



Release Notes for Cisco 3600 Series for Cisco IOS Release 12.1 YD

June 17, 2002

Cisco IOS Release 12.1(5) YD6

78-12643-01 Rev. F1

These release notes for the AS5300 universal access servers series describe the enhancements provided in Cisco IOS Release 12.1(5) YD6. These release notes are updated as needed.

For a list of the software caveats that apply to Release 12.1(5) YD6, see [Caveats for Cisco IOS Release 12.1\(5\) YD, page 12](#) and *Caveats for Cisco IOS Release 12.1 T* that accompanies these release notes. This caveats document is updated for every maintenance release and is also located on Cisco.com and the Documentation CD-ROM.

Use these release notes with *Cross-Platform Release Notes for Cisco IOS Release 12.1* located on Cisco.com and the Documentation CD-ROM.

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Introduction

The Cisco 3600 series includes the Cisco 3620, Cisco 3640, and Cisco 3660 routers. As modular solutions, the Cisco 3600 series routers enable corporations to increase dial-up density and take advantage of current and emerging WAN technologies and networking capabilities. The Cisco 3600 series routers are fully supported by Cisco IOS software, which includes dial-up connectivity, LAN-to-LAN routing, data and access security, WAN optimization, and multimedia features.

System Requirements

This section describes the system requirements for Release 12.1(5) YD6:

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Memory Recommendations

Table 1 Minimum Memory Recommendations for the Cisco 3600 Series

Platform	Image Name	Software Image	Flash Memory Recommended	DRAM Memory Recommended	Runs From
Cisco 3620	IP Plus	c3620-is-mz	16 MB	64 MB	RAM
	IP Plus IPSec 56	c3620-is56i-mz	16 MB	64 MB	RAM
	Enterprise Plus	c3620-js-mz	32 MB	96 MB	RAM
	Enterprise Plus IPSec 56	c3620-js56i-mz	32 MB	96 MB	RAM
	Enterprise Plus IPSec 3DES	c3620-jk2s-mz	32 MB	96 MB	RAM
	Enterprise Plus/H323 MCM	c3620-jsx-mz	32 MB	96 MB	RAM
Cisco 3640	IP Plus	c3640-is-mz	16 MB	64 MB	RAM
	IP Plus IPSec 56	c3640-is56i-mz	16 MB	64 MB	RAM
	Enterprise Plus	c3640-js-mz	32 MB	96 MB	RAM
	Enterprise Plus IPSec 56	c3640-js56i-mz	32 MB	96 MB	RAM
	Enterprise Plus IPSec 3DES	c3640-jk2s-mz	32 MB	96 MB	RAM
	Enterprise Plus/H323 MCM	c3640-jsx-mz	32 MB	96 MB	RAM

Table 1 Minimum Memory Recommendations for the Cisco 3600 Series (continued)

Platform	Image Name	Software Image	Flash Memory Recommended	DRAM Memory Recommended	Runs From
Cisco 3660 ¹	IP Plus	c3660-is-mz	16 MB	64 MB	RAM
	IP Plus/IPSec 56	c3660-is56i-mz	32 MB	64 MB	RAM
	Enterprise Plus	c3660-js-mz	32 MB	96 MB	RAM
	Enterprise Plus IPSec 56	c3660-js56i-mz	32 MB	96 MB	RAM
	Enterprise Plus/IPSec 3DES	c3660-jk2s-mz	32 MB	96 MB	RAM
	Enterprise Plus/H323 MCM	c3660-jsx-mz	32 MB	96 MB	RAM

1. The Cisco 3660 uses SDRAM.

Hardware Supported

Cisco IOS Release 12.1(5) YD6 supports the Cisco 3600 series routers:

- Cisco 3620
- Cisco 3640
- Cisco 3660 (3661 and 3662)



Note

For important information about the ATM OC-3 network modules and compatibility with the Cisco 3620 router, please review the field notice on Cisco.com, at <http://www.cisco.com/warp/customer/770/51.shtml>

Table 2 lists the supported interfaces for the Cisco 3600 series routers for Cisco IOS Release 12.1(5) YD6.

Table 2 Supported Interfaces for the Cisco 3600 Series

Interface, Network Module, or Data Rate	Product Description	Platforms Supported
Mixed Media Network Modules	1-port 10/100BaseTX with 1-port channelized/PRI/E1 balanced mode (NM-1FE1CE1B)	All Cisco 3600 series platforms
	1-port 10/100BaseTX with 1-port channelized/PRI/E1 unbalanced mode (NM-1FE1CE1U)	All Cisco 3600 series platforms
	1-port 10/100BaseTX with 1-port channelized/PRI/T1(NM-1FE1CT1)	All Cisco 3600 series platforms
	1-port 10/100BaseTX with 1-port channelized/PRI/T1 with CSU (NM-1FE1CT1-CSU)	All Cisco 3600 series platforms
	1-port 10/100BaseTX with 2-port channelized/PRI/E1 balanced mode (NM-1FE2CE1B)	All Cisco 3600 series platforms
	1-port 10/100BaseTX with 2-port channelized/PRI/E1 unbalanced mode (NM-1FE2CE1U)	All Cisco 3600 series platforms
	1-port 10/100BaseTX with 2-port channelized/PRI/T1 (NM-1FE2CT1)	All Cisco 3600 series platforms

Table 2 Supported Interfaces for the Cisco 3600 Series (continued)

