

Release Notes for Cisco Unified Communications Manager Business Edition 3000 Release 8.6(2a)

October 10, 2011

Contents

This document contains information on the following topics:

- Introduction, page 1
- System Requirements, page 2
- New and Changed Information, page 2
- Important Notes, page 3
- Caveats, page 11
- Documentation Updates, page 13
- Obtaining Documentation and Submitting a Service Request, page 15

Introduction

These release notes are based on the 8.6.2.20000-2 software version of Cisco Unified Communications Manager Business Edition 3000 for Release 8.6(2a). The Cisco Unified Communications Manager Business Edition 3000 server comes preinstalled with Cisco Unified Communications Manager Business Edition 3000, and is provided as an appliance.

Cisco Unified Communications Manager Business Edition 3000, a system under the Cisco Unified Communications family of products, provides an IP telephony solution that enables the following options:

- Easy setup of deployments
- Easy provisioning of users, phones, lines, and phone features
- Easy monitoring and troubleshooting



© 2011 Cisco Systems, Inc. All rights reserved.

• Easy maintenance of your system (for example, simplified backups and restores)

The Cisco Unified Communications Manager Business Edition 3000 software is preinstalled in your system so that you do not have to perform a software installation to get your server up and running. Deployment of the Cisco Unified Communications Manager Business Edition 3000 server, phones, and the gateway across an IP network provides a distributed virtual-telephony network. Quality of service is maintained across constricted WAN links, the Internet, or VPN connections.

Your Cisco Unified Communications Manager Business Edition 3000 system is designed to support up to 300 users and 400 phones. Supplementary and enhanced services such as hold, transfer, forward, conference, multiple-line appearances, speed dials, last-number redial, and other features extend to the phones.

Web-browser interfaces allow configuration of the system. These interfaces also provide access to online help.

For more complete information about Cisco Unified Communications Manager Business Edition 3000, see the *Administration Guide for Cisco Unified Communications Manager Business Edition 3000* at the following URL:

http://www.cisco.com/en/US/products/ps11370/prod_maintenance_guides_list.html

System Requirements

For minimum requirements for products that work with Cisco Unified Communications Manager Business Edition 3000, see the *Software Compatibility Matrix for Cisco Unified Communications Manager Business Edition 3000*, which you can obtain at the following URL:

http://www.cisco.com/en/US/docs/voice_ip_comm/cucmbe3k/compat/3kcompmtx.html

New and Changed Information

For a list of documents to review before you configure the Cisco Unified Communications Manager Business Edition 3000 system, see the "Related Documentation" section on page 2.

Related Documentation

You can view documentation that supports this release of Cisco Unified Communications Manager Business Edition 3000 at the following URL:

http://www.cisco.com/en/US/products/ps11370/tsd_products_support_series_home.html.

Review the following documentation before you configure Cisco Unified Communications Manager Business Edition 3000 Release 8.6(2a):

- The Software Compatibility Matrix for Cisco Unified Communications Manager Business Edition 3000, which lists the minimum software requirements for the products that are supported with Cisco Unified Communications Manager Business Edition 3000.
- The *Cisco Unified IP Phone 6900 Firmware Upgrade from 8.5 (x) to 9.2(1)*, which provides guidelines and best practices on how to upgrade Cisco Unified IP Phones 6921, 6941, and 6961 from Firmware Version 8.5(x) SCCP Unsigned to Version 9.2(1) or current shipping version so they can successfully register on a Cisco Unified Communications Manager Business Edition 3000 server.

- The Administration Guide for Cisco Unified Communications Manager Business Edition 3000, which provides important information on how to configure and troubleshoot your system. This document is available in English, Mandarin, German, Italian, Portuguese, Spanish, and French.
- The Cisco MCS 7890-C1 Unified Communications Manager Business Edition 3000 Appliance User Guide, which provides procedural information for users who are operating the Cisco MCS 7890-C1.

Note

Obtain the preceding documents at the following URL: http://www.cisco.com/en/US/products/ps11370/tsd_products_support_series_home.html.

For the GUIs, online help is displayed in English, Mandarin, German, Italian, Portuguese, Spanish, or French, depending on the country-pack preference that you configure. Field descriptions are displayed for the settings in the GUIs. Use the online help in conjunction with the *Administration Guide for Cisco Unified Communications Manager Business Edition 3000*, which includes more information on Cisco Unified Communications Manager Business Edition 3000.

