



Release Notes for the Cisco 1700 Series Routers for Cisco IOS Release 12.3(2)XF

January 5, 2004

These release notes describe new features and significant software components for the Cisco 1700 series routers that support the Cisco IOS Release 12.3(2)T, up to and including Release 12.3(2)XF. These release notes are updated as needed to describe new memory requirements, new features, new hardware support, software platform deferrals, microcode or modem code changes, related document changes, and any other important changes. Use these release notes with the [Cross-Platform Release Notes for Cisco IOS Release 12.3T](#) located on [Cisco.com](#) and the Documentation CD.

For a list of the software caveats that apply to Release 12.3(2)XF, see the “[Caveats](#)” section on [page 11](#) and [Caveats for Cisco IOS Release 12.3\(2\)T](#). The online caveats document is updated for every maintenance release and is located on [Cisco.com](#) and the Documentation CD.

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System Requirements

This section describes the system requirements for Release 12.3(2)XF and includes the following sections:

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Memory Requirements

Table 1 describes the memory requirements for the Cisco IOS feature sets supported by the Cisco IOS Release 12.3(2)XF on the Cisco 1700 series routers.

Table 1 Recommended Memory for the Cisco 1700 Series Routers—Legacy Images

Platform	Image Name	Feature Set	Image	Flash Memory	DRAM
Cisco 1710	Cisco 1710 IOS IP/IPX/AT/IBM/ FW/IDS PLUS IPSEC 3DES	IP/IPX/AT/IBM/ FW/IDS PLUS IPSEC 3DES	c1710-bk9no3r2sy-mz	16 MB	64 MB
	Cisco 1710 IOS IP/FW/IDS PLUS IPSEC 3DES	IP/FW/IDS PLUS IPSEC 3DES	c1710-k9o3sy-mz	16 MB	64 MB
Cisco 1751, Cisco 1751- V, and Cisco 1760	Cisco 1700 IOS IP/ADSL/VOX PLUS	IP/ADSL/VOX PLUS	c1700-sv8y7-mz	32 MB	96 MB
	Cisco 1700 IOS IP/ADSL/VOX/ FW/IDS PLUS IPSEC 3DES	IP/ADSL/VOX/FW/ IDS PLUS IPSEC 3DES	c1700-k9o3sv8y7-mz	32 MB	96 MB
	Cisco 1700 IOS IP/ADSL/IPX/AT/ IBM/VOX/FW/IDS PLUS IPSEC 3DES	IP/ADSL/IPX/AT/ IBM/VOX/FW/IDS PLUS IPSEC 3DES	c1700-bk9no3r2sv8y7-mz	32 MB	128 MB
Cisco 1701, Cisco 1721, Cisco 1751, Cisco 1751- V, and Cisco 1760	Cisco 1700 IOS IP/ADSL PLUS	IP/ADSL PLUS	c1700-sy7-mz	16 MB	64 MB
Cisco 1720, Cisco 1721, Cisco 1751, Cisco 1751- V, and Cisco 1760	Cisco 1700 IOS IP	IP	c1700-y-mz	16 MB	48 MB

Table 1 Recommended Memory for the Cisco 1700 Series Routers—Legacy Images (continued)

Platform	Image Name	Feature Set	Image	Flash Memory	DRAM
Cisco 1701, Cisco 1721, Cisco 1751, Cisco 1751- V, and Cisco 1760	Cisco 1700 IOS IP/ADSL/IPX/AT/ IBM PLUS	IP/ADSL/IPX/AT/ IBM PLUS	c1700-bnr2sy7-mz	16 MB	64 MB
Cisco 1701, Cisco 1711, Cisco 1712, Cisco 1721, Cisco 1751- V, and Cisco 1760	Cisco 1700 IOS IP/ADSL/IPX/AT/ IBM/FW/IDS PLUS IPSEC 3DES	IP/ADSL/IPX/AT/ IBM/FW/IDS PLUS IPSEC 3DES	c1700-bk9no3r2sy7-mz	32 MB	96 MB
Cisco 1701, Cisco 1720, Cisco 1721, Cisco 1751, Cisco 1751- V, and Cisco 1760	Cisco 1700 IOS IP/ADSL	IP/ADSL	c1700-y7-mz	16 MB	48 MB
Cisco 1701, Cisco 1711, Cisco 1712, Cisco 1721, Cisco 1751, Cisco 1751- V, and Cisco 1760	Cisco 1700 IOS IP/ADSL/FW/IDS PLUS IPSEC 3DES	IP/ADSL/FW/IDS PLUS IPSEC 3DES	c1700-k9o3sy7-mz	16 MB	64 MB

