



# Release Notes for Cisco MC3810 for Cisco IOS Release 12.1

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January 2, 2001



**Note**

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You can find the most current Cisco IOS documentation on Cisco Connection Online (CCO). These electronic documents may contain updates and modification made after the hardcopy documents were printed.

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These release notes for the Cisco MC3810 multiservice access concentrator support Cisco IOS Release 12.1, up to and including Release 12.1(6). These release notes are updated as needed to describe new features, memory recommendations, hardware support, software platform deferrals, and changes to related documents.

For a list of software caveats that apply to Cisco IOS Release 12.1(6), refer to the document *Caveats for Cisco IOS Release 12.1* that accompanies these release notes. The caveats document is updated for every maintenance release and is 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 12.1* located on Cisco Connection Online (CCO) and the Documentation CD-ROM.

## Contents

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## Introduction

The Cisco MC3810 multiservice access concentrator is fully supported by Cisco IOS software for multiprotocol routing, bridging, and Systems Network Architecture (SNA). As part of an enterprise backbone or as customer premises equipment (CPE) to serve provider-managed network services, the Cisco MC3810 reduces operating costs and complexity and increases network throughput and performance.

The Cisco MC3810 provides a complete file system for software images, message files, and reports. The standard Flash memory size is 8 MB, and a 16-MB upgrade option is available. The 16-MB version can hold two code images simultaneously for fail-safe upgrades.

Management and configuration of the Cisco MC3810 should be familiar to the Cisco IOS user and compatible with existing management systems. As such, it provides a superset of the Cisco command-line interface (CLI). The Cisco MC3810 can be managed by standard Cisco management platforms and facilities such as CiscoView and the native remote log-in facilities provided by Telnet and rlogin. Three types of configuration interfaces are provided:

- Cisco CLI
- HTTP-based configuration server
- SNMP-based Management Information Base (MIB)

The HTTP-based interface allows configuration from any web browser such as Netscape Navigator or Microsoft Explorer. The SNMP MIB allows management of the Cisco MC3810 from SNMP managers (for example, HP OpenView).

## System Requirements

This section describes the system requirements for Cisco IOS Release 12.1(6):

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## Memory Recommendations

Table 1 lists the minimum recommended memory for the Cisco 3810 series for Cisco IOS Release 12.1(6).

**Table 1** Memory Recommendations for the Cisco MC3810

Feature Set	Image Name	Recommended Flash Memory	Recommended DRAM Memory	Runs From
IP	mc3810-i-mz	4 MB <sup>1</sup>	16 MB <sup>2</sup>	RAM
IP Plus	mc3810-is-mz	8 MB	32 MB	RAM
IP/ATM Plus	mc3810-a2is-mz	8 MB	32 MB	RAM
IP Plus ATM MCM H323	mc3810-a2isx-mz	8 MB	32 MB	RAM
Enterprise Plus	mc3810-js-mz	8 MB	32 MB	RAM
Enterprise/ATM Plus	mc3810-a2js-mz	8 MB	32 MB	RAM
Enterprise Plus ATM MCM H323	mc3810-a2jsx-mz	8 MB	32 MB	RAM

1. Required Flash for IP feature set; default configuration includes 8 MB.
2. Required DRAM for IP feature set; default configuration includes 32 MB.

## Hardware Supported

Cisco IOS Release 12.1(6) supports the Cisco MC3810 multiservice access concentrator. The Cisco MC3810 base chassis is a semi-fixed configuration router that can be customized for a specific application at the factory or in the field by a qualified technician. The base chassis includes the following components:

- One fixed Ethernet LAN port
- A console port and an auxiliary port
- Two synchronous serial ports
- Five mounting areas for functional modules that support additional capabilities
- AC, DC, or redundant power supply option

Cisco MC3810 series concentrators are supplied in various standard hardware configurations. These are equipped with different sets of functional modules to provide specific functional capability. Many configurations are possible, but they are all variations of the basic categories described in Table 2. Supported hardware is shown in Table 3. The chassis opening for any mounting area not equipped with a functional module is closed off with a removable cover plate.