Important Notes

Review the following important information before you configure Cisco Unified Communications Manager Business Edition 3000. See the following sections:

- Obtaining Files for Cisco Unified Communications Manager Business Edition 3000 on www.cisco.com, page 3
- Cisco Unified Communications Manager Business Edition 3000 and USB Usage, page 4
- Phone Firmware Upgrades, page 7
- CSCtj88176 Default to Internal USB Key Requires User to Select External USB Key, page 7
- CD/DVD USB Drive Support for Cisco Unified Communications Manager Business Edition 3000 8.6(2a), page 10
- Telnet Limitation for Cisco Unified SIP Phone 3905, page 10
- Call Pickup Feature Limitation, page 10
- CSCtq34429 FTS spreadsheet upload failed with error message though fills all details, page 10
- CSCts28780 No MWI indication on Webex Connect softphone (Cisco Unified Communications Manager Business Edition 3000), page 11

Obtaining Files for Cisco Unified Communications Manager Business Edition 3000 on www.cisco.com

Table 1 on page 4 lists where you can obtain important files that are used with Cisco Unified Communications Manager Business Edition 3000. For example, Table 1 lists where to go to get the Cisco-provided .xls data configuration file, the Cisco-provided country packs, the upgrade files, the Cisco User Connect licenses, and other important files. Before you use these files, review the *Administration Guide for Cisco Unified Communications Manager Business Edition 3000*.

Files	Description	Where to Find the Files			
Related Documentation	Referenced to configure the system	See the "Related Documentation" section on page 2.			
Cisco User Connect licensing site	Needed to order Cisco User Connect licenses	Go to the following URL to download the various files that you use with Cisco Unified Communications Manager Business Edition 3000:			
Cisco-provided .xls data configuration file— cuba_install.zip (containing cuba_install.xls)	Needed to enter configuration data for automatic setup	http://www.cisco.com/cisco/software/navigator.html?n dfid=283661240&flowid=26421			
Network Configuration Signature file— configure.xml	Required for setting up server to access your network				
Upgrade filesRequired for upgrading software firmware, locale updates, and di plan updatesCisco-provided country packsNeeded to install localized dial p and locales (tones and language)					
Cisco Diagnostics USB Signature file— diagnose.xml	Needed to troubleshoot when you cannot access the GUIs				
Answer file— platformConfig.xml	Required to reimage the server (for troubleshooting only when your technical support team advises that you reimage the server)				
	All installation parameters are provided with this file and cannot be modified.				
	Default username: admin				
	Password: BE-3000				

Table 1	Where to Obtain Files for Cisco Unified Communications Manager Business Edition 3000

Cisco Unified Communications Manager Business Edition 3000 and USB Usage

For many tasks that you can perform in Cisco Unified Communications Manager Business Edition 3000, you can use a USB key or USB hard disk if the file exists on the USB device. Instead of using a USB device, you can use the PC desktop or SFTP server for many of these tasks, as described in the *Administration Guide for Cisco Unified Communications Manager Business Edition 3000*. This section only describes USB usage for these tasks; it does not describe the SFTP server or PC desktop options.



You can purchase the USB devices at any retailer. Cisco does not provide support for the USB devices through the Cisco Technical Assistance Center (TAC). If you have issues with the USB hardware, contact the manufacturer of the USB device or the retailer where you purchased the device.

Before you use a USB key, you must download the Network Configuration Signature file (configure.xml) from http://www.cisco.com/cisco/software/navigator.html?mdfid=283661240&flowid=26421, edit the file with valid network information (such as IP address, subnet mask, and gateway configuration), and save the updated copy in the USB key.

Cisco recommends two USB keys: one for diagnostics and one for recovery (network configuration). The USB key that you use for recovery does not modify the existing network setting of your machine. When the network configuration USB key is inserted into the system, temporary network access is established, allowing you to access the Cisco Unified Communications Manager Business Edition 3000 Administrative Interface. This temporary network access is automatically disabled if the machine is restarted.

When you modify the network configuration USB key, open the temporary IP address in your browser; then, log in to the Cisco Unified Communications Manager Business Edition 3000 Administrative Interface and modify the network settings to reflect the changes that you made in the temporary network interface so that the modifications are permanent.



Cisco recommends that you use two dedicated USB keys for network configuration (recovery) and diagnostics. You should copy the Network Configuration Signature file (configure.xml) to the network configuration USB key and the Diagnostics Signature file (diagnose.xml) to the Diagnostics USB key.

