

Release Notes for Cisco Unified Business/Department Attendant Console Version 8.6.2.20

Revised: July 12th, 2013, OL-20136-01

These release notes describe the new features and caveats for Cisco Unified Business/Department Attendant Console version 8.6.2.20

For a list of the resolved caveats for the Cisco Unified Business/Department Attendant Console see Resolved Caveats - Version 8.6.2.20 on Page 13, and Open Caveats - Version 8.6.2.20 on Page 16

You can access the most current Cisco documentation at this URL:

http://www.cisco.com/techsupport

You can access the Cisco website at this URL:

http://www.cisco.com

You can access international Cisco websites at this URL:

http://www.cisco.com/public/countries_languages.shtml



Contents

Introduction	2
Performance Information	2
Product Feature Table	3
Server Requirements	6
Client Requirements	11
Software Compatibility	12
Installation Instructions	12
New and Changed Information	12
Caveats	13
Resolved Caveats - version 8.6.2.20	14
Open Caveats - version 8.6.2.20	16
Software	16
Related Documentation	16
Software Documents	16
Obtaining Documentation, Obtaining Support, and Security	17
Cisco Product Security Overview	17

Introduction

Cisco Unified Business/Department Attendant Console is an efficient application specially designed for handling calls and messages. This application enables you to answer calls from predefined set of queues and transfer them to desired extensions.

The application enables you to perform comprehensive tasks like Call Conference, Call Transfer, Call Parking and Call Retrievals. The user-friendly design of the application gives speed and flexibility and facilitates you to manipulate calls with simple mouse clicks or keystrokes.

Further detailed information can be obtained from the related documents, See "Related Documentation" on page 16

Performance Information

Performance of Cisco Unified Business/Department Attendant Console can be measured in several ways,

- 1. Number of Operators
- 2. Number of Contacts Supported
- 3. Number of Console Queues
- **4.** Busy Hours Call Completions (BHCC)

Table 1-1 shows the performance of Cisco Unified Business/Department Attendant Console

Performance Item	Maximum numbers with Cisco Unified Business Attendant Console	Maximum numbers with Cisco Unified Department Attendant Console
Number of Attendant Consoles	6	10
Number of Contacts Supported	500	750
Number of Console Queues	3	5
Busy Hours Call Completions (BHCC)	500	1000

Product Feature Table

The following table displays a break down by feature of the following products.

- Cisco Unified Department Attendant Console (CUDAC)
- Cisco Unified Business Attendant Console (CUBAC)
- Cisco Unified Enterprise Attendant Console (CUEAC)

The symbols denote the level of support within the product :
= Supported, = Partial Support, = Unsupported

Table 1-2 Product Feature table

Feature	CUDAC	CUBAC	CUEAC
Installation	Web & Wizard	Web & Wizard	Web & Wizard
Configuration	Browser	Browser	Browser
Queue Features			
Queues supported	1 per instance (5 instances on a server)	• 3	• 50
Configurable queue names and priority	0	•	•
Show all calls in all queues option	0	•	•
Queue salutations	0	0	•
Show & pick calls from each queue	•	•	•
Queue wait time overflow	0	•	•

Table 1-2 Product Feature table

Feature	CUDAC	CUBAC	CUEAC
Queue limit overflow (number of calls)	•	•	•
Operator overflow (no operators)	•	•	•
Queue overflow destinations supported	•	•	•
Overflow options	•	•	•
Music in queue	0	•	•
Operator handset ringing	•	•	•
Service options			
Emergency mode switch	0	•	•
Emergency mode destination	0	•	•
Night service switch	0	•	•
Night service hours/timing	0	•	•
Night service destination	0	•	•
Directory features			
Directory size supported	150 per instance (5 instances on a server)	500	Entire UCM End User directory
Search fields	3	4	6
Mobile number support	•	•	•
Personal directory group support	•	•	•
Speed dials	•	•	•
Alternative number search (hotkey)	•	•	•
AND searching	•	•	•

Table 1-2 Product Feature table

Feature	CUDAC	CUBAC	CUEAC
Alternate contacts search	0	0	•
Cross-tab searching	0	0	•
Notes against person	•	•	•
Presence / Status features			
Busy Lamp Fields / phone status supported	•	•	•
Presence integration with Cisco Unified Presence 7.0, 8.0, 8.5 and 8.6	•	•	•
Presence integration with Microsoft OCS	•	•	•
Telephony features			
Transfer reversion (call recall)	•	•	•
Hold recall	•	•	•
Call toggle	•	•	•
Camp on	0	0	•
Call hold with notes	0	0	•
Undirected call park (finds first slot)	•	•	•
Directed call park (to specific Park location)	•	•	•
Call hold	•	•	•
Park recall	•	•	•
Transfer	•	•	•
Conference	•	•	•