**Table 2 Cisco MC3810 Series Standard Hardware Categories**

Category	Service Types Supported	Required Modules	Optional Modules
<b>Base chassis</b>	Base chassis services <sup>1</sup>	None	Optional modules can be added to create other chassis variations
<b>Analog voice chassis</b>	Base chassis services <sup>1</sup> plus compressed analog voice connections to telephone, fax, central office, analog PBX	AVM (analog voice module) with 1 to 6 APMs (analog personality modules) VCM3 or VCM6 (only one voice compression module)	MFT <sup>2</sup> to support a channelized T1 or E1 trunk MFT <sup>2</sup> and VDM <sup>3</sup> to support video codec dialing
<b>Digital voice chassis</b>	Base chassis services <sup>1</sup> plus compressed digital voice through digital PBX	DVM VCM3 or VCM6 or (one or two voice compression modules)	MFT <sup>2</sup> to support a channelized T1 or E1 trunk MFT <sup>2</sup> and VDM to support video codec dialing
<b>BRI voice chassis</b>	Base chassis services <sup>1</sup> plus compressed digital voice through PINX	BVM and MFT <sup>1</sup> VCM3 or VCM6 or (only one voice compression module)	MFT to support a channelized T1 or E1 trunk MFT <sup>2</sup> and VDM <sup>3</sup> to support video codec dialing
<b>T1/E1 trunk chassis</b>	Base chassis services <sup>1</sup> plus channelized T1 or E1	MFT <sup>2</sup>	DVM to support digital cross-connect voice (channel bank functionality/drop-and-insert) through digital PBX or channel bank VDM <sup>3</sup> to support video codec dialing VCM3 and/or VCM6 to support voice compression

1. Base chassis services include administrative access, Ethernet, data transport, and video transport.
2. The MFT is available with or without BRI backup.
3. If a VDM is installed, an MFT is required to support ATM for the video dialing network connection.

**Table 3 Hardware Supported on the Cisco MC3810 for Cisco IOS Release 12.1**

Module or Other Hardware Option	Product Number
<b>Voice Interface Modules</b>	
6-port AVM <sup>1</sup>	MC3810-AVM6
1-port E1 DVM, connects to PBX/channel bank/key system <sup>2</sup>	MC3810-DVM-E1
1-port T1 DVM, connects to PBX/channel bank/key system <sup>2</sup>	MC3810-DVM-T1
1-port unbalanced E1 DVM, connects to PBX/channel bank/key system <sup>2</sup>	MC3810-DVM-BNC
4-port BRI voice module <sup>3</sup>	MC3810-BVM4

**Table 3** Hardware Supported on the Cisco MC3810 for Cisco IOS Release 12.1 (continued)

Module or Other Hardware Option	Product Number	
<b>Video Dialing Module</b>	Supports an RS-366 Automatic Calling Equipment (ACE) interface to the DTE port of the videoconferencing equipment <sup>4</sup>	MC3810-VDM
<b>Analog Personality Modules<sup>5</sup></b>	1-port E & M analog module	MC3810-APM-EM
	1-port FXS analog module	MC3810-APM-FXS
	1-port FXO analog module	MC3810-APM-FXO
	1-port FXO analog module, approved for the U.K.	MC3810-FXO-UK
	1-port FXO analog module, approved for Germany	MC3810-FXO-GER
	1-port FXO analog module, approved for PR2 <sup>6</sup> countries	MC3810-FXO-PR2
	1-port FXO analog module, approved for PR3 <sup>7</sup> countries	MC3810-FXO-PR3
<b>Voice Compression Modules<sup>8</sup></b>	3-DSP VCM, supports up to 6 channels <sup>9</sup> of compressed voice	MC3810-VCM3
	6-DSP VCM, supports up to 12 channels <sup>9</sup> of compressed voice	MC3810-VCM6
<b>Multiflex Trunk Modules with Optional BRI</b>	1-port MFT with RJ-48 channelized T1 interface	MC3810-MFT-T1
	1-port MFT with RJ-48 channelized E1 interface	MC3810-MFT-E1
	1-port MFT with unbalanced E1-BNC interface	MC3810-MFT-BNC
	1-port MFT with RJ-48 channelized T1 and BRI S/T interfaces	MC3810-MFT-TBS
	1-port MFT with unbalanced E1-BNC and BRI S/T interfaces	MC3810-MFT-EUS

- Requires one to six APMs and one voice compression module (VCM3 or VCM6).
- Requires one or two voice compression modules (VCM6) for processed voice.
- Requires one voice compression module (VCM3 or VCM6) and Cisco IOS Release 12.0(4)T or a later release.
- Requires MFT for ATM connectivity and Cisco serial V.35 DCE cable (product order number 72-1721-01) that includes a Ringing Indicator (RI) conductor, and a Cisco RS-366 ACE cable (product order number 72-1722-01) to connect the VDM to the videoconferencing equipment RS-366 dial-up DTE port.
- For use with analog voice modules; one AVM requires at least one APM and supports up to six APMs.
- PR2 countries currently include Australia and New Zealand.
- PR3 countries currently include Japan and Singapore.
- VCMs and Cisco IOS Plus feature sets are required for voice processing (for example, switching, compression, echo cancellation, and silence suppression) but not for drop-and-insert applications.
- Cisco MC3810 maximum voice channel support by compression algorithm: G.711 at 64 kbps = 6 channels; G.726 at 32 kbps = 12 channels; G.729 at 8 kbps = 12 channels; G.729a at 8 kbps = 24 channels.

