none; stop bits: 1; and connection rates up to 28.8 kbps.

For a copy of CCO's Frequently Asked Questions (FAQ), contact [cco-help@cisco.com](mailto:cco-help@cisco.com). For additional information, contact [cco-team@cisco.com](mailto:cco-team@cisco.com).

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**Note** If you are a network administrator and need personal technical assistance with a Cisco product that is under warranty or covered by a maintenance contract, contact the Cisco Technical Assistance Center (TAC) at 800 553-2447, 408 526-7209, or [tac@cisco.com](mailto:tac@cisco.com). To obtain general information about Cisco Systems, Cisco products, or upgrades, contact 800 553-6387, 408 526-7208, or [cs-rep@cisco.com](mailto:cs-rep@cisco.com).

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## Documentation CD-ROM

Cisco documentation and additional literature are available in a CD-ROM, which ships with your product. The Documentation CD-ROM, a member of the Cisco Connection Family, is updated monthly. Therefore, it might be more up to date than printed documentation. To order additional copies of the Documentation CD-ROM, contact your local sales representative or call customer service. The CD-ROM is available as a single unit or as an annual subscription. You can also access Cisco documentation on the World Wide Web at <http://www.cisco.com>, <http://www-china.cisco.com>, or <http://www-europe.cisco.com>.

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This document is to be used in conjunction with the *Cisco IOS Release 11.3 Configuration Guides* and *Command References* publications.

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