Interface, Network Module, or Data Rate	Product Description	Platforms Supported
Mixed Media Network Modules (Continued)	1-port 10/100BaseTX with 2-port channelized/PRI/T1 with CSU (NM-1FE2CT1-CSU)	All Cisco 3600 series platforms
	1 Ethernet and 2 WAN card slots (NM-1E2W)	All Cisco 3600 series platforms
	1 Ethernet, 1 Token Ring, and 2 WAN card slots (NM-1E1R2W)	All Cisco 3600 series platforms
	2 Ethernet and 2 WAN card slots (NM-2E2W)	All Cisco 3600 series platforms
	1-port Fast Ethernet, 1-port Token Ring with 2 WAN card slots (NM-1FE1R2W[=])	All Cisco 3600 series platforms
	1-port Fast Ethernet with 2 WAN card slots (NM-1FE2W[=])	All Cisco 3600 series platforms
	2-port Fast Ethernet with 2 WAN card slots (NM-2FE2W[=])	All Cisco 3600 series platforms
	2 WAN card slots (NM-2W[=])	All Cisco 3600 series platforms
Dial Access Network Modules	16- and 32-port asynchronous (NM-16A and NM-32A)	All Cisco 3600 series platforms
	6- to 30-port integrated digital modems network modules (NM-16DM, NM-12-DM, NM-18DM, NM-24DM, NM-30DM)	All Cisco 3600 series platforms
	6-port digital modem upgrade (MICA-6MOD)	All Cisco 3600 series platforms
	8- or 16-port integrated analog network modules (NM-8AM and NM-16AM)	All Cisco 3600 series platforms
LAN Interface Network Modules	1- and 4-port Ethernet (AUI and 10BaseT, NM-1E and NM-4E)	All Cisco 3600 series platforms
	1-port Fast Ethernet (100BaseTX and 100BaseFX, NM-1FE-TX and NM-1FE-FX)	All Cisco 3600 series platforms
Digital T1/E1 Packet Voice Trunk Network Modules and Spare Components	1-port, 24-channel T1 voice/fax module, supports 24 channels of medium-complexity codecs: G.729a/b, G.726, G.711 and fax or 12 channels of G.726, G.729, G.723.1, G.728, G.729a/b, G.711, and fax. Consists of one NM-HDV, two PVDM-12s, and one VWIC-1MFT-T1 ¹ . Part number: NM-HDV-1T1-24	All Cisco 3600 series platforms
	1-port, enhanced 24-channel T1 voice/fax module, supports 24 channels of high- and medium-complexity codecs: G.729a/b, G.726, G.729, G.728, G.723.1, G.711, and fax. Consists of one NM-HDV, four PVDM-12s, and one VWIC-1MFT-T1 ² . Part number: NM-HDV-1T1-24E	All Cisco 3600 series platforms
	2-port, 48-channel T1 voice/fax module, supports add/drop multiplexing (drop and insert); 48 channels of medium-complexity codecs: G.729a/b, G.726, G.711, and fax; or 24 channels of G.726, G.729, G.723.1, G.728, G.729a/b, G.711, and fax. Consists of one NM-HDV, four PVDM-12, and one VWIC-2MFT-T1-DI ² . Part number: NM-HDV-2T1-48	All Cisco 3600 series platforms

Table 2 Supported Interfaces for the Cisco 3600 Series (continued)

Interface, Network Module, or Data Rate	Product Description	Platforms Supported
Digital T1/E1 Packet Voice Trunk Network Modules and Spare Components (Continued)	1-port, 30-channel E1 voice/fax module, supports 30 channels of G.729a/b, G.726, G.711 and fax or 18 channels of G.726, G.729, G.723.1, G.728, G.729a/b, G.711, and fax. Consists of one NM-HDV, three PVDM-12s, and one VWIC-1MFT-E1 ¹ . (NM-HDV-1E1-30[=])	All Cisco 3600 series platforms
	1-port, enhanced 30-channel E1 voice/fax module, supports 30 channels of G.729a/b, G.726, G.729, G.728, G.723.1, G.711, and fax. Consists of one NM-HDV, five PVDM-12s, and one VWIC-1MFT-E1 ¹ . (NM-HDV-1E1-30E[=])	All Cisco 3600 series platforms
	2-port, 60-channel E1 voice/fax module, supports add/drop multiplexing (drop and insert); 60 channels of G.729a/b, G.726, G.711, and fax or 30 channels of G.726, G.729, G.723.1, G.728, G.729a/b, G.711, and fax. Consists of one NM-HDV, five PVDM-12s, and one VWIC-2MFT-E1-D1 ¹ . (NM-HDV-2E1-60[=])	All Cisco 3600 series platforms
	High-density voice/fax network module spare (NM-HDV)	Digital T1 Packet Voice Trunk Network Modules spare component
	12-channel packet voice DSP ² module upgrade spare (PVDM-12=)	Digital T1 Packet Voice Trunk Network Modules spare component
	1-port RJ-48 multiflex trunk—T1 (VWIC-1MFT-T1) ²	Digital T1 Packet Voice Trunk Network Modules spare component
	2-port RJ-48 multiflex trunk—T1 (VWIC-2MFT-T1) ²	Digital T1 Packet Voice Trunk Network Modules spare component
	2-port RJ-48 multiflex trunk with drop and insert—T1 (VWIC-2MFT-T1-DI(=)) ²	Digital T1 Packet Voice Trunk Network Modules spare component
T1/E1 Multiflex Voice/WAN Interface Cards	1-port T1 multiflex trunk interface (VWIC-1MFT-T1)	All Cisco 3600 series platforms
	1-port E1 multiflex trunk interface (VWIC-1MFT-E1)	All Cisco 3600 series platforms
	2-port T1 multiflex trunk interface (VWIC-2MFT-T1)	All Cisco 3600 series platforms
	2-port T1 multiflex trunk interface with drop and insert (VWIC-2MFT-T1-DI) ³	All Cisco 3600 series platforms
	2-port E1 multiflex trunk interface with drop and insert (VWIC-2MFT-E1-DI)	All Cisco 3600 series platforms

