CISCO SYSTEMS

Text Part Number: 78-6038-01

Release Notes for Release 4.2(3) Feature Packs for Cisco 700 Series Routers

September 21, 1998

These release notes describe the Cisco 700 Router software Release 4.2(3) feature packs. Table 1 lists the Cisco product numbers for the supported feature packs:

Table 1   Feature Pack Product Numbers

CD076-IRX-4.2=	Cisco 760/770 Series Internet Ready with X.25 over B&D Feature Pack Release 4.2.3
CD076-ROX-4.2=	Cisco 760/770 Series Remote Office with X.25 over B&D Feature Pack Release 4.2.3

Contents

These release notes discuss the following topics:

Corporate Headquarters
Cisco Systems, Inc.
170 West Tasman Drive
San Jose, CA 95134-1706
USA

- Cisco Connection Online, page 11
- Documentation CD-ROM, page 12

System Support

Cisco 700 series router software Release 4.2(3) supports the following routers:

Cisco 760 Series	Cisco 770 Series
Cisco 761-CH	Cisco 771-CH
Cisco 762-CH	Cisco 772-CH
Cisco 765-CH	Cisco 775-CH
Cisco 766-CH	Cisco 776-CH

Cisco Feature Packs and Memory Requirements

This section explains the following:

- What Is a Feature Pack?
- Release 4.2(3) Feature Pack Descriptions and Memory Requirements
- Memory Requirements for Running X.25

What Is a Feature Pack?

The heart of the Release 4.2(3) software feature pack for Cisco 700 series routers is a software image stored on CD-ROM. The feature pack box contains the following:

- CD-ROM disk containing a software image
- CD booklet of instructions for loading software from a CD-ROM
- Release notes (this document)
- Cisco Documentation CD-ROM, which contains electronic copies of all Cisco documentation, including *Cisco 700 Series Command Reference*.

Release 4.2(3) Feature Pack Descriptions and Memory Requirements

Table 1 in this section identifies each feature pack as specified on the router software CD-ROM label and describes the feature sets in each feature pack. The table also lists the following: UNIX and DOS filenames of the images, router platform on which each feature set runs, and memory requirements for each feature set.

Images for software Release 4.0(1) and higher require 1.5 MB of dynamic RAM (DRAM). If you do not have enough DRAM to support the software, the router does not boot. Refer to the "National ISDN Capability Packages" section for instructions on checking the amount of DRAM. Instructions for increasing the amount of DRAM are in the *Cisco 700 Series Installation Guide*.

X.25 images require 1.5 MB of DRAM and 1 MB of Flash memory. If your router does not have enough Flash memory to run X.25 images, you must replace it with a Cisco 700M series router. The label on the bottom of the router identifies an M-series router. You can display the amount of Flash memory by using the **version** command. Refer to the *Cisco 700 Series Command Reference* for information about this command.

Table 2   Cisco Feature Pack Image Filenames and Memory Requirements

Product Number	CD-ROM Title	Image Name (UNIX)	Image Name (DOS)	Flash Memory Required	Main Memory Required	RSL Installer Description
CD076-IRX-4.2=	Cisco 760/770 Series Internet Ready with X.25 over B&D Feature Pack Release 4.2.3	c760-in.b-1TR6.42-3.bin	80250303	.5 MB	1.5 MB	760/770 Series Internet Ready 30 users, IP routing Feature Set for Germany
		c760-in.b-INS.42-3.bin	80250203	.5 MB	1.5 MB	760/770 Series Internet Ready 30 users, IP routing Feature Set for Japan
		c760-in.b-NET3.42-3.bin	80250103	.5 MB	1.5 MB	760/770 Series Internet Ready 30 users, IP routing Feature Set for Europe
		c760-in.b-TPH.42-3.bin	80250003	.5 MB	1.5 MB	760/770 Series Internet Ready 30 users, IP routing Feature Set for Australia
		c760-in.b-US.42-3.bin	80349903	.5 MB	1.5 MB	760/770 Series Internet Ready 30 users, IP routing Feature Set for US
		c760-in.b-MLS.42-3.bin	80250903	.5 MB	1.5 MB	760/770 Series Internet Ready 30 users, IP routing Feature Set for Malaysia
		c760-in.bxd-NET3.42-3.bin	80249803	1 MB	1.5 MB	760/770 Series Internet Ready 30 users, IP routing, X.25/B& D Feature Set for Europe
		c760-in.bxd-US.42-3.bin	80249603	1 MB	1.5 MB	760/770 Series Internet Ready 30 users, IP routing, X.25/B& D Feature Set for US
		c760-in.bxd-MLS.42-3.bin	80250703	1 MB	1.5 MB	760/770 Series Internet Ready 30 users, IP routing, X.25/B& D Feature Set for Malaysia

