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Release Notes for Cisco IOS Release 12.0XN

9/7/99

These release notes describe the features for IBM network software in Cisco IOS Release 12.0(5)XN. These release notes are updated as needed to describe new features, memory requirements, hardware support, software platform deferrals, and related documents.

For a list of the software caveats that apply to Release 12.0(5)XN, see *Caveats for Cisco IOS Release 12.0 T* that accompanies these release notes. This document is updated for every maintenance release and is also located on Cisco Connection Online (CCO) and the Documentation CD-ROM.

Use these release notes with the *Cross-Platform Release Notes for Cisco IOS Release 12.0* located on CCO and the Documentation CD-ROM

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System Requirements

This section describes the system requirements for Release 12.0(5)XN:

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Memory Requirements

Table 1 Memory Requirements for the Cisco 2500 Platform

| Feature Set by Router | Image Name | Required Flash Memory | Required DRAM Memory | Runs from |
|-------------------------------|-----------------------------|-----------------------|----------------------|-----------|
| 2501-2525 | | | | |
| IP/IBM/APPN | c2500-a3i3r4-l ¹ | 16 MB | 16 MB | FLASH |
| Enterprise/APPN Plus IPsec 56 | c2500-a3js56i-l | 16 MB | 16 MB | FLASH |
| 2610-2621 | | | | |
| Enterprise Plus IPsec 3DES | c2600-a3jk2s-mz | 16 MB | 64 MB | RAM |
| Enterprise/APPN Plus | c2600-a3js-mz | 16 MB | 64 MB | RAM |
| Enterprise/APPN Plus IPsec 56 | c2600-a3js56i-mz | 16 MB | 64 MB | RAM |

¹ This image is not available in Cisco IOS 12.0(5)XN, but will be available in Cisco IOS 12.1.(1).

Table 2 Memory Requirements for the Cisco 2600 Platform

| Feature Set by Router | Image Name | Required Flash Memory | Required DRAM Memory | Runs from |
|-------------------------------|------------------|-----------------------|----------------------|-----------|
| Enterprise Plus IPsec 3DES | c2600-a3jk2s-mz | 16 MB | 64 MB | RAM |
| Enterprise/APPN Plus | c2600-a3js-mz | 16 MB | 64 MB | RAM |
| Enterprise/APPN Plus IPsec 56 | c2600-a3js56i-mz | 16 MB | 64 MB | RAM |

Table 3 Memory Requirements for the Cisco 3600 Platform

| Feature Set by Router | Image Name | Required Flash Memory | Required DRAM Memory | Runs from |
|---------------------------------|------------------|-----------------------|----------------------|-----------|
| 3620 | | | | |
| Enterprise/APPN Plus IPsec 3DES | c3620-a3jk2s-mz | 16 MB | 64 MB | RAM |
| Enterprise/APPN Plus | c3620-a3js-mz | 16 MB | 64 MB | RAM |
| Enterprise/APPN Plus IPsec 56 | c3620-a3js56i-mz | 16 MB | 64 MB | RAM |
| 3640 | | | | |
| Enterprise/APPN Plus IPsec 3DES | c3640-a3jk2s-mz | 16 MB | 64 MB | RAM |

Table 3 Memory Requirements for the Cisco 3600 Platform (continued)

| Feature Set by Router | Image Name | Required Flash Memory | Required DRAM Memory | Runs from |
|-------------------------------------|------------------|-----------------------|----------------------|-----------|
| Enterprise/APPN Plus | c3640-a3js-mz | 16 MB | 64 MB | RAM |
| Enterprise/APPN Plus IPSec 56 | c3640-a3js56i-mz | 16 MB | 64 MB | RAM |
| 3660 | | | | |
| Enterprise/APPN Plus IP Sec/3DES | c3660-a3jk2s-mz | 16 MB | 64 MB | RAM |
| Enterprise Plus | c3660-a3js-mz | 16 MB | 64 MB | RAM |
| Enterprise Plus/IP Sec 56 | c3660-a3js56i-mz | 16 MB | 64 MB | RAM |