Table 2 Recommended Memory for the Cisco 1700 Series Routers—Cross-Platform Images

Platform	Image Name	Feature Set	Image	Flash Memory	DRAM
Cisco 1701, Cisco 1721, Cisco 1751, Cisco 1751- V, and Cisco 1760	Cisco 1700 IOS IP BASE	IP BASE	c1700-ipbase-mz	16 MB	64 MB
Cisco 1751, Cisco 1751- V, and Cisco 1760	Cisco 1700 IOS IP VOICE	IP VOICE	c1700-ipvoice-mz	32 MB	96 MB

Table 2 Recommended Memory for the Cisco 1700 Series Routers—Cross-Platform Images (continued)

Platform	Image Name	Feature Set	Image	Flash Memory	DRAM
Cisco 1701, Cisco 1721, Cisco 1751, Cisco 1751-V, and Cisco 1760	Cisco 1700 IOS ENTERPRISE BASE	ENTERPRISE BASE	c1700-entbase-mz	16 MB	64 MB
Cisco 1701, Cisco 1711, Cisco 1712, Cisco 1721, Cisco 1751, Cisco 1751-V, and Cisco 1760	Cisco 1700 IOS ADVANCED SECURITY	ADVANCED SECURITY	c1700-advsecurityk9-mz	16 MB	64 MB
Cisco 1701, Cisco 1721, Cisco 1751, Cisco 1751-V, and Cisco 1760	Cisco 1700 IOS SP SERVICES	SP SERVICES	c1700-spservicesk9-mz	32 MB	96 MB
Cisco 1701, Cisco 1721, Cisco 1751, Cisco 1751-V, and Cisco 1760	Cisco 1700 IOS ENTERPRISE SERVICES	ENTERPRISE SERVICES	c1700-entservicesk9-mz	32 MB	96 MB
Cisco 1701, Cisco 1721, Cisco 1751, Cisco 1751-V, and Cisco 1760	Cisco 1700 IOS ADVANCED IP SERVICES	ADVANCED IP SERVICES	c1700-advipservicesk9-mz	32 MB	96 MB
Cisco 1701, Cisco 1711, Cisco 1712, Cisco 1721, Cisco 1751, Cisco 1751-V, and Cisco 1760	Cisco 1700 IOS ADVANCED ENTERPRISE SERVICES	ADVANCED ENTERPRISE SERVICES	c1700-adventerprisek9-mz	32 MB	128 MB

Hardware Supported

Cisco IOS Release 12.3(2)XF supports the following Cisco 1700 series routers:

- Cisco 1701 router
- Cisco 1710 router
- Cisco 1711 router
- Cisco 1712 router
- Cisco 1720 router
- Cisco 1721 router
- Cisco 1751 and 1751-V routers
- Cisco 1760 router

The Cisco 1701, Cisco 1710, Cisco 1711, Cisco 1712, Cisco 1720, and Cisco 1721 routers run data images only. The Cisco 1751, Cisco 1751-V, and Cisco 1760 routers run data or data-and-voice images, providing digital and analog voice support. The Cisco 1711 and Cisco 1712 routers run select IPsec Triple Data Encryption Standard (3DES) images only (the Cisco 1700 IOS IP/ADSL/IPX/AT/IBM/FW/IDS PLUS IPSEC 3DES, the Cisco 1700 IOS IP/ADSL/FW/IDS PLUS IPSEC 3DES, the Cisco 1700 Advanced Security, and the Cisco 1700 IOS ADVANCED ENTERPRISE SERVICES images).

For descriptions of existing hardware features and supported modules, see the hardware installation guides, configuration and command reference guides, and additional documents specific to the Cisco 1700 series routers, which are available on [Cisco.com](http://www.cisco.com) and the Documentation CD at the following location:

http://www.cisco.com/univercd/cc/td/doc/product/access/acs_mod/1700/index.htm

This URL is subject to change without notice. If it changes, point your web browser to [Cisco.com](http://www.cisco.com), and click the following path:

Cisco Product Documentation: Access Servers and Access Routers: Modular Access Routers: Cisco 1700 Series Routers: <platform_name>

Determining the Software Version

To determine which version of Cisco IOS software is currently running on your Cisco 1700 series router, log in to the router and enter the **show version EXEC** command. The following sample output from the **show version** command indicates the version number.

```
router> show version
Cisco Internetwork Operating System Software
IOS (tm) C1700 Software (C1700-Y7-MZ), Version 12.3(2)XF, EARLY DEPLOYMENT RELEASE
SOFTWARE (fc1)
Synchronized to technology version 12.3(3.5)T
```

Upgrading to a New Software Release

For general information about upgrading to a new software release, refer to the *Software Installation and Upgrade Procedures* located at http://www.cisco.com/warp/public/130/upgrade_index.shtml.