Table 2   Cisco Feature Pack Image Filenames and Memory Requirements (continued)

Product Number	CD-ROM Title	Image Name (UNIX)	Image Name (DOS)	Flash Memory Required	Main Memory Required	RSL Installer Description
CD076-ROX-4.2=	Cisco 760/770 Series Remote Office with X.25 over B&D Feature Pack Release 4.2.3	c760-in.r-1TR6.42-3.bin	80249503	.5 MB	1.5 MB	760/770 Series RO 1500 users, data comp, IP/IPX Feature Set for Germany
		c760-in.r-INS.42-3.bin	80249403	.5 MB	1.5 MB	760/770 Series RO 1500 users, data comp, IP/IPX Feature Set for Japan
		c760-in.r-NET3.42-3.bin	80249303	.5 MB	1.5 MB	760/770 Series RO 1500 users, data comp, IP/IPX Feature Set for Europe
		c760-in.r-TPH.42-3.bin	80249203	.5 MB	1.5 MB	760/770 Series RO 1500 users, data comp, IP/IPX Feature Set for Australia
		c760-in.r-US.42-3.bin	80249103	.5 MB	1.5 MB	760/770 Series RO 1500 users, data comp, IP/IPX Feature Set for US
		c760-in.r-MLS.42-3.bin	80250803	.5 MB	1.5 MB	760/770 Series RO 1500 users, data comp, IP/IPX Feature Set for Malaysia
		c760-in.rxd-NET3.42-3.bin	80249003	1 MB	1.5 MB	760/770 Series RO 1500 users, data comp, IP/IPX, X.25/B & D for Europe
		c760-in.rxd-US.42-3.bin	80248803	1 MB	1.5 MB	760/770 Series RO 1500 users, data comp, IP/IPX, X.25/B & D for US
		c760-in.rxd-MLS.42-3.bin	80250603	1 MB	1.5 MB	760/770 Series RO 1500 users, data comp, IP/IPX, X.25/B & D for Malaysia

Note   Internet Ready images do not support IPX routing.

Memory Requirements for Running X.25

Running X.25 over the ISDN D channel requires 1 MB of Flash memory on a Cisco 700 router. If your router has a Flash memory size of 0.5 MB and you plan to run X.25 over the ISDN D channel, contact your Cisco Sales Representative to trade in your Cisco 700 router.

Cisco 700 Software Release 4.2(3) Enhancements

The Cisco 700 series router software Release 4.2(3) provides the following enhancements:

Increased Number of Users

In the IR image for software Release 4.2(3), the number of users allowed is increased to 30.

ISDN BRI Sends Alert

Some network equipment requires that the router send an alert message. In software Release 4.2(3), the Cisco 700 series router sends an alert message when answering a call. (CSCdk26667)

Cisco 700 Software Release 4.2(3) Known Limitations

This section provides the latest information about Cisco 700 series router software Release 4.2(3) limitations. Each item includes the Cisco DDTS tracking number, if applicable.

During the upload of a configuration over ISDN the line, the DEMAND 1 DURATION statement is missed. This has been resolved in software Release 4.2(3). (CSCdj80519)

In the 1tr6 image, if you are connected on a voice call and flash, the message "Warning: Illegal dereference" displays and the router might reboot. This has been resolved in software Release 4.2(3). (CSCdk03329)

The Cisco 700 series router telnet server does not give up by timeout. The router calls the Telnet client every 2 minutes and does not stop. The condition is created as follows:

- Establishing a Telnet session over an ISDN line from a Cisco 1600 series router to a Cisco 700 series router.
- Disconnecting the Ethernet cable from the Cisco 1600 series router.
- The ISDN line disconnects through idle-timeout.