Г

Task	Important Considerations		
Reimaging the server	• Format the USB device with FAT32.		
	• NTFS is not supported.		
	• Download the answer file (platformConfig.xml) from the Cisco-recommended site. Do not modify the answer file.		
Updating the network parameters	• Format the USB device with FAT32. Only the first partition is mounted.		
through the configure.xml file	• NTFS is not supported.		
	• Make sure that at least 60 MB of free space is available on the USB device. If the USB device has less than 60 MB of free space, the appropriate files cannot be copied to the USB device. If a monitor is connected to a server and an error occurs, an error message is displayed on the monitor.		
	• Designate a single USB device for the configure.xml file. Do not copy the configure.xml file to a USB file that has other files on it.		
Uploading a Cisco-provided	• Format the USB device with FAT32. Only the first partition is mounted.		
country pack	• NTFS is not supported.		
	• Download the country pack from the Cisco-recommended site.		
Uploading the Cisco-provided .xls	• Format the USB device with FAT32. Only the first partition is mounted.		
data configuration file	• NTFS is not supported.		
	• Only .xls file extensions (files created by using Microsoft Office) are supported. Files that use the .xlsx extension are not supported.		
Backing up and restoring your	• Format the USB device with FAT32. Only the first partition is mounted.		
data	• NTFS is not supported.		
	• The size requirement to back up and restore your data is 1 TB.		
	• Cisco recommends that you do not use the USB key to back up and restore your data because of the large size requirement.		
Uploading an audio source file for	• Format the USB device with FAT32. Only the first partition is mounted.		
Music On Hold (MOH)	• NTFS is not supported.		
	• MOH supports the following wave file encoding:		
	 16-bit PCM (most any sample rate will work but Cisco recommends 8,000, 16,000, 32,000, 48,000, or 44,100) stereo or mono 		
	- 8-bit mu-law (Cisco recommends 8,000 sample rate) stereo or mono		
	- 8-bit a-law (Cisco recommends 8,000 sample rate) stereo or mono		
Uploading Cisco User Connect	• Format the USB device with FAT32. Only the first partition is mounted.		
licenses	• NTFS is not supported.		

Table 2 USB Usage with Cisco Unified Communications Manager Business Edition 3000

Task	Important Considerations		
Exporting your configured data	• Format the USB device with FAT32. Only the first partition is mounted.		
	• NTFS is not supported.		
Using the Cisco Diagnostic Tool	• Format the USB device with FAT32. Only the first partition is mounted.		
through the diagnose.xml file	• NTFS is not supported.		
	• Cisco recommends that you purchase an 8 GB USB key for diagnostics. Diagnostics may generate anywhere from 60 MB to 8 GB of space, depending on the activity of your system.		
	• Designate a single USB device for the diagnose.xml file. Do not copy the diagnose.xml file to a USB file that has other files on it.		
	• Cisco recommends that you do not remove the USB key when a media or file transfer is in progress. During a file transfer, do not press the Back or Forward key in the browser or perform any other operations. It is a best practice to allow any in-progress operations to complete.		

<i>2</i>	USB Usage with Cisco Unified Com	munications Manager Business Edition 3000 (continued)
----------	----------------------------------	-------------------------------------------------------

Phone Firmware Upgrades

Table

Cisco Unified IP Phone 6900 Series is compatible with Cisco Unified Communications Manager Business Edition 3000. Cisco Unified IP Phone 6900 Series with 9.0(2) SCCP phone firmware automatically upgrades to 9.2(1) SIP firmware.

If you have 8.5 SCCP firmware on 6900 Series phones, see the *Cisco Unified IP Phone 6900 Firmware Upgrade from* 8.5 (x) to 9.2(1) Troubleshooting TechNote that describes how to upgrade to 9.2(1) SIP or a later firmware version at the following URL:

http://www.cisco.com/en/US/products/ps11370/products_tech_note09186a0080b82100.shtml

CSCtj88176 Default to Internal USB Key Requires User to Select External USB Key



The following procedure is applicable only to the MCS 7816-I5 server. It does not apply to the MCS 7890-C1.

Be aware that the following operations display the internal USB key "SMART" by default during the USB key process. For each scenario, you must select the external USB key for each of these components to work properly.

- License File
- Spreadsheet (for manual setup mode)
- Import Users/Phones
- Backup

• USB Country Pack

Figure 1 through Figure 4 show examples in which the internal USB key "SMART" is selected by default. In these examples, the user selects the external USB key "Kingston."



The name of the external USB key depends on the type of USB key that you have.