Table 4 Memory Requirements for the Cisco 4000-M Platform

| Feature Set by Router | Image Name | Required Flash Memory | Required DRAM Memory | Runs from |
|--------------------------------|------------------|-----------------------|----------------------|-----------|
| 4000-M | | | | |
| Enterprise Plus IPSec 3DES | c4000-a3jk2s-mz | 16 MB | 64 MB | RAM |
| Enterprise Plus | c4000-a3js-mz | 16 MB | 64 MB | RAM |
| Enterprise Plus IPSec 56 | c4000-a3js56i-mz | 16 MB | 64 MB | RAM |
| 4500-M and 4700, 4700-M | | | | |
| Enterprise Plus IPSec 3DES | c4500-a3jk2s-mz | 16 MB | 64 MB | RAM |
| Enterprise Plus | c4500-a3js-mz | 16 MB | 64 MB | RAM |
| Enterprise Plus IPSec 56 | c4500-a3js56i-mz | 16 MB | 64 MB | RAM |

Table 5 Memory Requirements for the Catalyst 5000 with RSM Platform

| Feature Set by Router | Image Name | Required Flash Memory | Required DRAM Memory | Runs from |
|------------------------------------|------------------|-----------------------|----------------------|-----------|
| Enterprise/SNASwitch IPSec 3DES | c5rsm-a3jk2s-mz | 16 MB | 64 MB | RAM |
| Enterprise/SNASwitch | c5rsm-a3js-mz | 16 MB | 64 MB | RAM |
| Enterprise/SNASwitch IPSec 56 | c5rsm-a3js56i-mz | 16 MB | 64 MB | RAM |

Table 6 Memory Requirements for the Cisco 7200 Platforms

| Feature Set by Router | Image Name | Required Flash Memory | Required DRAM Memory | Runs from |
|--------------------------|------------------|-----------------------|----------------------|-----------|
| Enterprise IPSec 3DES | c7200-a3jk2s-mz | 16 MB | 64 MB | RAM |
| Enterprise | c7200-a3js-mz | 16 MB | 64 MB | RAM |
| Enterprise Plus IPSec 56 | c7200-a3js56i-mz | 16 MB | 64 MB | RAM |

Table 7 Memory Requirements for the Cisco 7000 and 7500 with RSP Platform

| Feature Set by Router | Image Name | Required Flash Memory | Required DRAM Memory | Runs from |
|-----------------------|----------------|-----------------------|----------------------|-----------|
| Enterprise IPSec 3DES | rsp-a3jk2sv-mz | 16 MB | 64 MB | RAM |

Table 7 Memory Requirements for the Cisco 7000 and 7500 with RSP Platform

| Feature Set by Router | Image Name | Required Flash Memory | Required DRAM Memory | Runs from |
|---------------------------------|-----------------|-----------------------|----------------------|-----------|
| Enterprise Standard Feature Set | rsp-a3jsv-mz | 16 MB | 64 MB | RAM |
| Enterprise Standard Feature Set | rsp-a3jsv56i-mz | 16 MB | 64 MB | RAM |

Hardware Supported

Cisco IOS Release 12.0(5)XN supports the following routers:

- Cisco 2500 series
- Cisco 2600 series
- Cisco 3600 series
- Cisco 4000 series
- Cisco 7200 series
- Cisco 7500 series
- Cisco Catalyst 5000 with RSM series

For detailed listings of the supported hardware associated with each platform, see the following documents

- *Release Notes for Cisco 2500 Series for Cisco IOS Release 12.T*
- *Release Notes for Cisco 2600 Series for Cisco IOS Release 12.T*
- *Release Notes for Cisco 3600 Series for Cisco IOS Release 12.T*
- *Release Notes for Cisco 4000 Series for Cisco IOS Release 12.T*
- *Release Notes for Cisco 7000 Family for Cisco IOS Release 12.T*
- *Release Notes for Catalyst 5000 Series RSM/VIP2 Cisco IOS 12.0 T Software Release*

For detailed descriptions of the new hardware features for Cisco IOS Release 12.0, refer to the cross-platform *Release Notes for Cisco IOS Release 12.0*.