This has been resolved in software Release 4.2(3). (CSCdk11798)

AO/DI is available only on one connection. Even if it is enabled on multiple profiles, only one profile at a time can use it. (no number available)

When TAS mode is **on**, the Cisco 700 series router continuously attempts to authenticate after a failed login. For example, a user launches a Web browser but does not enter a login ID. The connection to the CiscoSecure Authentication Agent times out (as it should); however, the router continues to retry the connection. During the subsequent retries, the router sends its own authentication information, not the authentication information of the user. This results in sessions going up and down continuously. This has been resolved in software Release 4.2(3). (CSCdk24138)

Loading the Software

To save the router configuration file on your PC, load new software, and then reload the configuration to the router, refer to the "*Getting Started with Cisco 700 Series Software*" CD booklet shipped with your software feature pack.

The default image for Cisco 761, Cisco 765, Cisco 771, and Cisco 775 routers is NET3, IR. The default image for all other Cisco 700 series routers is U.S.

Setting Switch Types

This section describes how to configure your router to operate with the network central office switch. Table 3 describes each switch type. The default switch type is dependent upon the system software version.

Note Not all switch settings are available to all users. The switch-type settings available depend on the type of software loaded into the router.

Table 3　　　　**Switch Types**

Switch Type	Description
5ess	AT&T 5ESS
dms	Northern Telecom DMS-100
ni-1	National ISDN-1
ins	Japan—NTT's Information Network System
net3	Europe (also some areas in Asia)—ISDN BRI standard
1tr6	Germany—ISDN BRI standard
tph	Australia
perm64	Dedicated line service. Enables the unit to use a single 64-kbps data stream connected to one port. Channel 1 runs at 64 kbps, and channel 2 is not used. In Japan, NTT's super Digital service is the ISDN example of a leased line server.
perm128	Dedicated line service. Enables the unit to use a single 128-kbps data stream connected to one port. Channels 1 and 2 are combined to run at 128 kbps. In Japan, NTT's HSD service is an example.

To configure your router to operate with the network central office switch, use the command **set switch** from the system level command mode. The following example configures the ISDN switch type as DMS:

```
Host> set switch dms
```

Table 4 lists the commands available to use for each switch type and location:

Table 4　　　　**Setting Switch Types**

Switch Type	Location	Command to Set the Switch Type
5ess, dms, ni-1	U.S.	**SE**t **SW**itch {**5Ess** | **DMS** | **NI-1** | **PERM64** | **PERM128**}
ins	Japan	**SE**t **SW**itch {**INS** | **PERM64** | **PERM128**}
net3	Europe	**SE**t **SW**itch {**NET3** | **PERM64** | **PERM128**}
1tr6	Germany	**SE**t **SW**itch {**lTR6** | **PERM64** | **PERM128**}
tph	Australia	**SE**t **SW**itch {**TPH** | **PERM64** | **PERM128**}
perm64, perm128	U.S., Japan, Europe, Germany, Australia	**SE**t **SW**itch {**PERM64** | **PERM128**}

Cisco 700 Software Release 4.2(3) Caveats

This section provides the latest information about Cisco 700 series router software Release 4.2(3) caveats. Each item includes the Cisco DDTS tracking number, if applicable.

Windows NT clients fail to browse for a Windows NT server as a result of the following condition:

- A Cisco IOS router forwards an IPX type 20 (NetBIOS) packet.

- The Cisco IOS router changes the destination network number of the packet from 0 to the WAN network number.

- The IPX packet (with the WAN destination network number) is forwarded to the LAN (which has a different network number).

- The IPX packet is received by a Windows NT client. Because the network number of the packet is different from the network number of the LAN, the client concludes the packet is not intended for the LAN and discards the packet.