Table 2 Supported Interfaces for the Cisco 3600 Series (continued)

Interface, Network Module, or Data Rate	Product Description	Platforms Supported
Voice/Fax Interfaces and Network Modules¹	1- and 2-port voice/fax network module (NM-1V and NM-2V)	All Cisco 3600 series platforms
	2-port E&M ⁴ voice interface card (VIC-2E/M)	All Cisco 3600 series platforms with voice/fax network module
	2-port FXO ⁵ voice interface card (VIC-2FXO, VIC-2FXO-M3, and VIC-2FXO-EU)	All Cisco 3600 series platforms with voice/fax network module
	2-port FXS ⁶ voice interface card	All Cisco 3600 series platforms with voice/fax network module
	2-port ⁷ voice interface card (VIC-2BRI-S/T-TE)	Cisco 3620 and 3640 platforms with voice/fax network module
WAN Data Rates	48/56/64 kbps ⁸	All Cisco 3600 series platforms
	1.544/2.048 Mbps ⁹	All Cisco 3600 series platforms
	Up to 8 Mbps on 4-port serial network module	All Cisco 3600 series platforms
	52 Mbps max using high speed serial interface (HSSI) network module	All Cisco 3600 series platforms
	Up to 100 Mbps on ATM optical carrier 3 (OC3) network modules	All Cisco 3600 series platforms
Channelized WAN Network Modules	1- and 2-port channelized T1 modules without CSUs (NM-1CT1 and NM-1CT1)	All Cisco 3600 series platforms
	1- and 2-port channelized T1 network modules with CSUs (NM-1CT1-CSU and NM-2CT1-CSU)	All Cisco 3600 series platforms
	1- and 2-port E1 network modules, unbalanced mode (NM-1CE1U and NM-2CE1U)	All Cisco 3600 series platforms
	1- and 2-port E1 network modules, balanced mode (NM-1CE1B and NM-2CE1B)	All Cisco 3600 series platforms

Table 2 Supported Interfaces for the Cisco 3600 Series (continued)

Interface, Network Module, or Data Rate	Product Description	Platforms Supported
Asynchronous Transfer Mode (ATM) Network Modules	1-port ATM-25 network modules (NM-1ATM-25) ¹	All Cisco 3600 series platforms
	1-port ATM T3 network module (NM-1A-T3)	All Cisco 3600 series platforms
	1-port ATM E3 network module (NM-1A-E3)	All Cisco 3600 series platforms
	1-port high-speed serial interface (HSSI) network module	All Cisco 3600 series platforms
	4- and 8-port BRI network module with network termination 1 (NT1) interface (NM-4B-U and NM-8B-U)	All Cisco 3600 series platforms
	4- and 8-port BRI network module with S/T interface (NM-4B-S/T and NM-8B-S/T)	All Cisco 3600 series platforms
	4- and 8-port synchronous/asynchronous (NM-4A/S and NM-8A/S)	All Cisco 3600 series platforms
	16- and 32-port asynchronous (NM-16A and NM-32A)	All Cisco 3600 series platforms
	4-port serial (NM-4T)	All Cisco 3600 series platforms
	1-port ATM OC-3 network module with multimode fiber (NM-1A-OC3MM)	All Cisco 3600 series platforms
	1-port ATM OC-3 network module with single-mode intermediate reach fiber (NM-1A-OC3SMI)	All Cisco 3600 series platforms
	1-port ATM OC-3 network module with single-mode long reach fiber (NM-1A-OC3SML)	All Cisco 3600 series platforms
	1-port ATM OC-3 multimode network module and circuit emulation service (NM-1A-OC3MM-1V) ¹⁰	All Cisco 3600 series platforms
	1-port ATM OC-3 single-mode, intermediate reach network module and circuit emulation service (NM-1A-OC3SMI-1V) ¹⁰	All Cisco 3600 series platforms
	1-port ATM OC-3 single-mode, long reach network module and circuit emulation service (NM-1A-OC3SML-1V) ¹⁰	All Cisco 3600 series platforms
	4-port T1 ATM network module with IMA ¹¹ (NM-4T1-IMA)	All Cisco 3600 series platforms
	4-port E1 ATM network module with IMA (NM-4E1-IMA)	All Cisco 3600 series platforms
	8-port T1 ATM network module with IMA (NM-8T1-IMA)	All Cisco 3600 series platforms
8-port E1 ATM network module with IMA (NM-8E1-IMA)	All Cisco 3600 series platforms	
Advanced Integration Modules (AIM)	4 E1 data compression advanced integration module (AIM-COMPR4)	Cisco 3660 series platforms
	Data encryption AIM (NM-VPM-HP)	Cisco 3660 series platforms
Other Network Modules	Data compression network module (NM-COMPR)	Cisco 3620 and 3640 series platforms
	Data encryption network module (NM-VPN-MP)	Cisco 3620 and 3640 series platforms