Determining Your Software Release

To determine the version of Cisco IOS software running on a Cisco router, log in to the router and enter the **show version EXEC** command:

```
router>show version
Cisco Internetwork Operating System Software
IOS (tm) 2600 Software (c2600-ajs-mz), Version 12.0(5)XN, RELEASE SOFTWARE
```

Feature Set Tables

Cisco IOS software is packaged in feature sets consisting of software images—depending on the platform. Each feature set contains a specific set of Cisco IOS features.

See the following platform specific Release Notes for a complete listing of the features associated within each feature set:

Release Notes for Cisco 2500 Series for Cisco IOS Release 12.T.

Release Notes for Cisco 2600 Series for Cisco IOS Release 12.T.

Release Notes for Cisco 3600 Series for Cisco IOS Release 12.T.

Release Notes for Cisco 4000 Series for Cisco IOS Release 12.T.

Release Notes for Cisco 7000 Family for Cisco IOS Release 12.T.

Release Notes for Catalyst 5000 Series RSM/VIP2 Cisco IOS 12.0 T Software Release

New and Changed Information

New Features in Cisco IOS Release 12.0(5)XN

The following new features are supported by the Cisco IOS Release 12.0(5)T:

- CTRC
- SNASwitching

CTRC

The Cisco Transaction Connection (CTRC) software feature provides the following functionality:

- CTRC allows Cisco routers to use the intersystem communication (ISC) protocol to provide a gateway between Customer Information Control System (CICS) clients (also known as common clients) running under Windows or UNIX on Transmission Control Protocol/Internet Protocol (TCP/IP) networks and CICS online transaction monitoring systems on IBM hosts.
- CTRC supports two interfaces to common clients: the Extended Call Interface (ECI), which lets non-CICS client programs call CICS transactions, and the Extended Presentation Interface (EPI), which lets distributed applications call CICS transactions that were originally accessed via 3270 terminals.
- CTRC supports route configuration for CICS transactions. Each transaction can be routed to a specific CICS region.
- In addition to its CICS-related functionality, CTRC includes the feature previously known as Cisco Database Connection (CDBC). This feature allows Cisco routers to use IBM's distributed relational database architecture (DRDA) protocol as a gateway between client workstations running Open Database Connectivity (ODBC)-compliant applications on TCP/IP networks and IBM DB2 databases on Systems Network Architecture (SNA) networks. ODBC is a call-level interface developed by Microsoft Corporation that allows a single application to access database management systems from different vendors using a single interface. SNA is a large, complex, feature-rich network architecture developed by IBM.

Caveats

- CTRC supports TCP/IP passthrough, which allows the use of a TCP/IP network, rather than a SNA network, between a Cisco router and a DB2 database if the database version supports direct TCP/IP access.
- To match functionality provided in DRDA over TCP/IP, CTRC adds support for Password Expiration Management (PEM) in SNA networks where PEM is supported.

SNASwitching

Note SNA Switching Services (SNASw) functionality supersedes all functionality previously available in the APPN feature in the Cisco IOS software. SNASw configuration will not accept the previous APPN configuration commands. Previous APPN users should reconfigure APPN functionality using the new SNASw commands.

SNASw provides an easier way to design and implement networks with Systems Network Architecture (SNA) routing requirements. Previously, this network design was accomplished using Advanced Peer-to-Peer Networking (APPN) with full network node (NN) support in the Cisco router. This type of support provided the SNA routing functionality needed, but was inconsistent with the trends in Enterprise networks today. The corporate intranet is replacing the SNA WAN. Enterprises are replacing their traditional SNA network with an IP infrastructure that supports traffic from a variety of clients using a variety of protocols, which requires access to applications on a variety of platforms, including SNA applications on Enterprise servers.