In software Release 4.2(3), the Cisco 700 series router checks the IPX destination network field in the NetBIOS packet. If the network number field is not zero, the router changes the field to zero and forwards the packet to the LAN. (CSCdk20359)

RIP updates keep the ISDN link up if the idle timeout is greater than the RIP timer value, even if the RIP option is **linkup**. However, it does not cause the link to come up by itself. To correct the problem, use a filter for RIP traffic with the **ignore** option in the WAN profile. (no number available)

The system password is echoed over the ISDN connection the first time the connection is established. However, it is not echoed in subsequent connections. (no number available)

The upload command does not include the **set ip route destination 0.0.0 propagate off conv1** command in the configuration if a default route was entered in the user-defined profile before the connection was made. This occurs when the router connects to an Internet service provider, and obtains an IP address through IP control protocol (IPCP) negotiation. (no number available)

A router repeatedly receives voice calls when both B channels are occupied with data calls intermittently loses one of the B channels. To correct the problem, reboot the router. (CSCdj68840)

Related Applications

This section describes the applications supported by the Cisco 700 series router software Release 4.2(3).

CiscoSecure Authentication Agent Support

The CiscoSecure Authentication Agent (available for Windows 95 and Windows NT 4.0) application simplifies the use of token authentication over ISDN. There are two authentication modes: single authentication and double authentication.

The Cisco 700 series router operates in single authentication mode when Token Authentication Support (TAS) is enabled. CiscoSecure Authentication Agent is available on the World Wide Web (WWW). See the "Cisco Connection Online" section in this document for more information.

Fast Step Support

Cisco 700 series router software Release 4.0(1) and higher supports Cisco 700 Fast Step. Cisco 700 Fast Step simplifies the setup, configuration, and monitoring of Cisco 700 series routers.

Cisco 700 Fast Step runs on Microsoft Windows 95 and Windows NT 4.0 systems. It is provided with your router on the Cisco Fast Step CD-ROM. The application is also available on Cisco Connection Online. See the "Cisco Connection Online" section in this document for more information.

National ISDN Capability Packages

A capability package is a set of standardized BRI line features that simplifies the process of configuring an ISDN line. The capability package ordering codes described in this section apply to NI1.

> **Note** The Cisco 765, Cisco 766, Cisco 775, and the Cisco 776 require two SPIDs for the analog telephone ports to operate correctly.

Capability Package S

Package S provides alternate voice and circuit-switched data with no additional features. When a minimum feature set is needed, Package S is the preferred NI1 capability package for Cisco 765, Cisco 766, Cisco 775, and Cisco 776 routers.

Capability Package EZ-1 or U

Package EZ-1 (also referred to as Capability Package U) provides alternate voice and circuit-switched data with all the features and capabilities of the router enabled. Package EZ-1 is the preferred NI1 capability package for the Cisco 765, Cisco 766, Cisco 775, and Cisco 776 routers. The features include flexible calling (conference calling, call transfer, hold and retrieve), ACO (call waiting), and Call Forward Busy (CFB).

> **Note** The 5ESS Custom does not support multiple directory numbers per SPID.

If you have any problems with your NI1 provisioning, contact Cisco ISDN Support Services (United States only). To access this service or to obtain more information, call (800) 553-NETS (6387) and select the Customer Service option, or visit the Cisco ISDN web site at www.cisco.com/isdn.

When provisioning multiple directory numbers for a NI1, additional provisioning information that activates the distinctive ringing feature is available from Cisco ISDN Support Services; however, the flexible calling features (three-way conference calling call transfer, hold and retrieve) are not available.

ISDN Support Services

ISDN Support Services are only available in the United States. To access this service or to obtain more information, call 800 553-NETS (6387) and select the Customer Service option, or visit the Cisco ISDN Web site at www.cisco.com/isdn.

Related Documentation

All documents mentioned in this section are available in electronic format. (See the section "Online Navigation" section on page 10 for more information on accessing electronic documentation.)