Feature Set Tables

The 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. Release 12.3(2)XF supports the same feature sets as Releases 12.3 and 12.3(2)T, but Release 12.3(2)XF includes new features supported by the Cisco 1700 series routers.



Caution

The Cisco IOS images with strong encryption (including, but not limited to, 168-bit [3DES] data encryption feature sets) are subject to United States government export controls and have limited distribution. Strong encryption images to be installed outside the United States will likely require an export license. Customer orders can be denied or subject to delay as a result of United States government regulations. When applicable, the purchaser/user must obtain local import and use authorizations for all encryption strengths. Please contact your sales representative or distributor for more information, or send an e-mail to export@cisco.com.

Table 3 through Table 5 list the feature and feature sets supported in the Cisco IOS Release 12.3(2)XF.

The tables use the following conventions:

- In—The number in the ‘In’ column indicates the Cisco IOS release in which the feature was introduced. For example, “12.3(2)XF” indicates that the feature was introduced in 12.3(2)XF. If a cell in this column is empty, the feature was included in a previous release or in the initial base release.
- Yes—The feature is supported in the software image.
- No—The feature is not supported in the software image.



Note

These feature set tables contain only a selected list of features, which are cumulative for Release 12.3(2)*nn* early deployment releases only (*nn* identifies each early deployment release). The tables do not list all features in each image—additional features are listed in [Cross-Platform Release Notes for Cisco IOS Release 12.3\(2\)T](#) and Release 12.3(2)T Cisco IOS documentation.

Table 3 Feature List by Cisco 1700 Legacy Feature Set for Cisco 1751, 1751-V, and 1760 Routers

Feature	In	Feature Set		
		IP/ADSL/VOX PLUS	IP/ADSL/VOX/ FW/IDS PLUS IPSEC 3DES	IP/ADSL/IPX/ AT/IBM/VOX/ FW/IDS PLUS IPSEC 3DES
H.323 Version 4—Enhanced Call Usage Reporting	12.3(2)XF	Yes	Yes	Yes
H.323v4 Gateway Zone Prefix Registration Enhancements	12.3(2)XF	Yes	Yes	Yes
SIP Transfer Using the Refer Method and Call Forwarding	12.3(2)XF	Yes	Yes	Yes
Zero Touch Frame Relay Deployment	12.3(2)XF	Yes	Yes	Yes

Table 3 Feature List by Cisco 1700 Legacy Feature Set for Cisco 1751, 1751-V, and 1760 Routers (continued)

Feature	In	Feature Set		
		IP/ADSL/VOX PLUS	IP/ADSL/VOX/FW/IDS PLUS IPSEC 3DES	IP/ADSL/IPX/AT/IBM/VOX/FW/IDS PLUS IPSEC 3DES
G.Clear Codec	12.3(2)XF	Yes	Yes	Yes
Configurable DHCP Client	12.3(2)XF	Yes	Yes	Yes

Table 4 Feature List by Cisco 1700 Legacy Feature Set for Cisco 1721, 1751, 1751-V, and 1760 Routers

Feature	In	Feature Set					
		IP	IP/ADSL	IP/ADSL PLUS	IP/ADSL/IPX/AT/IBM PLUS	IP/ADSL/FW/IDS PLUS IPSEC 3DES	IP/ADSL/IPX/AT/IBM/FW/IDS PLUS IPSEC 3DES
H.323 Version 4–Enhanced Call Usage Reporting	12.3(2)XF	No	No	No	No	No	No
H.323v4 Gateway Zone Prefix Registration Enhancements	12.3(2)XF	No	No	No	No	No	No
SIP Transfer Using the Refer Method and Call Forwarding	12.3(2)XF	No	No	No	No	No	No
Zero Touch Frame Relay Deployment	12.3(2)XF	Yes	Yes	Yes	Yes	Yes	Yes
G.Clear Codec	12.3(2)XF	No	No	No	No	No	No
Configurable DHCP Client	12.3(2)XF	Yes	Yes	Yes	Yes	Yes	Yes

Table 5, Part 1 Feature List by Cross-Platform Feature Set for Cisco 1701, 1710, 1711, 1712, 1721, 1751, 1751-V, and 1760 Routers