While SNA routing is still required when multiple servers must be accessed, the number of nodes required to perform this function is decreasing as the IP infrastructure grows and as the amount of native SNA traffic in the network decreases.

SNASw enables an enterprise to develop an IP infrastructure and meet SNA routing requirements.

The number of NNs in the network and the amount of broadcast traffic are reduced. Configuration is simplified, and SNA data traffic can be transported within the IP infrastructure. The following features provide this functionality:

- HPR Capable SNA Routing Services
- Branch Extender
- Enterprise Extender (HPR/IP)
- Usability Features
- Management Enhancements
- LAN and IP-Focused Connection Types

Caveats

Caveats describe unexpected behavior or defects in Cisco IOS software releases. Severity 1 caveats are the most serious caveats; severity 2 caveats are less serious.

For information on caveats in Cisco IOS Release 12.0T, see *Caveats for Cisco IOS Release 12.0T* that accompanies these release notes. This document lists severity 1 and 2 caveats for Cisco IOS Release 12.0 T.

All caveats in Release 12.0 XN are also in Release 12.0 T.

For information on caveats in Cisco IOS Release 12.0, see *Caveats for Cisco IOS Release 12.0*, which lists severity 1 and 2 caveats, and is located on CCO and the Documentation CD-ROM.

Note If you have an account with CCO, you can use Bug Navigator II to find caveats of any severity for any release. You can reach Bug Navigator II on CCO at <http://www.cisco.com/support/bugtools>.

Related Documentation

The following sections describe the documentation available for each platform that supports Cisco IOS 12.0 XN. These documents consist of hardware and software installation guides, Cisco IOS configuration and command references, system error messages, feature modules, and other documents.

Documentation is available as printed manuals or electronic documents, except for feature modules, which are available online on CCO and the Documentation CD-ROM.

Use these release notes with these documents:

- Release-Specific Documents, page 7
- Platform-Specific Documents, page 7
- Feature Modules, page 9
- Cisco IOS Software Documentation Set, page 10

Release-Specific Documents

The following documents are specific to Release 12.0 T and are located on CCO and the Documentation CD-ROM:

- *Cross-Platform Release Notes for Cisco IOS Release 12.0 T*
- Product bulletins, field notices, and other release-specific documents on CCO at
- Caveats for Cisco IOS Release 12.0 T

As a supplement to the caveats listed in the “Caveats” section in these release notes, see *Caveats for Cisco IOS Release 12.0 T*, which contains caveats applicable to all platforms for all maintenance releases of Release 12.0 T.

Note If you have an account with CCO, you can use Bug Navigator II to find caveats of any severity for any release. You can reach Bug Navigator II on CCO at: <http://www.cisco.com/support/bugtools>.

Platform-Specific Documents

The Cisco IOS software documentation set consists of the Cisco IOS configuration guides, Cisco IOS command references, and several other supporting documents. These documents are shipped with your order in electronic form on the Documentation CD-ROM, unless you specifically order the printed versions.

The hardware documentation for specific platforms is listed in Table 8.