Figure 1 Internal USB Key Displayed While License Is Copied

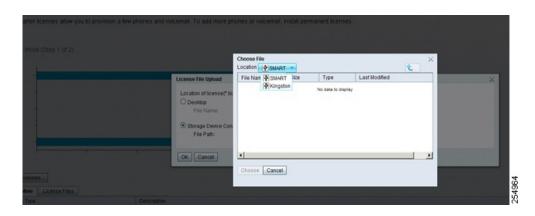


Figure 1 shows that by default the internal USB key is displayed while the license file is copied. Select the external USB key to copy the license file.

Figure 2 Internal USB Key Displayed While Spreadsheet Is Copied

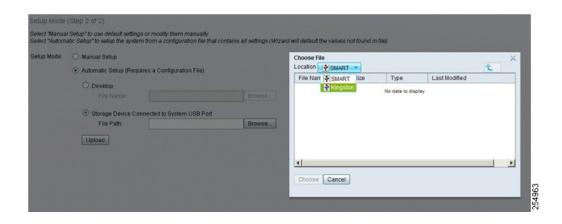


Figure 2 shows that by default the internal USB key is displayed while the configuration spreadsheet is copied. Select the external USB key to copy the configuration spreadsheet.

All Marketing Users Users Users Users Users Users Interfactors Users Interfactors Users Interfactors Prioris Bogestments Interfactors Prioris Profiles Prioris Replicators Prioris Replicators Interfactors Prioris Replicators First Name Users Interfactors And Lass Import Users/Phones Import Users/Phones

Figure 3 Internal USB Key Displayed for Users/Phones Operation

Figure 3 shows that by default the internal USB key is displayed for the Users/Phones operation. Select the external USB key to copy the Users/Phones information.

Figure 4 Internal USB Key Displayed During Backup Operation

B Monitoring	Maintenance > Backup						
💡 Users/Phones	Backup						
System Settings Maintenance Manage Licenses Upgrade	Save backup file to: Storage device connect Directory	ed to system USB port	Brown	10			
Restore Configuration Export Restart/Shutdown	O SFTP server	Choose Folder	n. * .		Ť	×	
	* Usemanie * Password	File Name		Type Folder	Last Modified 2010 Sep 08 18:19:32	-	
	Directory	Phones		Folder	2010 Sep 16 18:27:36 2010 Sep 21 19:17:52	10	
	Run Backup	= 9_27_2010 = css	32 KB 32 KB	Folder	2010 Sep 27 18:15:38 2010 Nov 02 02:37:20		
	13 m	and the second	33 UR	Faldes	2010 10-02 02 02 10		

Figure 4 shows that by default the internal USB key is displayed during a backup operation. Select the external USB key for a backup operation.

CD/DVD USB Drive Support for Cisco Unified Communications Manager Business Edition 3000 8.6(2a)

The Cisco MCS 7890-C1 requires an external USB 2.0 CD/DVD drive for reimaging or performing a server recovery. The following drives have been tested and are compatible with the Cisco MCS 7890-C1:

- Sony DRX-530UL
- Iomega CDDVD522416EC3
- Samsung DRX-S70
- Sony DRX-840

You can use other USB CD/DVD drive models, provided they meet the following specifications:

- Up to 52x24x52x write/rewrite/read CD speeds
- Up to 16x DVD-ROM read speeds
- USB 2.0 interface
- External power supply
- Support Dual-Layer DVD

Telnet Limitation for Cisco Unified SIP Phone 3905

Cisco Unified Communications Manager Business Edition 3000 does not support the use of Telnet to connect to the Cisco Unified SIP Phone 3905 while troubleshooting and during phone maintenance.

Call Pickup Feature Limitation

Call Pickup allows you to answer a call that is ringing on a coworker's phone by redirecting the call to your phone. Cisco Unified Communications Manager Business Edition 3000 supports only the Directed Call Pickup feature on Cisco Unified SIP Phone 3905.

CSCtq34429 FTS spreadsheet upload failed with error message though fills all details

When you use the data configuration file, which is a Cisco-provided .xls spreadsheet template, for automatic setup during the Cisco Unified Communications Manager Business Edition 3000 First Time Setup Wizard, the system automatically uses the default values for settings that are not mandatory in the file. In rare cases, the spreadsheet upload fails without showing any error notifications. The spreadsheet upload failure can have various causes—for example, incorrect configuration settings in multiple FTS pages.



Cisco Unified Communications Manager Business Edition 3000 does not check the integrity of the configuration data until after the Cisco-provided .xls data configuration file is inserted into the system.