Feature	In	Feature Set				
		ADVANCED IP SERVICES	SP SERVICES	ENTERPRISE SERVICES	ADVANCED ENTERPRISE SERVICES	IP BASE
H.323 Version 4–Enhanced Call Usage Reporting	12.3(2)XF	Yes	Yes	No	Yes	No
H.323v4 Gateway Zone Prefix Registration Enhancements	12.3(2)XF	Yes	Yes	No	Yes	No
SIP Transfer Using the Refer Method and Call Forwarding	12.3(2)XF	Yes	Yes	No	Yes	No
Zero Touch Frame Relay Deployment	12.3(2)XF	Yes	Yes	Yes	Yes	Yes

Table 5, Part 1 *Feature List by Cross-Platform Feature Set for Cisco 1701, 1710, 1711, 1712, 1721, 1751, 1751-V, and 1760 Routers (continued)*

Feature	In	Feature Set				
		ADVANCED IP SERVICES	SP SERVICES	ENTERPRISE SERVICES	ADVANCED ENTERPRISE SERVICES	IP BASE
G.Clear Codec	12.3(2)XF	Yes	Yes	No	Yes	No
Configurable DHCP Client	12.3(2)XF	Yes	Yes	Yes	Yes	Yes

Table 5, Part 2 *Feature List by Cross-Platform Feature Set for Cisco 1701, 1710, 1711, 1712, 1721, 1751, 1751-V, and 1760 Routers*

Feature	In	Feature Set		
		ENTERPRISE BASE	ADVANCED SECURITY	IP VOICE ¹
H.323 Version 4–Enhanced Call Usage Reporting	12.3(2)XF	No	No	Yes
H.323v4 Gateway Zone Prefix Registration Enhancements	12.3(2)XF	No	No	Yes
SIP Transfer Using the Refer Method and Call Forwarding	12.3(2)XF	No	No	Yes
Zero Touch Frame Relay Deployment	12.3(2)XF	Yes	Yes	Yes
G.Clear Codec	12.3(2)XF	No	No	Yes
Configurable DHCP Client	12.3(2)XF	Yes	Yes	Yes

1. This image is supported only on Cisco 1751, 1751-V, and 1760 routers.

New and Changed Information

The following sections list the new software features supported by the Cisco 1700 series routers for Release 12.3(2)XF.

New Software Features in Release 12.3(2)XF

The following sections describe the new software features supported by the Cisco 1700 series routers for Release 12.3(2)XF.

H.323 Version 4–Enhanced Call Usage Reporting

The H.323 Version 4–Enhanced Call Usage Reporting feature takes advantage of the H.323 version 4 enhancements and provides standards-based call-usage reporting to the gatekeeper from an H.323 gateway. This information is used by the gatekeeper to generate call detail records. Until now, this information was provided in a proprietary billing token.

H.323v4 Gateway Zone Prefix Registration Enhancements

The H.323 Version 4 (H.323v4) Gateway Zone Prefix Registration Enhancements feature provides support for two capabilities included in H.323 version 4:

- Additive registration

Additive registration allows a gateway to add to or modify a list of aliases contained in a previous registration without first unregistering from the gatekeeper.

- Dynamic zone prefix registration

Dynamic zone prefix registration allows a gateway to register actual public switched telephone network (PSTN) destinations served by the gateway with its gatekeeper.

For more details, refer to the following URL:

<http://www.cisco.com/univercd/cc/td/doc/product/software/ios122/122newft/122t/122t15/ftgwzpre.htm>

SIP Transfer Using the Refer Method and Call Forwarding

The call transfer capabilities using the SIP Refer method supplement the Bye and Also methods already implemented on Cisco IOS SIP gateways.

For more details, refer to the following URL:

http://www.cisco.com/univercd/cc/td/doc/product/software/ios123/123cgcr/vvfax_c/callc_c/sip_c/sipc1_c/chapter2.htm

Zero Touch Frame Relay Deployment

The Zero Touch Frame Relay Deployment feature automates the deployment of Cisco customer premises equipment (CPE) using Frame Relay as access technology. Service providers and large enterprise customers who deploy Frame Relay can ship CPE to their subscriber or branch offices with generic bootstrap configuration.

