



# About the Cisco IOS Software Documentation

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This chapter discusses the objectives, audience, organization, and conventions of the Cisco IOS software documentation. It also discusses how to obtain documentation on Cisco Connection Online and the Documentation CD-ROM.

## Documentation Objectives

This Cisco IOS software documentation describes the tasks and commands necessary to configure and maintain your networking device.

## Audience

The Cisco IOS software documentation is intended primarily for users who configure and maintain networking devices, but are not necessarily familiar with tasks, the relationship between tasks, or the commands necessary to perform particular tasks.

## Documentation Organization

The Cisco IOS software documentation is divided into 12 modules and 2 master indexes. In addition to the main documentation set, there are 4 supporting documents.

The *Cisco IOS Debug Command Reference* is a supporting publication that provides information about using **debug** commands to troubleshoot Cisco network servers. This manual is most effective when used with the *Internetwork Troubleshooting Guide* publication.

The *Cisco IOS Debug Command Reference* contains the following chapters:

- Using Debug Commands—Explains how you enter **debug** commands, use the **debug ?** and **debug all** commands, and generate and redirect **debug** command output. Read this chapter first before proceeding to Chapter 3, “Debug Commands.”
- Conditionally Triggered Debugging—Describes how you can enable a router to generate debugging messages for packets entering or leaving the router on a specified interface; by default, debugging is enabled on all interfaces.
- Debug Commands—Presents reference information on commands you use to debug your internetwork. The chapter includes command function descriptions, sample output displays, and explanations of these displays.

- Appendix A, X.25 Cause and Diagnostic Codes—Lists the codes that can appear in output from the **debug x25 all**, **debug x25 events**, and **debug x25 vc** commands.
- Appendix B, ISDN Switch Types, Codes, and Values—Lists the supported ISDN switch types. It also contains the ISDN cause codes, cause values, bearer capability values, and progress values that can appear in output from the **debug isdn q921**, **debug isdn q931**, and **debug isdn event** commands.

## Documentation Modules

The Cisco IOS documentation modules consist of configuration guides and corresponding command reference publications. Chapters in a configuration guide describe protocols, configuration tasks, and Cisco IOS software functionality and contain comprehensive configuration examples. Chapters in a command reference publication provide complete command syntax information. Use each configuration guide in conjunction with its corresponding command reference publication.

## Documentation Set

The Cisco IOS software documentation set is shown in Figure 1.