Table 2 Supported Interfaces for the Cisco 3600 Series (continued)

Interface, Network Module, or Data Rate	Product Description	Platforms Supported
WAN Interface Cards	1-port T1/Fractional T1/DSU/CSU WAN interface card (WIC-1DSU-T1)	All Cisco 3600 series platforms
	1-port T1/Fractional T1 56/64 kbps DSU/CSU WAN interface card (WIC-1DSU-56K4)	All Cisco 3600 series platforms
	1-port ISDN with NT1 WAN interface card (WIC-1B-U)	All Cisco 3600 series platforms
	1-port ISDN WAN interface card (WIC-1B-S/T)	All Cisco 3600 series platforms
	1-port serial WAN interface card (WIC-1T)	All Cisco 3600 series platforms
	2-port serial (WIC-2T[=]) ¹²	All Cisco 3600 series platforms
	2-port asynchronous/synchronous (WIC-2A/S[=])	All Cisco 3600 series platforms

1. See T1/E1 Multiflex Voice/WAN Interface Cards in this table.
2. DSP = digital signal processor
3. For Cisco 3660 series, only supported in T1/E1 digital packet voice trunk network modules and new Fast Ethernet mixed media network modules: NM-1FE2W, NM-2FE2W, NM-1FE1R2W, NM-2W. For Cisco 3620 and 3640, supported in T1/E1 digital packet voice trunk network modules or in 1- or 2-port Ethernet and Fast Ethernet network module (NM-1E2W, NM-2E2W, NM-1E1R2W, NM-1FE2W, NM-2FE2W, NM-1FE1R2W, NM-2W)
4. E&M = recEiver and transMitter (or Ear and Mouth)
5. FXO = Foreign Exchange Office
6. FXS = Foreign Exchange Station
7. BRI = Basic Rate Interface
8. Kbps = Kilobits per second
9. Mbps = Megabits per second
10. For the Cisco 3660 series only, online insertion and removal (OIR) is now supported in Cisco IOS Release 12.1(5)T.
11. IMA =Inverse Multiplexing over ATM
12. Supported in Fast Ethernet mixed media network modules: NM-1FE2W, NM-2FE2W, NM-1FE1R2W, NM-2W.

Determining the Software Version

To determine the version of Cisco IOS software running on a Cisco 3600 series router, log in to the router and enter the **show version EXEC** command:

```
router>show version
Cisco Internetwork Operating System Software
IOS (tm) 3620 Software (c3620-js-mz), 12.1(5) YD6, RELEASE SOFTWARE
```

Upgrading to a New Software Release

For general information about upgrading to a new software release, refer to *Upgrading the Cisco IOS Software Release in Cisco Routers and Modems* located at:

http://www.cisco.com/warp/public/130/upgrade_index.shtml

Feature Set Tables

Cisco IOS software is packaged in feature sets consisting of software images—depending on the platform. Table 3 lists the Cisco IOS Release 12.1(5) YD6 feature set image for the Cisco IAD2420 series platforms.

Cisco IOS Release 12.1(5) YD6 supports the same feature sets as Cisco IOS Release 12.1(5) T, but Cisco IOS Release 12.1(5) YD6 can include new features supported by the Cisco 3600.



Caution

Cisco IOS images with strong encryption (including, but not limited to, 168-bit Triple Data Encryption Standard [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 are likely to require an export license. Customer orders may be denied or subject to delay because of United States government regulations. When applicable, purchaser and 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 lists the features and feature sets supported by the Cisco 3600 series in Cisco IOS Release 12.1(5) YD6 and use the following conventions:

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



Note

This table does not list all the features in each image. You can find the most current Cisco IOS documentation on Cisco.com. If you have a Cisco.com login account, you can find image and release information regarding Cisco IOS Release 12.1(5) T by using the Feature Navigator tool at <http://www.cisco.com/go/fn>.

Table 3 Feature Lists by Feature Sets for the Cisco 3600 Series Routers

	Software Images by Feature Sets					
	IP Plus	IP Plus IPsec 56	Enterprise Plus	Enterprise Plus IPsec56	Enterprise/Plus IPsec 3DES	Enterprise Plus H323 MCM
IP Keyswitch	Yes	Yes	Yes	Yes	Yes	Yes
Survivable Remote Site Telephony	Yes	Yes	Yes	Yes	Yes	Yes

New and Changed Information

The following is a list of the new hardware and software features supported by the Cisco 3600 series for Cisco IOS Release 12.1(5) YD6.

New Hardware and Software Features in Cisco IOS Release 12.1(5) YD6

There are no new hardware and software features supported by the Cisco 3600 series for Cisco IOS Release 12.1(5) YD6.

New Hardware and Software Features from Cisco IOS Release 12.1(5) YD1 to Cisco IOS Release 12.1(5) YD6

There are no new hardware or software features supported by the Cisco 3600 series from Cisco IOS Release 12.1(5) YD1 to Cisco IOS Release 12.1(5) YD6.

New Hardware Features in Cisco IOS Release 12.1(5) YD

There are no new hardware features supported by the Cisco 3600 series for Cisco IOS Release 12.1(5) YD.

New Software Features in Cisco IOS Release 12.1(5) YD

The following new software features are supported by the Cisco 3600 series for Cisco IOS Release 12.1(5) YD.