Once powered up, the CPE goes through following steps to complete Zero Touch Frame Relay Deployment:

-
- Step 1** Identify the correct interface type to apply generic bootstrap.
 - Step 2** Reach physical layer connectivity.
 - Step 3** Identify a list of active Data Link Connection Identifiers (DLCIs) from the Local Management Interface (LMI) status message.
 - Step 4** Select one of the active DLCI, broadcast InARP packets to learn the IP address of the terminating DLCI.
 - Step 5** Derive the CPE IP address from the InARP response.
 - Step 6** Ping the CNS Configuration Engine. If successful, the CPE publishes the physical inventory of the CPE in extensible markup language (XML) format with details of CPE's physical inventory.
 - a.** CNS Configuration Engine builds a device configuration and transports back to the CPE. It publishes the outcome of initial configuration as an event.
 - Step 7** If ping fails at Step 6, Step 4 to Step 6a are repeated for the next active DLCI in the LMI status message.
-

G.Clear Codec

The G.Clear codec guarantees bit integrity when transferring a digital signal level 0 (DS-0) through a gateway server, supports the transporting of nonvoice circuit data sessions through a Voice over IP (VoIP) network, and enables the VoIP networks to transport ISDN and switched 56 circuit-switched data calls. With the availability of G.Clear codec, ISDN data calls that do not require bonding can be supported.

In a transit application, because it is possible to have a mix of voice and data calls, a lack of support for G.Clear limits the solution to voice-only calls. The end-user application is in charge of handling packet loss and error recovery. This packet loss management precludes the use of clear channel with some applications unless the IP network is carefully engineered.

In an Media Gateway Control Protocol (MGCP) environment, the voice gateway backhauls the public switched telephony network (PSTN) signaling channel to the call agent. The call agent examines the bearer capability and determines when a G.Clear call should be established.



Note

G.Clear codecs cannot be configured on a T1 channel associated signaling (CAS) trunk for incoming traffic. T1 CAS trunks use least significant bit-robbing for signaling, which causes the data to be incorrect and re-sent from high-level protocols. Traffic on an incoming E1 R2 trunk can be configured.

Configurable DHCP Client

The Configurable Dynamic Host Configuration Protocol (DHCP) Client feature enables additional DHCP options to be configured in the Cisco IOS software to offer equivalent functionality to Cisco 340 and Cisco 350 Series Access Points. The new available DHCP options are as follows:

- Client Identifier (option 61)

Allows the user to enter a unique hexadecimal value or a unique null terminated ASCII string. An example for the hexadecimal value is 0x574D00464B3031, which is ?WM<00>GK01?, where <00> is the ASCII null character. An example for the unique null terminated ASCII string is “WMUNKNOWN”. The type field of the client identifier option will be set to 0x0 in this case.
- Vendor Class Identifier (option 60)

Allows the user to configure the Vendor Class Identifier string to use in DHCP interactions.
- IP Address Lease Time (option 51)

Allows the user to configure the suggested lease time to be included as the Lease Time Option in DHCP interaction.
- Specifying what options the client should not request (option 55)

Allows the user to tell the system what options it should not ask for when requesting a DHCP address.
- Specifying client name (option 12)

This option specifies the name of the client. The name may or may not be qualified with the local domain.

For more details, refer to the following URL:

<http://www.cisco.com/univercd/cc/td/doc/product/software/ios123/123newft/123t/123t4/gtdhpcpf.htm>

New Software Features in Release 12.3(2)T

For information regarding the features supported in the Cisco IOS Release 12.3(2)T, refer to the Cross-Platform Release Notes and New Feature Documentation links at the following location on Cisco.com:

<http://www.cisco.com/univercd/cc/td/doc/product/software/ios123/123relnt/xprn123/index.htm>

This URL is subject to change without notice. If it changes, point your web browser to [Cisco.com](http://www.cisco.com), and click the following path:

Service & Support: Technical Documents: Cisco IOS Software: Release 12.3: Release Notes: Cross-Platform Release Notes (Cisco IOS Release 12.3(2)T)

Limitations and Restrictions

The following sections list the limitations and restrictions that apply for the Cisco IOS release 12.3(2)XF.

Zero Touch Frame Relay Deployment

The Zero Touch Frame Relay Deployment feature requires the use of IE2100 server.

Caveats

Caveats describe unexpected behavior or defects in the Cisco IOS software releases. Severity 1 caveats are the most serious caveats, severity 2 caveats are less serious, and severity 3 caveats are the least serious of these three severity levels.

Caveats in Cisco IOS Release 12.3(2)T are also in Release 12.3(2)XF. For information on caveats in Cisco IOS Release 12.3(2)T, refer to the [Caveats for Cisco IOS Release 12.3\(2\)T](#) document. This document lists severity 1 and 2 caveats; the documents are located on [Cisco.com](http://www.cisco.com) and the Documentation CD.