Table 8 Platform Specific Documents

| Platform | Book |
|--------------------------------|--|
| Cisco 2500 Series | <i>Quick Start Guide Cisco 2600 Series Cabling and Setup</i> |
| | <i>Cisco 2600 Series Hardware Installation Guide</i> |
| | <i>Network Modules Hardware Installation Guide</i> |
| | <i>Update to Network Module Hardware and Software Guides</i> |
| | <i>Cisco WAN Interface Cards Hardware Installation Guide</i> |
| | <i>Update to WAN Interface Cards Hardware Installation Guide</i> |
| | <i>Software Configuration Guide For Cisco 3600 and Cisco 2600 Series Routers</i> |
| | <i>New and Changed Show Commands for the Cisco 2600 Series Routers</i> |
| | <i>Cisco 2600 Series Configuration Notes</i> |
| | <i>Analog Modem Firmware</i> |
| | <i>Analog Modem Firmware Release Notes and AT Command Set</i> |
| | <i>Cisco 2600 Series Cabling Specifications</i> |
| | <i>Cisco Modular Access Router Cable Specifications</i> |
| | <i>Cisco 2524 and Cisco 2525 Public Network Certification</i> |
| | <i>Installing WAN Modules in the Cisco 2524 and Cisco 2525 Routers</i> |
| | <i>Cisco 2524 and Cisco 2525 Router User Guide</i> |
| <i>Redundant Power Systems</i> | |
| Cisco 2600 Series | <i>Quick Start Guide Cisco 2600 Series Cabling and Setup</i> |
| | <i>Cisco 2600 Series Hardware Installation Guide</i> |
| | <i>Network Modules Hardware Installation Guide</i> |
| | <i>Update to Network Module Hardware and Software Guides</i> |
| | <i>Cisco WAN Interface Cards Hardware Installation Guide</i> |
| | <i>Update to WAN Interface Cards Hardware Installation Guide</i> |
| | <i>Software Configuration Guide For Cisco 3600 and Cisco 2600 Series Routers</i> |
| | <i>New and Changed Show Commands for the Cisco 2600 Series Routers</i> |
| | <i>Cisco 2600 Series Configuration Notes</i> |
| | <i>Analog Modem Firmware</i> |
| | <i>Analog modem firmware release notes and AT command set</i> |
| | <i>Cisco 2600 Series Cabling Specifications</i> |
| | <i>Cisco Modular Access Router Cable Specifications</i> |

Table 8 Platform Specific Documents (continued)

| Platform | Book |
|-----------------------------------|---|
| Cisco 3600 Series | <i>Cisco 3600 Series Hardware Installation Guide</i> |
| | <i>Software Configuration Guide</i> |
| | <i>Network Module Hardware Installation Guide</i> |
| | <i>Update to Network Module Hardware and Software Guides</i> |
| | <i>WAN Interface Cards Hardware Installation Guide</i> |
| | <i>Update to WAN Interface Cards Hardware Installation Guide</i> |
| | <i>Cisco Modular Access Router Cable Specifications</i> |
| | <i>Redundant Power Systems</i> |
| | <i>Regulatory Compliance and Safety Information for the Cisco 3600 Series</i> |
| | <i>Cisco 3600 Series Configuration Notes</i> |
| | Digital Modem Portware documents |
| | Analog Modem Firmware documents |
| Cisco 4000 Series | Cisco 4000 series hardware installation and maintenance documents |
| | <i>Cisco 4000 Series Configuration Notes</i> |
| | <i>Cisco 4000 Series Regulatory Compliance and Safety Information</i> |
| | <i>Redundant Power Systems</i> |
| | Release Notes - Cisco 4000 Series Routers |
| Cisco 7000 Family | <i>Cisco 7202 Series Installation and Configuration Guide</i> |
| | <i>Cisco 7204 Series Installation and Configuration Guide</i> |
| | <i>Cisco 7206 Series Installation and Configuration Guide</i> |
| | <i>Cisco 7500 Series Installation and Configuration Guide</i> |
| Cisco Catalyst 5000 Series Module | <i>Catalyst 5000 Series Module Installation Guide</i> |
| | <i>Catalyst 5000 Series Route Switch Module Installation and Configuration Note</i> |
| | <i>Route Switch Module Catalyst VIP2-15 and VIP2-40 Installation and Configuration Note</i> |
| | <i>Catalyst 5000 Series RSM/VIP2 Port Adapter Installation and Configuration Notes</i> |
| | <i>Token Ring VLAN Support on the Route Switch Module</i> |
| | <i>Catalyst Token Ring Switching Implementation Guide</i> |

These documents are available for each platform on CCO and the Documentation CD-ROM.

Feature Modules

Feature modules describe new features supported by Cisco IOS Release 12.0 XN, and are updates to the Cisco IOS documentation set. A feature module consists of a brief overview of the feature, benefits, configuration tasks, and a command reference. As updates, the feature modules are available online only. Feature module information is incorporated in the next release of the Cisco IOS documentation set.