## Determining the Software Version

To determine the version of Cisco IOS software running on a Cisco MC3810, log in and enter the **show version EXEC** command:

```
MC3810>show version
Cisco Internetwork Operating System Software
IOS (tm) MC3810 Software (mc3810-js-mz), Version 12.1(6), RELEASE SOFTWARE
```

## Upgrading to a New Software Release

For general information about upgrading to a new software release, see the product bulletin *Cisco IOS Upgrade Ordering Instructions* on CCO at:

[http://www.cisco.com/warp/public/cc/cisco/mkt/ios/prodlit/957\\_pp.htm](http://www.cisco.com/warp/public/cc/cisco/mkt/ios/prodlit/957_pp.htm)

## Feature Set Table

Cisco IOS software is packaged in feature sets consisting of software images—depending on the platform. Table 4 lists the available Cisco IOS Release 12.1(6) software images.

**Table 4** Feature Sets Supported by the Cisco MC3810

Feature Sets	Feature Set Matrix Term	Software Image
<b>IP Standard Feature Sets</b>	IP	mc3810-i-mz
	IP Plus	mc3810-is-mz
	IP/ATM Plus	mc3810-a2is-mz
	IP Plus ATM MCM H323	mc3810-a2isx-mz
<b>Enterprise Standard Feature Sets</b>	Enterprise Plus	mc3810-js-mz
	Enterprise ATM Plus	mc3810-a2js-mz
	Enterprise Plus ATM MCM H323	mc3810-a2jsx-mz

Table 5 lists the features and feature sets supported by the Cisco MC3810 in Cisco IOS Release 12.1(6) and uses the following conventions:

- Yes—The feature is supported in the software image.
- No—The feature is not supported in the software image.



**Note**

This feature set table only contains a selected list of features. This table is not cumulative—nor does it list all the features in each image.

**Table 5 Feature List by Feature Set for the Cisco MC3810**

Features	Feature Set						
	IP	IP Plus	IP/ATM Plus	IP Plus ATM MCM H.323	Enterprise Plus	Enterprise/ATM Plus	Enterprise Plus ATM MCM H.323
<b>ATM Access</b>							
ATM LANE FSSR Protocol	No	Yes	Yes	Yes	Yes	Yes	Yes
Frame Relay–ATM Interworking (FRF.5) Enhancements	No	No	Yes	Yes	No	Yes	Yes
Frame Relay–ATM Interworking (FRF.8)	Yes	Yes	Yes	Yes	Yes	Yes	Yes
<b>IBM Support</b>							
DLSw+ Enhanced Load Balancing	No	Yes	Yes	Yes	Yes	Yes	Yes
DLSw+ Ethernet Redundancy	No	Yes	Yes	Yes	Yes	Yes	Yes
DLSw+ Peer Clusters	No	Yes	Yes	Yes	Yes	Yes	Yes
DLSw+ RSVP	No	Yes	Yes	Yes	Yes	Yes	Yes
DLSw+ RSVP Bandwidth Reservation	No	Yes	Yes	Yes	Yes	Yes	No
<b>Management</b>							
CLI String Search	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Response Time Reporter (RTR) Enhancements	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Service Assurance Agent (formerly RTR) Enhancements	Yes	Yes	Yes	Yes	Yes	Yes	Yes
SNMP version 3	Yes	Yes	Yes	Yes	Yes	Yes	Yes
<b>Multimedia and Quality of Service</b>							
Application Specific Routing	No	No	No	No	No	No	No
Gateway Support for Alternate Gatekeeper	No	No	No	Yes	No	No	Yes
H.323 Gatekeeper and Proxy	No	No	No	Yes	No	No	Yes
H.235 Accounting and Security Enhancements for Cisco Gateways	No	No	No	Yes	No	No	Yes
H.323 Version 2	No	No	No	Yes	No	No	Yes
H.323 Multizone Enhancements	No	No	No	Yes	No	No	Yes
H.323 Hot Standby Routing Protocol (HSRP)	No	No	No	Yes	No	No	Yes

Table 5 Feature List by Feature Set for the Cisco MC3810 (continued)