Note

If you have an account with [Cisco.com](http://www.cisco.com), you can also use the Bug Toolkit to find select caveats of any severity. To reach the Bug Toolkit, log in to [Cisco.com](http://www.cisco.com) and click **Service & Support: Technical Assistance Center: Tool Index: Bug Toolkit**. Another option is to go to http://www.cisco.com/cgi-bin/Support/Bugtool/launch_bugtool.pl.

Resolved Caveats - Release 12.3(2)XF

This section documents possible unexpected behavior by Cisco IOS Release 12.3(2)XF and describes only severity 1 and 2 caveats and selected severity 3 caveats.

- CSCec26533

Hold timer not invoked with multiple hold requests.

Sometimes when a call is resumed, the hold timer is not stopped, and the call is terminated when the timer expires.

Workaround

None.

- CSCed27956

TCP checks should verify ack sequence number.

A vulnerability in the Transmission Control Protocol (TCP) specification (RFC793) has been discovered by an external researcher. The successful exploitation enables an adversary to reset any established TCP connection in a much shorter time than was previously discussed publicly. Depending on the application, the connection may get automatically re-established. In other cases, a user will have to repeat the action (for example, open a new Telnet or SSH session). Depending upon the attacked protocol, a successful attack may have additional consequences beyond terminated connection which must be considered. This attack vector is only applicable to the sessions which are terminating on a device (such as a router, switch, or computer) and not to the sessions that are only passing through the device (for example, transit traffic that is being routed by a router). In addition, this attack vector does not directly compromise data integrity or confidentiality.

All Cisco products which contain TCP stack are susceptible to this vulnerability.

This advisory is available at

<http://www.cisco.com/warp/public/707/cisco-sa-20040420-tcp-ios.shtml>, and it describes this vulnerability as it applies to Cisco products that run Cisco IOS® software.

A companion advisory that describes this vulnerability for products that do not run Cisco IOS software is available at

<http://www.cisco.com/warp/public/707/cisco-sa-20040420-tcp-nonios.shtml>.

Related Documentation

The following sections describe the documentation available for the Cisco 1700 series routers. 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 [Cisco.com](http://www.cisco.com) and the Documentation CD.

Use these release notes with the documents listed in the following sections:

- [Release-Specific Documents](#)
- [Platform-Specific Documents](#)

Release-Specific Documents

The following documents are specific to Release 12.3 and apply to Release 12.3(2)XF. They are located on [Cisco.com](http://www.cisco.com) and the Documentation CD (under the heading Service & Support):

- To reach the *Cross-Platform Release Notes for Cisco IOS Release 12.3(2)T*, click this path:

Technical Documents: [Cisco IOS Software: Release 12.3: Release Notes: Cisco IOS Release 12.3\(2\)T](#)

- To reach product bulletins, field notices, and other release-specific documents, click this path:

Technical Documents: [Product Bulletins](#)

- To reach the *Caveats for Cisco IOS Release 12.3* and *Caveats for Cisco IOS Release 12.3(2)T* documents, which contain caveats applicable to all platforms for all maintenance releases of Release 12.3, click this path:

Technical Documents: [Cisco IOS Software: Release 12.3: Caveats](#)

**Note**

If you have an account with [Cisco.com](#), you can also use the Bug Toolkit to find selected caveats of any severity. To reach the Bug Toolkit, log in to [Cisco.com](#), and click **Service & Support: Technical Assistance Center: Tool Index: Bug Toolkit**. Another option is to go to http://www.cisco.com/cgi-bin/Support/Bugtool/launch_bugtool.pl.

Platform-Specific Documents

Hardware installation guides, configuration and command reference guides, and additional documents specific to the Cisco 1700 series routers are available on [Cisco.com](#) and the Documentation CD at the following location:

http://www.cisco.com/univercd/cc/td/doc/product/access/acs_mod/1700/index.htm

This URL is subject to change without notice. If it changes, point your web browser to [Cisco.com](#), and click the following path:

Cisco Product Documentation: [Access Servers and Access Routers: Modular Access Routers: Cisco 1700 Series Routers: <platform_name>](#)

Feature Navigator

Feature Navigator is a web-based tool that enables you to quickly determine which Cisco IOS software images support a particular set of features and which features are supported in a particular Cisco IOS image. Feature Navigator is available 24 hours a day, 7 days a week.

To access Feature Navigator, you must have an account on Cisco.com. If you have forgotten or lost your account information, e-mail the Contact Database Administration group at cdbadmin@cisco.com. If you do not have an account on Cisco.com, go to <http://www.cisco.com/register> and follow the directions to set up an account.