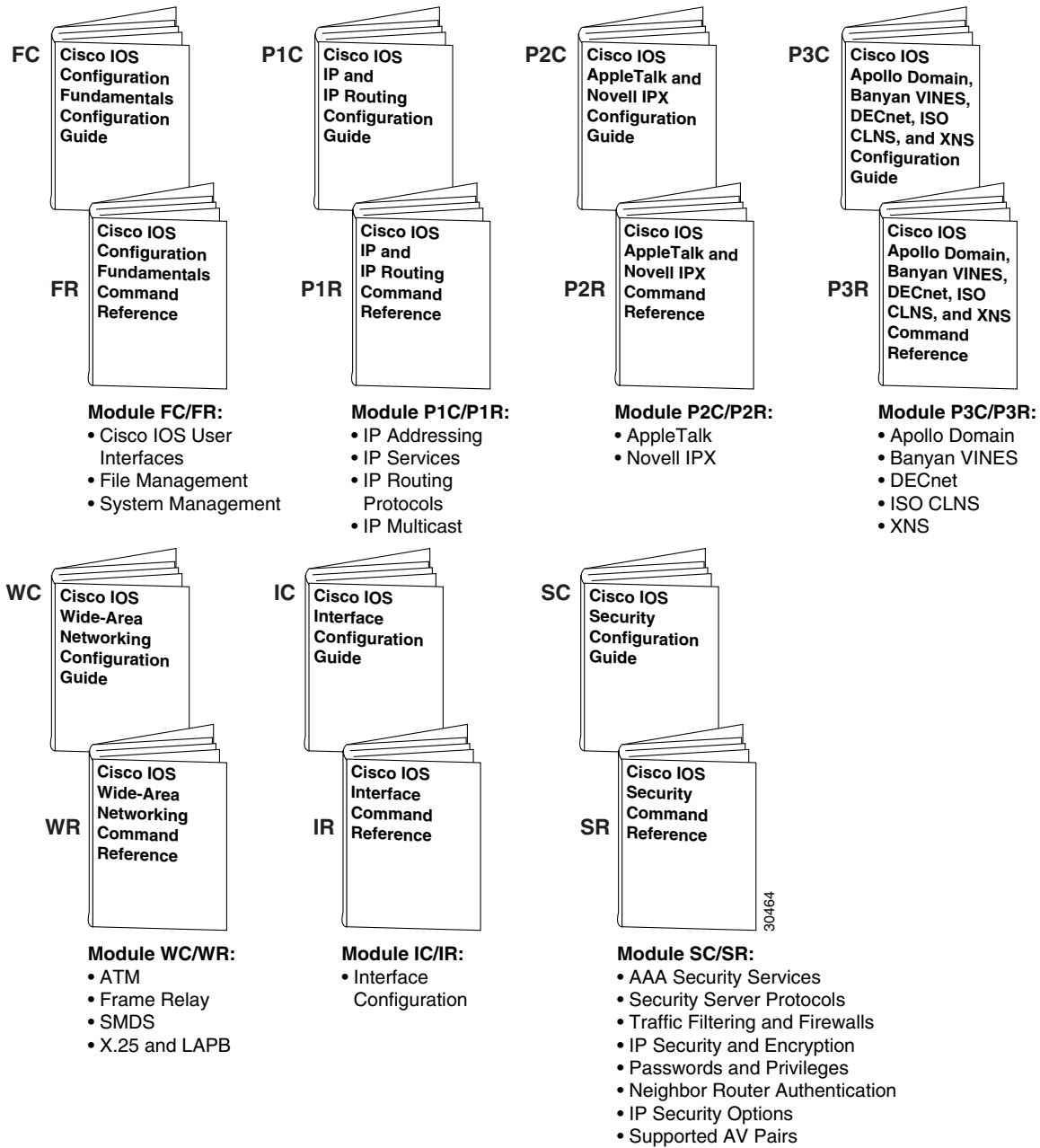
**Note**

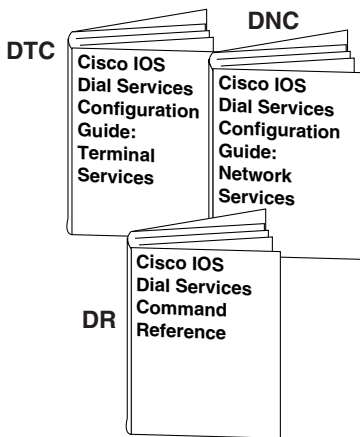
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The abbreviations next to the book icons are page designators (for example, FC, FR, and so on), which are defined in a key in the index of each document to help with navigation. The bulleted lists under each module describe the major technology areas discussed in their corresponding books.

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Figure 1 Cisco IOS Software Documentation Modules



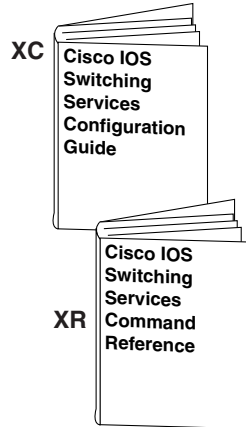


**Module DTC/DR:**

- Dial Access
- Modem Management
- ISDN BRI Services
- Point-to-Point Protocols
- Dial-on-Demand Routing
- Dial Backup
- Terminal Services

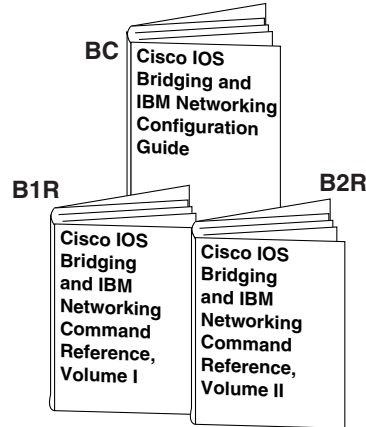
**Module DNC/DR:**

- Large-Scale Dial Solutions
- Cost-Control Solutions
- Virtual Private Networks
- X.25 on ISDN Solutions
- Telco Solutions
- Dial-Related Addressing Services
- Internetworking Dial Access Scenarios



**Module XC/XR:**

- Cisco IOS Switching Paths
- Cisco Express Forwarding
- NetFlow Switching
- Multiprotocol Label Switching
- Multilayer Switching
- Multicast Distributed Switching
- Virtual LANs
- LAN Emulation

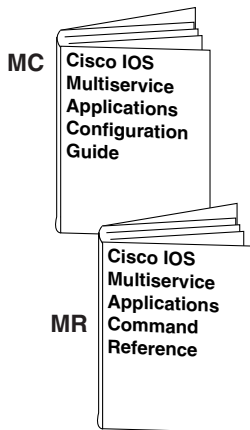


**Module BC/B1R:**

- Transparent Bridging
- Source-Route Bridging
- Token Ring Inter-Switch Link
- Token Ring Route Switch Module
- Remote Source-Route Bridging
- Data-Link Switching Plus
- Serial Tunnel and Block Serial Tunnel
- LLC2 and SDLC
- IBM Network Media Translation
- SNA Frame Relay Access
- NCI Client/Server
- Airline Product Set