Features	Feature Set						
	IP	IP Plus	IP/ATM Plus	IP Plus ATM MCM H.323	Enterprise Plus	Enterprise/ATM Plus	Enterprise Plus ATM MCM H.323
Multicast Routing Monitor	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Multimedia Conference Manager	No	No	No	Yes	No	No	Yes
PGM Router Assist	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Process MIB	Yes	Yes	Yes	No	Yes	Yes	No
Response Time Reporter Enhancements	Yes	Yes	Yes	No	Yes	Yes	No
<b>Scalability</b>							
Cisco MC3810 – IGX 8400 Interworking	No	Yes	Yes	Yes	Yes	Yes	Yes
Priority Queuing Support Enhancement for Cisco MC3810-IGX Interworking	No	Yes	Yes	Yes	Yes	Yes	Yes
<b>Security</b>							
Time-Based Access Lists	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Tunneling Endpoint Discovery	No	No	No	No	Yes	Yes	Yes
<b>Voice and Multimedia</b>							
ATM Video SVCs	No	No	Yes	Yes	No	Yes	Yes
ATM Voice SVCs	No	No	Yes	Yes	No	Yes	Yes
Call Detail Records (CDR)	No	Yes	Yes	Yes	Yes	Yes	Yes
Fancy Queuing on Frame Relay or Cisco HDLC	Yes	Yes	Yes	Yes	Yes	Yes	Yes
G.726 (ADPCM)	No	Yes	Yes	Yes	Yes	Yes	Yes
ISDN BRI Voice Module <sup>1</sup>	No	Yes	Yes	Yes	Yes	Yes	Yes
ISDN PRI QSIG Digit Forwarding <sup>1</sup>	No	Yes	Yes	Yes	Yes	Yes	Yes
ISDN PRI QSIG Voice Signaling <sup>1</sup>	No	Yes	Yes	Yes	Yes	Yes	Yes
Local Voice Busy Out	No	Yes	Yes	Yes	Yes	Yes	Yes
Multi-length Dial Patterns	No	Yes	Yes	Yes	Yes	Yes	Yes
OPX Ring-Through	No	Yes	Yes	Yes	Yes	Yes	Yes
Permanent Connection	No	Yes	Yes	Yes	Yes	Yes	Yes
Preference-based Hunt Groups	No	Yes	Yes	Yes	Yes	Yes	Yes

**Table 5** Feature List by Feature Set for the Cisco MC3810 (continued)

Features	Feature Set						
	IP	IP Plus	IP/ATM Plus	IP Plus ATM MCM H.323	Enterprise Plus	Enterprise/ATM Plus	Enterprise Plus ATM MCM H.323
Transparent CCS	No	Yes	Yes	Yes	Yes	Yes	Yes
Voice over Frame Relay Using FRF.11 and FRF.12	No	Yes	Yes	Yes	Yes	Yes	Yes
<b>WAN Services</b>							
Facility Data Link Capabilities on Multiflex Trunk	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Frame Relay End-to-End Keepalive	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Frame Relay–ATM Interworking (FRF.8)	No	No	Yes	Yes	No	Yes	Yes
Integrated BRI Backup <sup>1</sup>	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Multicast Source Discovery Protocol (MSDP)	Yes	Yes	Yes	Yes	Yes	Yes	Yes
X.25 Closed User Groups	No	Yes	Yes	Yes	Yes	Yes	Yes
X.25 Switch Local Acknowledgment	No	Yes	Yes	Yes	Yes	Yes	Yes
X.25 over Frame Relay (Annex G)	Yes	Yes	Yes	Yes	Yes	Yes	Yes

1. When the older motherboard (SCB 6.06) is used with this feature, serial port 1 cannot be used. When the new motherboard (SCB 6.07 and later versions) is used, serial port 1 can be used in DCE mode only.

## New and Changed Information

The following is a list of the new hardware and software features supported by the Cisco MC3810 for Release 12.1(6).

### New Hardware Features in Release 12.1(6)

There are no new hardware features supported by the Cisco MC3810 in Cisco IOS Release 12.1(6).

### New Software Features in Release 12.1(6)

There are no new software features supported by the Cisco MC3810 in Cisco IOS Release 12.1(6).

# Important Notes

This section contains important information about the use of your Cisco IOS Release 12.1(6) software.

## Caveat CSCdr91706 and IOS HTTP Vulnerability

A defect in multiple releases of Cisco IOS software will cause a Cisco router or switch to halt and reload if the IOS HTTP service is enabled, browsing to `http://router-ip/anytext?/` is attempted, and the enable password is supplied when requested. This defect can be exploited to produce a denial of service (DoS) attack.