For the automatic setup to succeed, you must review and update the settings in the FTS file and try uploading the spreadsheet again. The following are a few examples of FTS settings that can get configured incorrectly:

- Network tab—Invalid inputs for IP Address(System), IP Address(Media Resource), Subnet Mask, or Default Gateway.
- PSTN Gateway tab—Invalid inputs for Line Coding and Framing—One of these or both the ports (Port 0/0/0 and Port 1).
- Dial Plan tab—Invalid inputs for Operator Dial Code, Outside Dial Code, Feature Dial Code, or Interdigit Timeout.
- Sites tab—Invalid Local Area Codes for Central Sites. Make sure that you add appropriate values for Additional Emergency Services and Emergency Location ID Numbers; else, keep these fields empty.

CSCts28780 No MWI indication on Webex Connect softphone (Cisco Unified Communications Manager Business Edition 3000)

Cisco Unified Communications Manager Business Edition 3000 supports the Cisco UC Integration for Cisco WebEx Connect Administration Tool, which enables administrators to monitor, manage, control, and enhance user access to Cisco WebEx Connect.

Note

Cisco Unified Communications Manager Business Edition 3000 does not support the Message Waiting Indicator (MWI) feature that notifies the user when a new voice message is delivered.

Caveats

The following sections contain information on how to obtain the latest resolved caveat information and latest open caveat information for bugs of severity levels 1, 2, and 3.

Caveats describe unexpected behavior for Cisco Unified Communications Manager Business Edition 3000. Severity 1 caveats represent the most serious caveats, severity 2 caveats represent less serious caveats, and severity 3 caveats represent moderate caveats.

See the following sections:

- Using Bug Toolkit, page 11
- Resolved Caveats, page 12
- Open Caveats, page 12

Using Bug Toolkit

You can search for the latest resolved and open caveats by using the Cisco Software Bug Toolkit. To access the Cisco Software Bug Toolkit, you need the following items:

- Internet connection
- Web browser
- · Cisco.com user ID and password

To use the Cisco Software Bug Toolkit, perform the following procedure:

Access the Cisco Software Bug Toolkit at http://tools.cisco.com/Support/BugToolKit.
Log in with your Cisco.com user ID and password.
If you are looking for information about a specific problem, enter the bug ID number in the Search for Bug ID field, and click Go .

Tip Click Help on the Bug Toolkit page for information about how to search for bugs, create saved searches, and create bug groups.

Resolved Caveats

These release notes do not list the resolved caveats because Cisco Software Bug Toolkit provides the latest list of resolved and open caveats. You can find the latest resolved caveat information by using the Cisco Software Bug Toolkit, as described in the "Using Bug Toolkit" section on page 11.

Open Caveats

These release notes list the caveats that are open as of October 7, 2011. These release notes contain descriptions of the following:

- All severity level 1 or 2 caveats
- Significant severity level 3 caveats



Because caveat status continually changes, be aware that the Table 3, "Open Caveats for Cisco Unified Communications Manager Business Edition 3000 Release 8.6(2a) as of October 7, 2011" reflects a snapshot of the caveats that were open at the time this report was compiled. For an updated view of open caveats, access Bug Toolkit and follow the instructions described in the "Using Bug Toolkit" section on page 11.

 Table 3
 Open Caveats for Cisco Unified Communications Manager Business Edition 3000 Release 8.6(2a) as of

 October 7, 2011
 October 7, 2011

Identifier	Component	Headline
CSCtn13200	sa-fxn	When DSP is configured with a new IP, old IP is still pingable
CSCto94883 sa-gateway Notify user to configure Cis PSTN Connection Wizard		Notify user to configure Cisco ISR 2901 at the end of PSTN Connection Wizard
CSCtq48318	sa-gateway	PSTN Gateway port 1 is out of service
CSCtr19541	sa-maintenance	License Report page does not display status of installed license