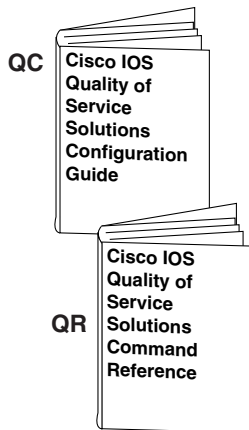
**Module BC/B2R:**

- DSPU and SNA Service Point
- SNA Switching Services
- Cisco Transaction Connection
- Cisco Mainframe Channel Connection
- CLAW and TCP/IP Offload
- CSNA, CMPC, and CMPC+
- TN3270 Server



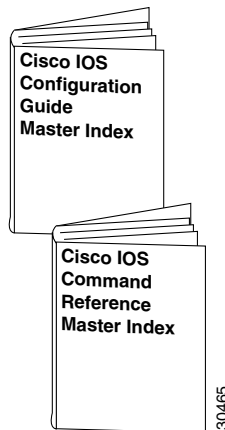
**Module MC/MR:**

- Voice over IP
- Voice over Frame Relay
- Voice over ATM
- Voice over HDLC
- Video Support
- Universal Broadband Features



**Module QC/QR:**

- Packet Classification
- Congestion Management
- Congestion Avoidance
- Policing and Shaping
- Signalling
- Link Efficiency Mechanisms



## Master Indexes

Two master indexes provide indexing information for the Cisco IOS software documentation set: an index for the configuration guides, and an index for the command references. In addition, individual books contain a book-specific index.

## Supporting Documents

The following documents support the Cisco IOS software documentation set:

- *Cisco IOS Command Summary*
- *Cisco IOS System Error Messages*
- *Cisco IOS Debug Command Reference*
- *Cisco IOS Dial Services Quick Configuration Guide*

## Document Conventions

The Cisco IOS documentation set uses the following conventions:

Convention	Description
^ or Ctrl	^ or Ctrl represents the Control key. For example, the key combination ^D or Ctrl-D means hold down the Control key while you press the D key. Keys are indicated in capital letters but are not case sensitive.
<i>string</i>	A string is a nonquoted set of characters. For example, when setting an SNMP community string to public, do not use quotation marks around the string or the string will include the quotation marks.

Examples use the following conventions:

Convention	Description
screen	Courier plain shows an example of information displayed on the screen.
<b>boldface screen</b>	Courier bold shows an example of text that you must enter.
< >	Angle brackets show nonprinting characters, such as passwords.
!	An exclamation point at the beginning of a line indicates a comment line. (Exclamation points are also displayed by the Cisco IOS software for certain processes.)
[ ]	Square brackets show default responses to system prompts.

The following conventions are used to attract the attention of the reader:



**Caution**

Means *reader be careful*. In this situation, you might do something that could result in equipment damage or loss of data.

**Note**

Means *reader take note*. Notes contain helpful suggestions or references to materials not contained in this manual.

**Timesaver**

Means the *described action saves time*. You can save time by performing the action described in the paragraph.

Within the Cisco IOS software documentation, the term *router* is generally used to refer to a variety of networking devices (for example, routers, access servers, and Route Switch Modules). Within examples, routers, access servers, and other networking devices that support Cisco IOS software are shown alternately. These products are used only for example purposes; that is, an example that shows one product does not indicate that other products are not supported.

## Command Syntax Conventions

Command descriptions use the following conventions:

Convention	Description
<b>boldface</b>	Boldface text indicates commands and keywords that you enter literally as shown.
<i>italics</i>	Italic text indicates arguments for which you supply values.
[x]	Square brackets indicate an optional element (keyword or argument).
{x}	Braces indicate a required element (keyword or argument).
[x {y   z}]	Braces and vertical lines within square brackets indicate a required choice within an optional element.

## Cisco Connection Online

Cisco Connection Online (CCO) is the primary, real-time support channel for Cisco Systems. 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 customers and business partners of Cisco Systems. 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:

- <http://www.cisco.com>
- <http://www-europe.cisco.com>
- <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 the CCO 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).

**Note**

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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 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>.

## Providing Documentation Feedback

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

You can also submit feedback on Cisco documentation as follows:

- Mail in the Cisco Reader Comment Card located at the front of this book
- Send an e-mail to [bug-doc@cisco.com](mailto:bug-doc@cisco.com)
- Send a fax to 408 527-8089

We appreciate your comments.