The vulnerability, identified as Cisco bug ID CSCdr91706, affects virtually all mainstream Cisco routers and switches running Cisco IOS software releases 12.0 through 12.1, inclusive. This is not the same defect as CSCdr36952.

The vulnerability has been corrected and Cisco is making fixed releases available for free to replace all affected IOS releases. Customers are urged to upgrade to releases that are not vulnerable to this defect as shown in detail below.

This vulnerability can only be exploited if the enable password is known or not set.

You are strongly encouraged to read the complete advisory, which is available at <http://www.cisco.com/warp/public/707/ioshttpserverquery-pub.shtml>.

## Command Changes in Release 12.1(5)

The `ppp ipcp` command, which supplies Domain Name System (DNS) or Windows Internet Naming Service (WINS) addresses during IP Control Protocol (IPCP) negotiation, has been enhanced with the `reject` and `accept` keywords. These keywords allow enabling or disabling support for the Microsoft IPCP extensions defined by RFC 1877.

## Deprecated MIBs

Old Cisco Management Information Bases (MIBs) will be replaced in a future release. OLD-CISCO-\* MIBs are currently being migrated into more scalable MIBs—without affecting existing Cisco IOS products or NMS applications. You can update from deprecated MIBs to the replacement MIBs as shown in the following table.

**Table 6** *Deprecated MIBs*

Deprecated MIB	Replacement
OLD-CISCO-APPLETALK-MIB	RFC1243-MIB
OLD-CISCO-CHASSIS-MIB	ENTITY-MIB
OLD-CISCO-CPUK-MIB	In Development
OLD-CISCO-DECNET-MIB	NA
OLD-CISCO-ENV-MIB	CISCO-ENVMON-MIB
OLD-CISCO-FLASH-MIB	CISCO-FLASH-MIB
OLD-CISCO-INTERFACES-MIB	IF-MIB CISCO-QUEUE-MIB
OLD-CISCO-IP-MIB	NA

**Table 6** *Deprecated MIBs (continued)*

Deprecated MIB	Replacement
OLD-CISCO-MEMORY-MIB	CISCO-MEMORY-POOL-MIB
OLD-CISCO-NOVELL-MIB	NOVELL-IPX-MIB
OLD-CISCO-SYS-MIB	(Compilation of other OLD* MIBS)
OLD-CISCO-SYSTEM-MIB	CISCO-CONFIG-COPY-MIB
OLD-CISCO-TCP-MIB	CISCO-TCP-MIB
OLD-CISCO-TS-MIB	NA
OLD-CISCO-VINES-MIB	CISCO-VINES-MIB
OLD-CISCO-XNS-MIB	NA

## Using the Cisco MC3810 with QSIG or BRI

Serial port 1 is restricted to DCE operation when the following occurs:

- QSIG is enabled.
- BRI voice module (BVM) is installed and BRI is enabled.
- BRI S/T backup port is installed and enabled on the MFT.

## Using the Cisco MC3810 with the PSTN

This section includes important notes regarding use of the Cisco MC3810 with the Public Switched Telephone Network (PSTN).

### Connections to the PSTN

Exercise care when connecting switched voice ports on the Cisco MC3810 directly to the PSTN because improper configurations can expose a corporate network to telephone fraud.

### Switched Access from the PSTN

The Cisco MC3810 can connect a user from the PSTN directly to the corporate wide-area telephone network. You can configure the Cisco MC3810 as a phone switch that can switch a user to any location in that network, even to remote locations that are connected again to another PSTN. However, the Cisco MC3810 does not provide any mechanism to restrict users from calling after they are connected. Without proper network design, this condition could result in the unauthorized use of the corporate network for making calls at the corporation's expense. To prevent this from occurring, Cisco does not recommend connecting a switched voice interface on the Cisco MC3810 directly to the PSTN. Instead, it should be connected to a PBX that implements a security scheme that prevents unauthorized use.

### Non-Switched Calls

The same opportunity for illicit use does not exist for non-switched call types such as pass-through connections, although the possibility for fraud does exist at the direct contact point. Pass-through calls create a path to only a single location specified by the network administrator. For example, a

pass-through connection might be used to pass a trunk from a PBX to the PSTN. In this case, the trunk on the PBX always passes straight through the Cisco MC3810 to the PSTN. As a result, the necessary security is provided by the PBX.

## Caveats

Caveats describe unexpected behavior in Cisco IOS software releases. Severity 1 caveats are the most serious caveats; severity 2 caveats are less serious. Severity 3 caveats are moderate caveats, and only select severity 3 caveats are included in the caveats document.