The following documentation is related to these release notes:

- Cisco 700 Series Router Documentation
- Software Configuration Tips on the Cisco TAC Home Page

Cisco 700 Series Router Documentation

The following documentation is provided with your Cisco 700 series router:

- *Release Notes for Cisco 700 Software Release 4.2(3)* provides the latest information on the router software. Release notes for previous versions of the software are on the Cisco Documentation CD-ROM.
- *Cisco 700 Quick Reference Guide* provides hardware installation instructions and includes a Cisco 700 Fast Step CD-ROM.
- *Cisco 700 Series Installation Guide* provides supplementary hardware installation instructions and examples of basic command-line configurations (the *Cisco 700 Quick Reference Guide* provides primary installation instructions). A paper copy of the document is provided with your router. The document is also available on the Cisco Documentation CD-ROM in HTML format and on the Cisco 700 Fast Step CD-ROM in PDF format.
- *Cisco 700 Series Command Reference* provides descriptions of the software commands, examples of advanced configurations, and discussions on networking topics related to the Cisco 700 series router. The document is available on the Cisco Documentation CD-ROM in HTML format and on the Cisco 700 Fast Step CD-ROM in PDF format. A paper copy of the document can be ordered from Cisco Systems, Inc. (Document Number DOC-700CR=).

Document Additions and Corrections

This section provides information that was not included in the current documentation and is not available elsewhere. The information will be included in the next revision of the documentation.

Turn Bridging Off to Reduce Costs

The Cisco 700 series router attempts to establish a connection with the remote host whenever interesting traffic is queued to be sent over a WAN connection. When bridging is **off**, the router attempts to connect to the remote device when IP traffic is queued. When bridging is **on** (default), the router attempts to connect when IP traffic and all nonrouted traffic is queued.

It is recommended that bridging be set to **off** in a WAN profile to reduce the amount of interesting traffic, and therefore, the number of attempts made to establish a connection. If the remote connection goes down, the router continuously attempts to bring up the line. In some environments (most commonly Windows NT using only Netbios), this causes the line to dial continuously. Depending on your configuration and how your connection is billed, turning bridging off in the WAN profile might reduce your costs.

For example, in the configuration titled "Routing IP On Demand," which begins on page 3-16 of the *Cisco 700 Series Installation Guide* (DOC-78241=), you should enter the command **set bridge off** near Step 11. The exact sequence of this command in relation to the other commands is not critical, as long as it is done in the *central902* profile.

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

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: (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 650-596-4408.

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, and CiscoPro Documentation CD-ROM.

Online Navigation

Cisco 700 router documentation is available as printed manuals and electronic documents. You can access Cisco 700 router documentation at Cisco Connection Online (CCO) on the World Wide Web and on the Cisco Documentation CD-ROM:

- Using a web browser, follow this path on CCO: *http://www.cisco.com/*, *Products & Ordering*, *Documentation*, *Cisco Documentation*, *Cisco Product Documentation*, *Access Servers and Access Routers*, *Fixed Configuration Access Routers*, *Cisco 700 Series Routers, Cisco 700 Series Router Software Release Notes, Feature Pack Information*.

- On the Documentation CD-ROM, follow this path: *Cisco Documentation*, *Cisco Product Documentation*, *Access Servers and Access Routers*, *Fixed Configuration Access Routers*, *Cisco 700 Series Routers*, *Cisco 700 Series Router Software Release Notes, Feature Pack Information*.

Additional information about CCO and the Documentation CD-ROM is in the sections "Cisco Connection Online" and "Documentation CD-ROM."

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

- 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. For additional information, contact cco-team@cisco.com.

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 Cisco's Technical Assistance Center (TAC) at 800 553-2447, 408 526-7209, or 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.

Documentation CD-ROM

Cisco documentation and additional literature are available in a CD-ROM package, which ships with your product. The Documentation CD-ROM, a member of the Cisco Connection Family, is updated monthly. Therefore, it might be more current than printed documentation. To order additional copies of the Documentation CD-ROM, contact your local sales representative or call customer service. The CD-ROM package is available as a single package 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.

If you are reading Cisco product documentation on the World Wide Web, you can submit comments electronically. Click **Feedback** in the toolbar, select **Documentation**, and click **Enter the feedback form**. After you complete the form, click **Submit** to send it to Cisco. We appreciate your comments

---

This document is to be used in conjunction with the documents listed in the "Related Documentation" section.