Identifier	Component	Headline				
CSCtr72226	sa-docs	Troubleshooting page does not open when system voltage goes out of threshold				
CSCtr79960	sa-localpstn	CDR record type for emergency number is showing as ON Net				
CSCtr84902	sa-platform	Generated log file does not close off current ccm sdi gzo log file				
CSCts30850	sa-day1wizard	IE8:FTS:5XX Server Error:VerifyServerSideSetup when does Assume Control				
CSCts37514	sa-callp	Australian Country Pack—Announcements are in US English, not in Australian English				
CSCts37516	sa-callp	FTS pages for the new features are not localized				
CSCts41849	sa-callp	Volaris Blind Transfer of PSTN T1 CAS call back to PSTN fails				
CSCts45514	sa-fxn	While FGA port1 resets, PSTN calls via port0 fails with protocol error				
CSCts51705	sa-fxn	Stress tests sometimes makes DSP CONN FAIL and then FGA reset				
CSCts52165	sa-gateway	Port1 cannot be deleted, and shows incorrect device name "S0/SU0/DS1-1"				
CSCts53320	sa-day1wizard	Error during FTS with multi-site when timezone is either Asia or Kolkata				
CSCts55409	sa-day1wizard	Issues with FTS Spreadsheet				
CSCts57986	sa-serviceability	Few texts in Diagnostic pages are not localized				

Open Caveats for Cisco Unified Communications Manager Release 8.6(2a)

Open caveats for Unified CM Release 8.6(2a) also describe possible unexpected behaviors in the Cisco Unified Communications Manager Business Edition 3000. So, all the open caveats that apply to the Unified CM apply to the Cisco Unified Communications Manager Business Edition 3000 as well.

For information on the list of open caveats for Unified CM, see the release notes for Cisco Unified Communications Manager at the following URL:

http://www.cisco.com/en/US/docs/voice_ip_comm/cucm/rel_notes/8_6_2/cucm-rel_notes-862a.html

Documentation Updates

The Documentation Updates section contains information on errors, omissions, and changes for the *Administration Guide for Cisco Unified Communications Manager Business Edition 3000* and online help. See the following sections:

- CSCto58908—Alarm on Health Summary when Channels Are not Configured on PSTN, page 14
- CSCts02379—Unable to See Troubleshooting Information when Fan Speed Goes Out of Threshold, page 14

Γ

CSCto58908—Alarm on Health Summary when Channels Are not Configured on PSTN

The English, Mandarin, German, Italian, Portuguese, Spanish, and French online help for Cisco Unified Communications Manager Business Edition 3000 Administrative Interface does not include the following troubleshooting information when the system is nearing maximum call capacity.

Description

An alarm is generated when PSTN calls utilization nears 100%. PSTN calls will not be established after utilization reaches 100% when the following situations occur:

- All the channels are busy
- The PSTN configuration settings are incorrect
- One or more channels are not functioning properly
- There is an error in the service provider settings

Resolution

Perform any of the following actions:

- Review the reports for high call volume on the Call Detail Reports page (Monitoring > Call Detail Reports).
- Reduce the number of inbound and outbound calls.
- Make sure that you select the proper channel selection order. For example, if you lease channels 1 to 15, you must have the channel selection order as top-down. If you did not lease the entire PRI span from the service provider, enter only the partial channel range that is available.

If this problem persists, contact your technical support team; for example, contact your Value Added Reseller (VAR), or if you are the Value Added Reseller, contact the Cisco Technical Assistance Center (TAC).

CSCts02379—Unable to See Troubleshooting Information when Fan Speed Goes Out of Threshold

The system fan is not operating properly and the system must be powered down and then restarted.

Description

The system fan is not operating properly.

Resolution

Restart the server. (Select Maintenance > Restart/Shutdown.)

Obtaining Documentation and Submitting a Service Request

For information on obtaining documentation, submitting a service request, and gathering additional information, see the monthly *What's New in Cisco Product Documentation*, which also lists all new and revised Cisco technical documentation, at

http://www.cisco.com/en/US/docs/general/whatsnew/whatsnew.html

Subscribe to the *What's New in Cisco Product Documentation* as a Really Simple Syndication (RSS) feed and set content to be delivered directly to your desktop by using a reader application. Be aware that the RSS feeds are a free service, and Cisco currently supports RSS Version 2.0.

Cisco and the Cisco Logo are trademarks of Cisco Systems, Inc. and/or its affiliates in the U.S. and other countries. A listing of Cisco's trademarks can be found at www.cisco.com/go/trademarks. Third party trademarks mentioned are the property of their respective owners. The use of the word partner does not imply a partnership relationship between Cisco and any other company. (1005R)

Any Internet Protocol (IP) addresses and phone numbers used in this document are not intended to be actual addresses and phone numbers. Any examples, command display output, network topology diagrams, and other figures included in the document are shown for illustrative purposes only. Any use of actual IP addresses or phone numbers in illustrative content is unintentional and coincidental.

© 2011 Cisco Systems, Inc. All rights reserved

Γ