For information on caveats in Cisco IOS Release 12.1(6), see *Caveats for Cisco IOS Release 12.1*, which lists severity 1 and 2 caveats and select severity 3 caveats for Cisco IOS Release 12.1(6) 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. From the CCO home page, log in and click on this path: **Software Center: Cisco IOS Software: Cisco IOS Bug Toolkit: Cisco Bug Navigator II**. You can also find Bug Navigator II at <http://www.cisco.com/support/bugtools>

## Related Documentation

The following sections describe the documentation available for the Cisco MC3810. Typically, 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 the documents listed in the following sections:

- Release-Specific Documents, page 12
- Platform-Specific Documents, page 13
- Cisco IOS Software Documentation Set, page 14

## Release-Specific Documents

The following documents are specific to or support Cisco IOS Release 12.1(6). They are located on CCO and the Documentation CD-ROM:

- *Release Notes for Cisco IOS Release 12.1*

To reach the cross-platform *Release Notes for Cisco IOS Release 12.1* on CCO, follow this path, beginning under the **Service & Support** heading:

**Technical Documents: Documentation Home Page: Cisco IOS Software Configuration: Cisco IOS Release 12.1: Release Notes: Cross-Platform Release Notes**

To reach the cross-platform *Release Notes for Cisco IOS Release 12.1* on the Documentation CD-ROM, follow this path:

**Cisco Product Documentation: Cisco IOS Software Configuration: Cisco IOS Release 12.1: Release Notes: Cross-Platform Release Notes**

- Product bulletins, field notices, and other release-specific documents

To reach these documents, refer to the **Service & Support** section at this path on CCO:

**Technical Documents**

- *Caveats for Cisco IOS Release 12.1*

The *Caveats for Cisco IOS Release 12.1* document contains caveats applicable to all platforms for all maintenance releases of Cisco IOS Release 12.1.

To reach the caveat document on CCO, follow this path, beginning under the **Service & Support** heading:

**Technical Documents: Documentation Home Page: Cisco IOS Software Configuration: Cisco IOS Release 12.1: Caveats: Caveats for Cisco IOS Release 12.1**

To reach the caveat document on the Documentation CD-ROM, follow this path:

**Cisco Product Documentation: Cisco IOS Software Configuration: Cisco IOS 12.1: Caveats: Caveats for Cisco IOS Release 12.1**



**Note**

If you have an account with CCO, you can use Bug Navigator II to find caveats of any severity for any release. From the CCO home page, log in and click on this path: **Software Center: Cisco IOS Software: Cisco IOS Bug Toolkit: Cisco Bug Navigator II**. You can also find Bug Navigator II at <http://www.cisco.com/support/bugtools>

## Platform-Specific Documents

The documents listed below are available for the Cisco MC3810. These documents are also available online at Cisco Connection Online (CCO) and on the Documentation CD-ROM.

- *Cisco MC3810 Multiservice Access Concentrator Hardware Installation Guide*
- *Quick Start Guide: Cisco MC3810 Multiservice Access Concentrator Installation and Startup*
- *Cisco MC3810 Multiservice Access Concentrator Regulatory Compliance and Safety Information*
- *Installing and Removing Field-Replaceable Units in the Cisco MC3810 Multiservice Access Concentrator*
- *Cisco Redundant Power System Hardware Installation Guide*
- *Cisco MC3810 Multiservice Access Concentrator Software Configuration Guide*

To reach Cisco MC3810 documentation on CCO, follow this path, beginning under the **Service & Support** heading:

**Technical Documents: Documentation Home Page: Access Servers and Access Routers: Multiservice Access Concentrators**

To reach Cisco MC3810 documentation on the Documentation CD-ROM, follow this path:

**Cisco Product Documentation: Access Servers and Access Routers: Multiservice Access Concentrators**

## 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. These documents are shipped with your order in electronic form on the Documentation CD-ROM—unless you specifically ordered the printed versions.

### 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, Cisco IOS software functionality, and comprehensive configuration examples. Chapters in a command reference provide complete command syntax information. Each configuration guide can be used with its corresponding command reference.

On CCO and the Documentation CD-ROM, two master hot-linked documents provide information for the Cisco IOS software documentation set.

To reach these documents on CCO, follow this path, beginning under the **Service & Support** heading:

**Technical Documents: Documentation Home Page: Cisco IOS Software Configuration: Cisco IOS Release 12.1: Configuration Guides and Command References**

To reach these documents on the Documentation CD-ROM, follow this path:

**Cisco Product Documentation: Cisco IOS Software Configuration: Cisco IOS Release 12.1: Configuration Guides and Command References**

### Cisco IOS Release 12.1 Documentation Set

Table 7 describes the contents of the Cisco IOS Release 12.1 software documentation set, which is available in electronic form and in printed form if ordered.