To use Feature Navigator, you must have a JavaScript-enabled web browser such as Netscape 3.0 or later, or Internet Explorer 4.0 or later. Internet Explorer 4.0 always has JavaScript enabled. To enable JavaScript for Netscape 3.x or Netscape 4.x, follow the instructions provided with the web browser. For JavaScript support and enabling instructions for other browsers, check with the browser vendor.

Feature Navigator is updated when major Cisco IOS software releases and technology releases occur. You can access Feature Navigator at the following URL:

<http://www.cisco.com/go/fn>

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

Documentation Modules

Each module in the Cisco IOS documentation set consists of one or more configuration guides and one or more corresponding command references. 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. The Cisco IOS software documentation set is available on Cisco.com and on the Documentation CD-ROM.

On Cisco.com:

Products & Services: IOS Software: Cisco IOS Software Releases 12.3 Mainline: Technical Documentation: Master Indices

On the Documentation CD-ROM at:

Product Documentation: Cisco IOS Software: Cisco IOS Release 12.3: Configuration Guides and Command References

Release 12.3 Documentation Set

[Table 6](#) describes the contents of the Cisco IOS Release 12.3 software documentation set, which is available in both electronic and printed form.



Note

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



Note

Some aspects of the complete Cisco IOS Release 12.3 software documentation set might not apply to the Cisco 1700 series router.

Table 6 Cisco IOS Release 12.3 Documentation Set

Books	Major Topics
<ul style="list-style-type: none"> Cisco IOS Configuration Fundamentals Configuration Guide Cisco IOS Configuration Fundamentals Command Reference 	Cisco IOS User Interfaces File Management System Management
<ul style="list-style-type: none"> Cisco IOS Bridging and IBM Networking Configuration Guide Cisco IOS Bridging and IBM Networking Command Reference, Volume 1 of 2 Cisco IOS Bridging and IBM Networking Command Reference, Volume 2 of 2 	Transparent Bridging SRB Token Ring Inter-Switch Link Token Ring Route Switch Module RSRB DLSW+ Serial Tunnel and Block Serial Tunnel LLC2 and SDLC IBM Network Media Translation SNA Frame Relay Access NCIA Client/Server Airline Product Set 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
<ul style="list-style-type: none"> Cisco IOS Dial Technologies Configuration Guide: Dial Access Cisco IOS Dial Technologies Configuration Guide: Large-Scale Dial Applications Cisco IOS Dial Technologies Command Reference, Volume 1 of 2 Cisco IOS Dial Technologies Command Reference, Volume 2 of 2 	Dial Access Modem and Dial Shelf Configuration and Management ISDN Configuration Signaling Configuration Point-to-Point Protocols Dial-on-Demand Routing Dial Backup Dial Related Addressing Service Network Access Solutions Large-Scale Dial Solutions Cost-Control Solutions Internetworking Dial Access Scenarios
<ul style="list-style-type: none"> <i>Cisco IOS Interface Configuration Guide</i> <i>Cisco IOS Interface Command Reference</i> 	LAN Interfaces Serial Interfaces Logical Interfaces
<ul style="list-style-type: none"> Cisco IOS IP Configuration Guide Cisco IOS IP Command Reference, Volume 1 of 3: Addressing and Services Cisco IOS IP Command Reference, Volume 2 of 3: Routing Protocols Cisco IOS IP Command Reference, Volume 3 of 3: Multicast 	IP Addressing IP Services IP Routing Protocols IP Multicast
<ul style="list-style-type: none"> Cisco IOS AppleTalk and Novell IPX Configuration Guide Cisco IOS AppleTalk and Novell IPX Command Reference 	AppleTalk Novell IPX

Table 6 Cisco IOS Release 12.3 Documentation Set (continued)