Cisco IOS Software Documentation Set

The Cisco IOS software documentation set consists of the Cisco IOS configuration guides, Cisco IOS command references, and several other supporting documents which are shipped with your order in electronic form on the Documentation CD-ROM—unless you specifically ordered the printed versions. The documentation set is also available on CCO.

Documentation Modules

Each module in the Cisco IOS documentation set consists of two books: a configuration guide and a corresponding command reference. Chapters in a configuration guide describe protocols, configuration tasks, and Cisco IOS software functionality, and contain comprehensive configuration examples. Chapters in a command reference provide complete command syntax information. Use each configuration guide with its corresponding command reference.

Release 12.0 Documentation Set

Table 9 describes the contents of the Cisco IOS Release 12.0 software documentation set, which is available in electronic and printed form.

Note You can find the most current Cisco IOS documentation on CCO and the Documentation CD-ROM. These electronic documents may contain updates and modifications made after the hard-copy documents were printed.

Table 9 Cisco IOS Software Release 12.0 Documentation Set

| Books | Chapter Topics |
|--|---|
| <ul style="list-style-type: none"> • <i>Configuration Fundamentals Configuration Guide</i> • <i>Configuration Fundamentals Command Reference</i> | Configuration Fundamentals Overview Cisco IOS User Interfaces File Management System Management |
| <ul style="list-style-type: none"> • <i>Bridging and IBM Networking Configuration Guide</i> • <i>Bridging and IBM Networking Command Reference</i> | Transparent Bridging Source-Route Bridging Token Ring Inter-Switch Link Remote Source-Route Bridging DLSw+ STUN and BSTUN LLC2 and SDLC IBM Network Media Translation DSPU and SNA Service Point SNA Frame Relay Access Support APPN Cisco Database Connection NCIA Client/Server Topologies Cisco Mainframe Channel Connection Airline Product Set |

Table 9 Cisco IOS Software Release 12.0 Documentation Set (continued)

| Books | Chapter Topics |
|--|--|
| <ul style="list-style-type: none"> • <i>Dial Solutions Configuration Guide</i> • <i>Dial Solutions Command Reference</i> | X.25 over ISDN Appletalk Remote Access Asynchronous Callback, DDR, PPP, SLIP Bandwidth Allocation Control Protocol ISDN Basic Rate Service ISDN Caller ID Callback PPP Callback for DDR Channelized E1 & T1 Dial Backup for Dialer Profiles Dial Backup Using Dialer Watch Dial Backup for Serial Lines Peer-to-Peer DDR with Dialer Profiles DialOut Dial-In Terminal Services Dial-on-Demand Routing (DDR) Dial Backup Dial-Out Modem Pooling Large-Scale Dial Solutions Cost-Control Solutions Virtual Private Dialup Networks Dial Business Solutions and Examples |
| <ul style="list-style-type: none"> • <i>Cisco IOS Interface Configuration Guide</i> • <i>Cisco IOS Interface Command Reference</i> | Interface Configuration Overview LAN Interfaces Logical Interfaces Serial Interfaces |
| <ul style="list-style-type: none"> • <i>Network Protocols Configuration Guide, Part 1</i> • <i>Network Protocols Command Reference, Part 1</i> | IP Overview IP Addressing and Services IP Routing Protocols |
| <ul style="list-style-type: none"> • <i>Network Protocols Configuration Guide, Part 2</i> • <i>Network Protocols Command Reference, Part 2</i> | AppleTalk Novell IPX |
| <ul style="list-style-type: none"> • <i>Network Protocols Configuration Guide, Part 3</i> • <i>Network Protocols Command Reference, Part 3</i> | Network Protocols Overview Apollo Domain Banyan VINES DECnet ISO CLNS XNS |
| <ul style="list-style-type: none"> • <i>Security Configuration Guide</i> • <i>Security Command Reference</i> | AAA Security Services Security Server Protocols Traffic Filtering and Firewalls IP Security and Encryption Passwords and Privileges Neighbor Router Authentication IP Security Options |
| <ul style="list-style-type: none"> • <i>Cisco IOS Switching Services Configuration Guide</i> • <i>Cisco IOS Switching Services Command Reference</i> | Switching Services Switching Paths for IP Networks Virtual LAN (VLAN) Switching and Routing |
| <ul style="list-style-type: none"> • <i>Wide-Area Networking Configuration Guide</i> • <i>Wide-Area Networking Command Reference</i> | Wide-Area Network Overview ATM Frame Relay SMDS X.25 and LAPB |