**Note**

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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.

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To reach the Cisco IOS documentation set from CCO, click on this path, beginning under the **Service & Support** heading:

**Technical Documents: Documentation Home Page: Cisco IOS Software Configuration: Cisco IOS Release 12.1**

To reach the Cisco IOS documentation set on the Documentation CD-ROM, click on this path:

**Cisco Product Documentation: Cisco IOS Software Configuration: Cisco IOS Release 12.1**

**Table 7 Cisco IOS Release 12.1 Documentation Set**

<b>Books</b>	<b>Major Topics</b>
<ul style="list-style-type: none"> <li>• <i>Cisco IOS Configuration Fundamentals Configuration Guide</i></li> <li>• <i>Cisco IOS Configuration Fundamentals Command Reference</i></li> </ul>	Configuration Fundamentals Overview Cisco IOS User Interfaces Configuration Files File Management System Management
<ul style="list-style-type: none"> <li>• <i>Cisco IOS Bridging and IBM Networking Configuration Guide</i></li> <li>• <i>Cisco IOS Bridging and IBM Networking Command Reference, Volume I</i></li> <li>• <i>Cisco IOS Bridging and IBM Networking Command Reference, Volume II</i></li> </ul>	Transparent Bridging Source-Route Bridging Token Ring Inter-Switch Link Remote Source-Route Bridging DLSw+ Serial Tunnel and Block Serial Tunnel Commands LLC2 and SDLC Commands IBM Network Media Translation Commands SNA Frame Relay Access Support Commands NCIA Client/Server Commands Airline Product Set Commands
<ul style="list-style-type: none"> <li>• <i>Cisco IOS Dial Services Configuration Guide: Terminal Services</i></li> <li>• <i>Cisco IOS Dial Services Configuration Guide: Network Services</i></li> <li>• <i>Cisco IOS Dial Services Command Reference</i></li> </ul>	Preparing for Dial Access Modem Configuration and Management ISDN and Signalling Configuration PPP Configuration Dial-on-Demand Routing Configuration Dial-Backup Configuration Terminal Service Configuration Large-Scale Dial Solutions Cost-Control Solutions Virtual Private Networks X.25 on ISDN Solutions Telco Solutions Dial-Related Addressing Services Dial Access Scenarios
<ul style="list-style-type: none"> <li>• <i>Cisco IOS Interface Configuration Guide</i></li> <li>• <i>Cisco IOS Interface Command Reference</i></li> </ul>	Interface Configuration Overview Configuring LAN Interfaces Configuring Serial Interfaces Configuring Logical Interfaces
<ul style="list-style-type: none"> <li>• <i>Cisco IOS IP and IP Routing Configuration Guide</i></li> <li>• <i>Cisco IOS IP and IP Routing Command Reference</i></li> </ul>	IP Overview IP Addressing and Services IP Routing Protocols IP Multicast
<ul style="list-style-type: none"> <li>• <i>Cisco IOS AppleTalk and Novell IPX Configuration Guide</i></li> <li>• <i>Cisco IOS AppleTalk and Novell IPX Command Reference</i></li> </ul>	AppleTalk and Novell IPX Overview Configuring AppleTalk Configuring Novell IPX