Books	Major Topics
<ul style="list-style-type: none"> • Cisco IOS Apollo Domain, Banyan VINES, DECnet, ISO CLNS, and XNS Configuration Guide • Cisco IOS Apollo Domain, Banyan VINES, DECnet, ISO CLNS, and XNS Command Reference 	Apollo Domain Banyan VINES DECnet ISO CLNS XNS
<ul style="list-style-type: none"> • Cisco IOS Voice, Video, and Fax Configuration Guide • <i>Cisco IOS Voice, Video, and Fax Command Reference</i> 	Voice over IP Call Control Signaling Voice over Frame Relay Voice over ATM Telephony Applications Trunk Management Fax, Video, and Modem Support
<ul style="list-style-type: none"> • Cisco IOS Quality of Service Solutions Configuration Guide • <i>Cisco IOS Quality of Service Solutions Command Reference</i> 	Packet Classification Congestion Management Congestion Avoidance Policing and Shaping Signaling Link Efficiency Mechanisms
<ul style="list-style-type: none"> • Cisco IOS Security Configuration Guide • <i>Cisco IOS 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 Supported AV Pairs
<ul style="list-style-type: none"> • Cisco IOS Switching Services Configuration Guide • Cisco IOS Switching Services Command Reference 	Cisco IOS Switching Paths NetFlow Switching Multiprotocol Label Switching Multilayer Switching Multicast Distributed Switching Virtual LANs LAN Emulation
<ul style="list-style-type: none"> • Cisco IOS Wide-Area Networking Configuration Guide • <i>Cisco IOS Wide-Area Networking Command Reference</i> 	ATM Frame Relay SMDS X.25 and LAPB
<ul style="list-style-type: none"> • Cisco IOS Mobile Wireless Configuration Guide • Cisco IOS Mobile Wireless Command Reference 	General Packet Radio Service

Table 6 Cisco IOS Release 12.3 Documentation Set (continued)

Books	Major Topics
<ul style="list-style-type: none"> Cisco IOS Terminal Services Configuration Guide Cisco IOS Terminal Services Command Reference 	ARA LAT NASI Telnet TN3270 XRemote X.28 PAD Protocol Translation
<ul style="list-style-type: none"> <i>Cisco IOS Configuration Guide Master Index</i> <i>Cisco IOS Command Reference Master Index</i> Cisco IOS Debug Command Reference Cisco IOS Software System Error Messages New Features in 12.3-Based Limited Lifetime Releases New Features in Release 12.3T Release Notes (Release note and caveat documentation for 12.3-based releases and various platforms) 	

Service and Support

Cisco provides [Cisco.com](http://www.cisco.com) as a starting point for all technical assistance. Customers and partners can obtain online documentation, troubleshooting tips, and sample configurations from online tools by using the Cisco Technical Assistance Center (TAC) Web Site. [Cisco.com](http://www.cisco.com) registered users have complete access to the technical support resources on the Cisco TAC Web Site.

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- Register for online skill assessment, training, and certification programs

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<http://www.cisco.com>

Technical Assistance Center

The Cisco Technical Assistance Center (TAC) is available to all customers who need technical assistance with a Cisco product, technology, or solution. Two levels of support are available: the Cisco TAC Web Site and the Cisco TAC Escalation Center.

Cisco TAC inquiries are categorized according to the urgency of the issue:

- Priority level 4 (P4)—You need information or assistance concerning Cisco product capabilities, product installation, or basic product configuration.
- Priority level 3 (P3)—Your network performance is degraded. Network functionality is noticeably impaired, but most business operations continue.
- Priority level 2 (P2)—Your production network is severely degraded, affecting significant aspects of business operations. No workaround is available.
- Priority level 1 (P1)—Your production network is down, and a critical impact to business operations will occur if service is not restored quickly. No workaround is available.

The Cisco TAC resource that you choose is based on the priority of the problem and the conditions of service contracts, when applicable.

Cisco TAC Web Site

You can use the Cisco TAC Web Site to resolve P3 and P4 issues yourself, saving both cost and time. The site provides around-the-clock access to online tools, knowledge bases, and software. To access the Cisco TAC Web Site, go to this URL:

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

All customers, partners, and resellers who have a valid Cisco service contract have complete access to the technical support resources on the Cisco TAC Web Site. The Cisco TAC Web Site requires a [Cisco.com](http://www.cisco.com) login ID and password. If you have a valid service contract but do not have a login ID or password, go to this URL to register:

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

If you are a [Cisco.com](http://www.cisco.com) registered user, and you cannot resolve your technical issues by using the Cisco TAC Web Site, you can open a case online by using the TAC Case Open tool at this URL:

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

If you have Internet access, we recommend that you open P3 and P4 cases through the Cisco TAC Web Site.

Cisco TAC Escalation Center

The Cisco TAC Escalation Center addresses priority level 1 or priority level 2 issues. These classifications are assigned when severe network degradation significantly impacts business operations. When you contact the TAC Escalation Center with a P1 or P2 problem, a Cisco TAC engineer automatically opens a case.

To obtain a directory of toll-free Cisco TAC telephone numbers for your country, go to this URL:

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

Before calling, please check with your network operations center to determine the level of Cisco support services to which your company is entitled: for example, SMARTnet, SMARTnet Onsite, or Network Supported Accounts (NSA). When you call the center, please have available your service agreement number and your product serial number.

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