IP Keyswitch

The IP Keyswitch feature provides Cisco IP phone call-handling capabilities in a LAN environment. This feature enables the Cisco 2600 series to provide IP Keyswitch capability integrated in the router for the Cisco IP Phone 7960, Cisco IP Phone 7940, and Cisco IP Phone 7910. It loads phone images, and configures, and manages the Cisco IP phones in your LAN. It also provides a host of features such as call forwarding, call transfer, and hold, for example. The IP Keyswitch feature provides you with integrated call processing capabilities for a small office with up to 48 extensions.

Refer to the following documents for further information:

http://www.cisco.com/univercd/cc/td/doc/product/software/ios121/121newft/121limit/121yd/121yd_5/keys.htm

Survivable Remote Site Telephony

The Survivable Remote Site Telephony feature provides the Cisco CallManager with fallback support for the Cisco IP phones attached to the router on your local Ethernet. Cisco IOS Release 12.1(5) YD integrates this feature on the Cisco 2600 series and enables the routers to provide call handling support for the Cisco IP phones when the Cisco IP phones lose connection to the remote primary, secondary, or tertiary Cisco CallManager or when the WAN connection is down.

The Cisco CallManager 3.0 supports Cisco IP phones at remote sites attached to Cisco branch office multi-service routers across the WAN. Prior to Survivable Remote Site Telephony, when the WAN connection between the remote branch office router and the Cisco CallManager failed, or connectivity with the Cisco CallManager was lost for some other reason, the Cisco IP phones at the branch office became unusable for the duration of the failure. To overcome this problem the Survivable Remote Site Telephony feature was developed. The feature provides call-handling support on the branch-office router for its attached Cisco IP phones when a failure occurs. The system automatically detects the failure, and using Simple Network Auto Provisioning (SNAP) technology, auto configures the branch office router to provide call processing service for the local IP phones. When the failure is restored, call-handling capabilities for the Cisco IP phones switch back to the primary Cisco CallManager. During a failure, the Cisco IP phone displays a message to inform the user that the Cisco IP phone is in the Cisco CallManager fallback mode and is able to perform a limited set of functions.

Refer to the following documents for further information:

http://www.cisco.com/univercd/cc/td/doc/product/software/ios121/121newft/121limit/121yd/121yd_5/fallback.htm

Important Notes

Product Number Change

Beginning with Cisco IOS Release 12.0(7)XK, Cisco changed the product numbers you use to order a specific Cisco IOS software image. In short, Cisco will remove the periods separating the release train, maintenance release, and build number. The following table provides some examples.

Old Product Number	New Product Number	Release	Image Description
S364AR1K2-12.1.3=	S364AR1K2-1213=	Cisco IOS Release 12.1(3)	Cisco 3640 Series IOS Enterprise/SNA SW PLUS IPSEC 3DES
S26CP-12.1.3=	S26CP-12103=	Cisco IOS Release 12.1(3)	Cisco 2600 Series IOS IP Plus

Deprecated MIBs

To obtain lists of supported MIBs by platform and Cisco IOS release, and to download MIB modules, go to the Cisco MIB website on Cisco.com at <http://www.cisco.com/public/sw-center/netmgmt/cmtk/mibs.shtml>.

Deprecated and Replacement MIBs

Old Cisco MIBs will be replaced in a future release. Currently, OLD-CISCO-* MIBs are being converted into more scalable MIBs without affecting existing Cisco IOS products or network management system (NMS) applications. You can update from deprecated MIBs to the replacement MIBs as shown in [Table 4](#).

Table 4 *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	In Development
OLD-CISCO-ENV-MIB	CISCO-ENVMON-MIB
OLD-CISCO-FLASH-MIB	CISCO-FLASH-MIB
OLD-CISCO-INTERFACES-MIB	IF-MIB CISCO-QUEUE-MIB

Table 4 *Deprecated MIBs (continued)*

Deprecated MIB	Replacement
OLD-CISCO-IP-MIB	In Development
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	In Development
OLD-CISCO-VINES-MIB	CISCO-VINES-MIB
OLD-CISCO-XNS-MIB	In Development

Caveats for Cisco IOS Release 12.1(5) YD

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. Severity 3 caveats are moderate caveats, and only select severity 3 caveats are included in the caveats document.

This section contains only open and resolved caveats for the current Cisco IOS maintenance release.

All caveats in Cisco IOS Release 12.1 are also in Cisco IOS Release 12.1 T.

For information on caveats in Cisco IOS Release 12.1, see *Caveats for Cisco IOS Release 12.1*

For information on caveats in Cisco IOS Release 12.1 T, see *Caveats for Cisco IOS Release 12.1T*, which lists severity 1 and 2 caveats and select severity 3 caveats and is located on Cisco.com and the Documentation CD-ROM.

Caveat numbers and brief descriptions for Cisco IOS Release 12.1(5) YD6 are listed in [Table 5](#). For details about a particular caveat, go to Bug Toolkit at:

<http://www.cisco.com/kobayashi/bugs/bugs.html>

To access this location, you must have an account on Cisco.com. For information about how to obtain an account, go to the [“Feature Navigator”](#) section on page 18.



Note

If you have an account with Cisco.com, you can use Bug Navigator II to find caveats of any severity for any release. To reach Bug Navigator II, **log in** to Cisco.com and click **Service and Support: Technical Assistance Center: Select & Download Software: Jump to a software resource: Software Bug Toolkit/Bug Watcher**. Another option is to go to <http://www.cisco.com/support/bugtools/>.