Table 9 Cisco IOS Software Release 12.0 Documentation Set (continued)

| Books | Chapter Topics |
|--|--|
| <ul style="list-style-type: none"> • <i>Voice, Video, and Home Applications Configuration Guide</i> • <i>Voice, Video, and Home Applications Command Reference</i> | Voice over IP Voice over Frame Relay Voice over ATM Voice over HDLC Frame Relay-ATM Internetworking Synchronized Clocks Video Support Universal Broadband Features |
| <ul style="list-style-type: none"> • <i>Quality of Service Solutions Configuration Guide</i> • <i>Quality of Service Solutions Command Reference</i> | Policy-Based Routing QoS Policy Propagation via BGP Committed Access Rate Weighted Fair Queueing Custom Queueing Priority Queueing Weighted Random Early Detection Scheduling Signaling RSVP Packet Drop Frame Relay Traffic Shaping Link Fragmentation RTP Header Compression |
| <ul style="list-style-type: none"> • <i>Cisco IOS Software Command Summary</i> • <i>Dial Solutions Quick Configuration Guide</i> • <i>System Error Messages</i> • <i>Debug Command Reference</i> | |

Note The *Cisco Management Information Base (MIB) User Quick Reference* is no longer published. For the latest list of MIBs supported by Cisco, see *Cisco Network Management Toolkit* on CCO.

Service and Support

For service and support for a product purchased from a reseller, contact the reseller, who offers a wide variety of Cisco service and support programs described in the “Service and Support” sections of the *Cisco Information Packet* shipped with your product.

Note If you purchased your product from a reseller, you can access CCO as a guest. CCO is Cisco Systems’ primary real-time support channel. Your reseller offers programs that include direct access to CCO services.

For service and support for a product purchased directly from Cisco, use CCO.

Software Configuration Tips on Cisco's Technical Assistance Center Home Page

If you have a CCO login account, you can access the following URL, which contains links and tips on configuring your Cisco products:

http://www.cisco.com/kobayashi/serv_tips.shtml

This URL is subject to change without notice. If it changes, point your Web browser to CCO and click on this path: Products & Technologies: Products: Technical Tips.

The following sections are provided from the Technical Tips page:

- Access Dial Cookbook—Contains common configurations or recipes for configuring various access routes and dial technologies.
- Field Notices—Notifies you of any critical issues regarding Cisco products and includes problem descriptions, safety or security issues, and hardware defects.
- Frequently Asked Questions—Describes the most frequently asked technical questions about Cisco hardware and software.
- Hardware—Provides technical tips related to specific hardware platforms.
- Hot Tips—Describes popular tips and hints gathered from the Cisco Technical Assistance Center (TAC). Most of these documents are available from the TAC Fax-on-demand service. To reach fax-on-demand and receive documents at your fax machine from the United States, call 888-50-CISCO (888-502-4726). From outside the US, call 650-596-4408.
- Internetworking Features—Lists tips on using and deploying Cisco IOS software features and services.
- Sample Configurations—Provides actual configuration examples that are complete with topology and annotations.
- Software Products—Contains Cisco IOS Software Bulletins, Cisco TCP/IP Suite 100, general Cisco IOS information, internet/intranet applications and software, network management, network protection software tips, and WAN switching products and software.
- Special Collections—Lists other helpful documents, including case studies, references and request for comments (RFCs), and security advisories.

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 reach 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>.

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This document is to be used in conjunction with the documents listed in the "Related Documentation" section on page 7.

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