**Table 7 Cisco IOS Release 12.1 Documentation Set (continued)**

<b>Books</b>	<b>Major Topics</b>
<ul style="list-style-type: none"> <li>• <i>Cisco IOS Apollo Domain, Banyan VINES, DECnet, ISO CLNS, and XNS Configuration Guide</i></li> <li>• <i>Cisco IOS Apollo Domain, Banyan VINES, DECnet, ISO CLNS, and XNS Command Reference</i></li> </ul>	<ul style="list-style-type: none"> <li>Overview</li> <li>Configuring Apollo Domain</li> <li>Configuring Banyan VINES</li> <li>Configuring DECnet</li> <li>Configuring ISO CLNS</li> <li>Configuring XNS</li> </ul>
<ul style="list-style-type: none"> <li>• <i>Cisco IOS Multiservice Applications Configuration Guide</i></li> <li>• <i>Cisco IOS Multiservice Applications Command Reference</i></li> </ul>	<ul style="list-style-type: none"> <li>Multiservice Applications Overview</li> <li>Voice</li> <li>Video</li> <li>Broadband</li> </ul>
<ul style="list-style-type: none"> <li>• <i>Cisco IOS Quality of Service Solutions Configuration Guide</i></li> <li>• <i>Cisco IOS Quality of Service Solutions Command Reference</i></li> </ul>	<ul style="list-style-type: none"> <li>Quality of Service Overview</li> <li>Classification</li> <li>Congestion Management</li> <li>Congestion Avoidance</li> <li>Policing and Shaping</li> <li>Signalling</li> <li>Link Efficiency Mechanisms</li> <li>Quality of Service Solutions</li> </ul>
<ul style="list-style-type: none"> <li>• <i>Cisco IOS Security Configuration Guide</i></li> <li>• <i>Cisco IOS Security Command Reference</i></li> </ul>	<ul style="list-style-type: none"> <li>Security Overview</li> <li>Authentication, Authorization, and Accounting (AAA)</li> <li>Security Server Protocols</li> <li>Traffic Filtering and Firewalls</li> <li>IP Security and Encryption</li> <li>Configuring Passwords and Privileges</li> <li>Neighbor Router Authentication:</li> <li>Configuring IP Security Options</li> </ul>
<ul style="list-style-type: none"> <li>• <i>Cisco IOS Switching Services Configuration Guide</i></li> <li>• <i>Cisco IOS Switching Services Command Reference</i></li> </ul>	<ul style="list-style-type: none"> <li>Cisco IOS Switching Services Overview</li> <li>Cisco IOS Switching Paths</li> <li>Cisco Express Forwarding</li> <li>NetFlow Switching</li> <li>MPLS Switching</li> <li>Multilayer Switching</li> <li>Multicast Distributed Switching</li> <li>Virtual LANs</li> </ul>

**Table 7** Cisco IOS Release 12.1 Documentation Set (continued)

Books	Major Topics
<ul style="list-style-type: none"> <li>• <i>Cisco IOS Wide-Area Networking Configuration Guide</i></li> <li>• <i>Cisco IOS Wide-Area Networking Command Reference</i></li> </ul>	Introduction: Wide-Area Networking Overview Configuring ATM Configuring Frame Relay Configuring Frame Relay-ATM Interworking Configuring SMDS Configuring X.25 and LAPB
<ul style="list-style-type: none"> <li>• <i>Cisco IOS Software Command Summary</i></li> <li>• <i>Cisco IOS Dial Services Quick Configuration Guide</i></li> <li>• <i>Cisco IOS Configuration Guide Master Index</i></li> <li>• <i>Cisco IOS Command Reference Master Index</i></li> <li>• <i>Cisco IOS New Features Index</i></li> <li>• <i>Cisco IOS Debug Command Reference</i></li> <li>• <i>Cisco IOS System Error Messages</i></li> </ul>	

## Obtaining Documentation

The following sections provide sources for obtaining documentation from Cisco Systems.

### World Wide Web

You can access the most current Cisco documentation on the World Wide Web at the following sites:

- <http://www.cisco.com>
- <http://www-china.cisco.com>
- <http://www-europe.cisco.com>

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[http://www.cisco.com/cgi-bin/order/order\\_root.pl](http://www.cisco.com/cgi-bin/order/order_root.pl)
- Registered Cisco.com users can order the Documentation CD-ROM through the online Subscription Store:

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## Technical Assistance Center

The Cisco TAC website is available to all customers who need technical assistance with a Cisco product or technology that is under warranty or covered by a maintenance contract.

### Contacting TAC by Using the Cisco TAC Website

If you have a priority level 3 (P3) or priority level 4 (P4) problem, contact TAC by going to the TAC website:

<http://www.cisco.com/tac>

P3 and P4 level problems are defined as follows:

- P3—Your network performance is degraded. Network functionality is noticeably impaired, but most business operations continue.
- P4—You need information or assistance on Cisco product capabilities, product installation, or basic product configuration.

In each of the above cases, use the Cisco TAC website to quickly find answers to your questions.

To register for Cisco.com, go to the following website:

<http://www.cisco.com/register/>

If you cannot resolve your technical issue by using the TAC online resources, Cisco.com registered users can open a case online by using the TAC Case Open tool at the following website:

<http://www.cisco.com/tac/caseopen>

### Contacting TAC by Telephone

If you have a priority level 1 (P1) or priority level 2 (P2) problem, contact TAC by telephone and immediately open a case. To obtain a directory of toll-free numbers for your country, go to the following website:

<http://www.cisco.com/warp/public/687/Directory/DirTAC.shtml>

P1 and P2 level problems are defined as follows:

- P1—Your production network is down, causing a critical impact to business operations if service is not restored quickly. No workaround is available.
- P2—Your production network is severely degraded, affecting significant aspects of your business operations. No workaround is available.

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This document is to be used in conjunction with the documents listed in the “Related Documentation” section on page 12.

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