Open Caveats—Cisco IOS Release 12.1(5) YD6

There are no open caveats specific to Cisco IOS Release 12.1(5) YD6 that require documentation in the release notes.

Resolved Caveats—Cisco IOS Release 12.1(5) YD6

All the caveats listed in [Table 5](#) are resolved in Cisco IOS Release 12.1(5) YD6. This table lists only severity 1 and 2 caveats and select severity 3 caveats.

Table 5 Resolved Caveats for Release 12.1(5) YD6

Caveat ID Number	Description
CSCdw65903	An error can occur with management protocol processing. Please use the following URL for further information: http://www.cisco.com/cgi-bin/bugtool/onebug.pl?bugid=CSCdw65903

Open Caveats—Cisco IOS Release 12.1(5) YD5

There are no open caveats specific to Cisco IOS Release 12.1(5) YD5 that require documentation in the release notes.

Resolved Caveats—Cisco IOS Release 12.1(5) YD5

All the caveats listed in [Table 6](#) are resolved in Cisco IOS Release 12.1(5) YD5. This table lists only severity 1 and 2 caveats and select severity 3 caveats.

Table 6 Resolved Caveats for Release 12.1(5) YD5

Caveat ID Number	Description
CSCds26949	Gateway does not set PUSH bit in TCP header for h225-q931 msgs
CSCdu53333	DSP does not respond - seeing%VTSP-3-DSP_TIMEOUT
CSCdv43814	VOIP leg MOH stream not played out to POTS leg
CSCdv68263	No windowing of h245 delays audio cutover in high roundtrip network
CSCdv71043	Transferred call forwarded to Unity does not work
CSCdv87550	Memory allocation failure - mem leak
CSCdw18804	Problem: When a 7960 with attached 7914 fallback to SRST router, the speed-dial assignment is skewed. Workaround: None.

Open Caveats—Cisco IOS Release 12.1(5) YD4

There are no open caveats specific to Cisco IOS Release 12.1(5) YD4 that require documentation in the release notes.

Resolved Caveats—Cisco IOS Release 12.1(5) YD4

All the caveats listed in [Table 7](#) are resolved in Cisco IOS Release 12.1(5) YD4. This table lists only severity 1 and 2 caveats and select severity 3 caveats.

Table 7 Resolved Caveats for Release 12.1(5) YD4

Caveat ID Number	Description
CSCdu82132	Router crashes with bus error at hdsprm_htsp_tsp_map
CSCdv41018	Copland card adds unnecessary overhead when configured for data
CSCdt46360	DSP/Telephony leg dangles after running traffic

Open Caveats—Cisco IOS Release 12.1(5) YD3

There are no open caveats specific to Cisco IOS Release 12.1(5) YD3 that require documentation in the release notes.

Resolved Caveats—Cisco IOS Release 12.1(5) YD3

All the caveats listed in [Table 8](#) are resolved in Cisco IOS Release 12.1(5) YD3. This table lists only severity 1 and 2 caveats and select severity 3 caveats.

Table 8 Resolved Caveats for Release 12.1(5) YD3

Caveat ID Number	Description
CSCds87266	No ringback played to PSTN when IP phones initiates a transfer
CSCdt77514	BRI L2 is not established after reload
CSCdu70532	GW interprets On Hook that is less than 100ms instead of ignoring it
CSCdu74485	Caller ID information is not collected with T1 CAS FXO GroundStart
CSCdu60475	router crashes when mgcp is configured
CSCdt44029	cRTP causes 7200 and 3640 to hang
CSCdt59350	x.25 fails on serial i/fs & traceback @ fecpm_serial_RX_interrupt
CSCdt19563	Spurious memory access and tracebacks reported
CSCdt58453	Output gain (negative output attenuation) too powerful

Open Caveats—Cisco IOS Release 12.1(5) YD2

All the caveats listed in [Table 9](#) are open in Cisco IOS Release 12.1(5) YD2. This table lists only severity 1 and 2 caveats and select severity 3 caveats.

Table 9 Open Caveats for Release 12.1(5) YD2

Caveat ID Number	Description
CSCdu45133	FXO-DSP in busy state after overload, using vespa image

Resolved Caveats—Cisco IOS Release 12.1(5) YD2

All the caveats listed in [Table 10](#) are resolved in Cisco IOS Release 12.1(5) YD2. This table lists only severity 1 and 2 caveats and select severity 3 caveats.

Table 10 *Resolved Caveats for Release 12.1(5) YD2*

Caveat ID Number	Description
CSCds82435	net3: non-conformance regarding INFORMATION message
CSCdu07504	sh voice dsp causes reload
CSCdt03449	ISDN BRI callout results in VOICE ERROR when ALERTING is received
CSCds42715	4 Octets added to IP Header when Fast Switching to Native VLAN
CSCds78766	DSP Hangs on NM-2V with S_SETUP_IND_NO_DSP
CSCdu45133	FXO-DSP in busy state after overload, using vespa image
CSCdu11853	router crash
CSCdt93862	Access level issue while using Web interface
CSCdt11503	IOS crashes when large OID (>256 fields) is received
CSCdt93862	Redzone corruption in pptp_tcp_readf()

Open Caveats—Cisco IOS Release 12.1(5) YD1

All the caveats listed in [Table 11](#) are open in Cisco IOS Release 12.1(5) YD1. This table lists only severity 1 and 2 caveats and select severity 3 caveats.

Table 11 *Open Caveats for Release 12.1(5) YD1*

Caveat ID Number	Description
CSCdt77713	CCB list management problem
CSCdt49924	ISDN: isdn map not properly populating calling party number

Resolved Caveats—Cisco IOS Release 12.1(5) YD1

All the caveats listed in [Table 12](#) are resolved in Cisco IOS Release 12.1(5) YD1. This table lists only severity 1 and 2 caveats and select severity 3 caveats.

Table 12 *Closed and Resolved Caveats for Release 12.1(5) YD1*

Caveat ID Number	Description
CSCdt52094	LLQ: Traffic drop when configuring LLQ in frame-relay interface
CSCdt16296	7206VXR crashes with ip_rtp_add_negative_cache
CSCdt20427	Spurious access @rate_limit_compress_adjust for all compr. pkt
CSCdt30629	Need to speed up RM to TACACS+ accounting processing
CSCds19979	TCP header compression does not work on virtual-access i/f

Table 12 *Closed and Resolved Caveats for Release 12.1(5) YD1 (continued)*

Caveat ID Number	Description
CSCds37837	MQC: dTS, police, and LLQ need to adjust for post-CRTP packet rate
CSCds43465	MQC: LLQ, Policer, Shaper should take CRTP compression feedback
CSCds47392	Destination phone continues to ring after source phone hangs up
CSCds73763	Router crashes when clear counter command is given
CSCdt71905	Pick up on shared line hangs the phone
CSCdt72099	Please investigate last_bad_payload 13 reported on FB GW
CSCdu05593	Minor scale enhancements
CSCdt98297	12.1.5YD:3660 supports 150 ephones under SRST mode
CSCdu00379	CON PLAR deleted during FB/normal cycle w DEFAULT-DEST. defined
CSCdu04283	Router crashes when assigning a long name under ephone-dn

Open and Resolved Caveats—Cisco IOS Release 12.1(5) YD

There are no open and resolved caveats specific to Cisco IOS Release 12.1(5) YD that require documentation in the release notes.

Related Documentation

The following sections describe the documentation available for the Cisco 3600 series. 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 and the Documentation CD-ROM.

Use these release notes with these documents:

- [Release-Specific Documents, page 17](#)
- [Platform-Specific Documents, page 18](#)
- [Feature Modules, page 18](#)
- [Feature Navigator, page 18](#)
- [Cisco IOS Software Documentation Set, page 19](#)

Release-Specific Documents

The following documents are specific to Cisco IOS Release 12.1 and are located on Cisco.com and the Documentation CD-ROM:

- *Cross-Platform Release Notes for Cisco IOS Release 12.1*

On Cisco.com at:

Technical Documents: Cisco IOS Software: Cisco IOS Release 12.1: Release Notes: Cross-Platform Release Notes

On the Documentation CD-ROM at:

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 on Cisco.com at:

Technical Documents

- The “[Caveats for Cisco IOS Release 12.1\(5\) YD](#)” section on page 12

As a supplement to the caveats listed in “[Caveats for Cisco IOS Release 12.1\(5\) YD](#)” in these release notes, see *Caveats for Cisco IOS Release 12.1* and *Caveats for Cisco IOS Release 12.1T*, which contains caveats applicable to all platforms for all maintenance releases of Cisco IOS Release 12.1 and Cisco IOS Release 12.1 T.

On Cisco.com at:

Technical Documents: Cisco IOS Software: Cisco IOS Release 12.1: Release Notes: Caveats

On the Documentation CD-ROM at:

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

**Note**

If you have an account with Cisco.com, you can use Bug Navigator II to find caveats of any severity for any release. To reach Bug Navigator II, log in to Cisco.com and click **Service & Support: Technical Assistance Center: Select & Download Software: Jump to a software resource: Software Bug Toolkit/Bug Watcher**. Another option is to go to <http://www.cisco.com/support/bugtools/bugtool.shtml>.

Platform-Specific Documents

The documents listed below are available for the Cisco 3600 series routers and are also available on Cisco.com and on the Documentation CD-ROM.

- Quick Start Guides for Cisco 3600 Series Routers
- Hardware Installation Documents for Cisco 3600 Series
- Software Configuration Documents for Cisco 3600 Series
- *Regulatory Compliance and Safety Info for the Cisco 3600 Series*

On Cisco.com, beginning under the **Service & Support** heading:

Technical Documents: Access Servers and Access Routers: Modular Access Routers: Cisco 3600 Series Routers

On the Documentation CD-ROM:

Access Servers and Access Routers: Modular Access Routers: Cisco 3600 Series Routers

Feature Modules

Feature modules describe new features supported by Cisco IOS Release 12.1(5) YD6 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 printing of the Cisco IOS documentation set.

On Cisco.com at:

Technical Documents: Cisco IOS Software: Cisco IOS Release 12.1: New Feature Documentation

On the Documentation CD-ROM at:

Cisco Product Documentation: Cisco IOS Software Configuration: Cisco IOS Release 12.1: New Feature Documentation

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 cdadmin@cisco.com. If you do not have an account on Cisco.com, go to <http://www.cisco.com/register> and follow the directions to establish 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. The Cisco IOS software documentation set is 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 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.

On Cisco.com at:

Technical Documents: Cisco IOS Software: Cisco IOS Release 12.1: Configuration Guides and Command References

On the Documentation CD-ROM at:

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

Release 12.1 Documentation Set

Table 13 lists 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

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.

On Cisco.com at:

Technical Documents: Cisco IOS Software: Cisco IOS Release 12.1

On the Documentation CD-ROM at:

Cisco Product Documentation: Cisco IOS Software Configuration

Table 13 Cisco IOS Software Release 12.1 Documentation Set

Books	Chapter Topics
<ul style="list-style-type: none"> • <i>Cisco IOS Configuration Fundamentals Configuration Guide</i> • <i>Cisco IOS Configuration Fundamentals Command Reference</i> 	Configuration Fundamentals Overview Cisco IOS User Interfaces File Management System Management
<ul style="list-style-type: none"> • <i>Cisco IOS Bridging and IBM Networking Configuration Guide</i> • <i>Cisco IOS Bridging and IBM Networking Command Reference, Volume I</i> • <i>Cisco IOS Bridging and IBM Networking Command Reference, Volume II</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 NCI Client/Server Topologies Cisco Mainframe Channel Connection Airline Product Set
<ul style="list-style-type: none"> • <i>Cisco IOS Dial Services Configuration Guide: Terminal Services</i> • <i>Cisco IOS Dial Services Configuration Guide: Network Services</i> • <i>Cisco IOS Dial Services 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

Table 13 Cisco IOS Software Release 12.1 Documentation Set (continued)

Books	Chapter Topics
<ul style="list-style-type: none"> • <i>Cisco IOS IP and IP Routing Configuration Guide</i> • <i>Cisco IOS IP and IP Routing Command Reference</i> 	IP Overview IP Addressing and Services IP Routing Protocols
<ul style="list-style-type: none"> • <i>Cisco IOS AppleTalk and Novell IPX Configuration Guide</i> • <i>Cisco IOS AppleTalk and Novell IPX Command Reference</i> 	AppleTalk Novell IPX
<ul style="list-style-type: none"> • <i>Cisco IOS Apollo Domain, Banyan VINES, DECnet, ISO CLNS, and XNS Configuration Guide</i> • <i>Cisco IOS Apollo Domain, Banyan VINES, DECnet, ISO CLNS, and XNS Command Reference</i> 	Network Protocols Overview Apollo Domain Banyan VINES DECnet ISO CLNS XNS
<ul style="list-style-type: none"> • <i>Cisco IOS Security Configuration Guide</i> • <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
<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>Cisco IOS Wide-Area Networking Configuration Guide</i> • <i>Cisco IOS Wide-Area Networking Command Reference</i> 	Wide-Area Network Overview ATM Frame Relay SMDS X.25 and LAPB
<ul style="list-style-type: none"> • <i>Cisco IOS Multiservice Applications Configuration Guide</i> • <i>Cisco IOS Multiservice 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

Table 13 Cisco IOS Software Release 12.1 Documentation Set (continued)

Books	Chapter Topics
<ul style="list-style-type: none"> • <i>Cisco IOS Quality of Service Solutions Configuration Guide</i> • <i>Cisco IOS 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 Command Summary</i> • <i>Cisco IOS Command Reference Master Index</i> • <i>Cisco IOS Configuration Guide Master Index</i> • <i>Cisco IOS Dial Services Quick Configuration Guide</i> • <i>Cisco IOS New Feature Index</i> • <i>Cisco IOS System Error Messages</i> • <i>Cisco IOS Debug Command Reference</i> 	

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>

Documentation CD-ROM

Cisco documentation and additional literature are available in a CD-ROM package, which ships with your product. The Documentation CD-ROM is updated monthly and may be more current than printed documentation. The CD-ROM package is available as a single unit or as an annual subscription.

Ordering Documentation

Cisco documentation is available in the following ways:

- Registered Cisco Direct Customers can order Cisco Product documentation from the Networking Products MarketPlace:
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:
<http://www.cisco.com/go/subscription>
- Nonregistered Cisco.com users can order documentation through a local account representative by calling Cisco corporate headquarters (California, USA) at 408 526-7208 or, in North America, by calling 800 553-NETS(6387).

Documentation Feedback

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

You can e-mail your comments to bug-doc@cisco.com.

To submit your comments by mail, use the response card behind the front cover of your document, or write to the following address:

Attn Document Resource Connection
Cisco Systems, Inc.
170 West Tasman Drive
San Jose, CA 95134-9883

We appreciate your comments.

Obtaining Technical Assistance

Cisco provides Cisco.com as a starting point for all technical assistance. Customers and partners can obtain documentation, troubleshooting tips, and sample configurations from online tools. For Cisco.com registered users, additional troubleshooting tools are available from the TAC website.

Cisco.com

Cisco.com is the foundation of a suite of interactive, networked services that provides immediate, open access to Cisco information and resources at anytime, from anywhere in the world. This highly integrated Internet application is a powerful, easy-to-use tool for doing business with Cisco.

Cisco.com provides a broad range of features and services to help customers and partners streamline business processes and improve productivity. Through Cisco.com, you can find information about Cisco and our networking solutions, services, and programs. In addition, you can resolve technical issues with online technical support, download and test software packages, and order Cisco learning materials and merchandise. Valuable online skill assessment, training, and certification programs are also available.

Customers and partners can self-register on Cisco.com to obtain additional personalized information and services. Registered users can order products, check on the status of an order, access technical support, and view benefits specific to their relationships with Cisco.

To access Cisco.com, go to the following website:

<http://www.cisco.com>

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.

This document is to be used in conjunction with the documents listed in the [“Related Documentation”](#) section on page 17.

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