Table 1-2 Product Feature table

Feature	CUDAC	CUBAC	CUEAC
System features			
Number of concurrent client logins	2 per instance (5 instances on a server)	6	25
Keyboard driven	•	•	•
System logging	•	•	•
System reports	0	•	•
VMware ESXi 4 and ESXi 4.1 support	•	•	•
Cisco Unified Communications Manager Supported			
Cisco Unified Communications Manager versions supported	7.1, 8.0, 8.5, 8.6	7.1, 8.0, 8.5, 8.6	7.1, 8.0, 8.5, 8.6
Localization and accessibility			
Languages supported	15	15	15
Accessibility support (with JAWS script)	•	•	•

Legend:
Supported, Partial Support, O = Unsupported

Core Languages

The attendant console client, Help file and User Guide document are translated into the following fifteen languages: English, French, Italian, German, Spanish, Portugese, Chinese (simpl), Chinese (trad.), Japanese, Korean, Arabic, Dutch, Swedish, Russian & Danish

Server Requirements

Cisco Unified Business/Department Attendant Console server is supported in a production environment on either a physical server or in a VMware environment compliant with Cisco's Specification-based Hardware Support program. See details for Specification-based Hardware Support program at

http://docwiki.cisco.com/wiki/Specification-Based_Hardware_Support

Physical Server

The minimum hardware and software required to run Cisco Unified Business/Department Attendant Console server on a physical server are:

Physical Serve	r
Applies To	Minimum Requirements
Hardware	2.2 GHz Pentium 4 processor
	4 GB RAM
	72 GB of available hard disk space
	Network card, connected to the network using TCP/IP
	NOTES
	NIC teaming is not supported
	• Cisco Unified Business/Department Attendant Console server is not supported in a production environment if running on a desktop PC
Software	One of the following operating systems, with Windows regional settings set to English:
	• Windows Server 2003 SP2 (32-bit)
	• Windows Server 2008 R1 (32-bit)
	For non-English characters, the relevant language pack for the locale installed
	Internet Information Services (IIS) 6.0 or later
	ASP.NET - installed via Add/Remove Windows Component > Applications Server and Details
	.Net Framework 3.5 SP1
	One of the following databases:
	Microsoft SQL Server 2005 Express, Standard or Enterprise
	Microsoft SQL Server 2008 Express, Standard or Enterprise
	NOTES
	Cisco Unified Business/Department Attendant Console server does not support the Cisco Media Convergence Server (MCS) version of Windows Server
	If the Cisco Unified Business/Department Attendant Console server installer does not detect a supported version of Microsoft SQL Server, it will automatically install Microsoft SQL Server 2008 Express
	 Please see the Cisco Unified Business/Department Attendant Console Web Admin & Installation Guide for server configuration details

VMware

Cisco Unified Business/Department Attendant Console server is also supported in a production environment on VMware ESXi 4.0 or ESXi 4.1 running on a host machine that is compliant with Cisco's Specifications-based Hardware Support program. See details for Specification-based Hardware Support program at

http://docwiki.cisco.com/wiki/Specification-Based_Hardware_Support



Cisco Unified Business/Department Attendant Console server is not supported in HyperV or any other virtualization products beyond VMware.

If you are deploying Cisco Unified Business/Department Attendant Console server in VMware, the VMware instance (guest machine) must meet or exceed the following minimum requirements:

VMware	
Applies To	Minimum Requirements
Virtual machine	1x vCPU unrestricted
	4 GB RAM
	40 GB of available hard disk space
	NOTE
	An OVA template configured with the above specifications is available for download from the following location:
	http://www.cisco.com/cisco/software/release.html?mdfid=282581449&flowid=26483&softwareid=283910832&release=8.6%281%29&relind=AVAILABLE&rellifecycle=&reltype=latest
Software	Windows Server 2008 R1 (32-bit), with Windows regional settings set to English
	For non-English characters, the relevant language pack for the locale installed
	Internet Information Services (IIS) 6.0 or later
	ASP.NET - installed via Add/Remove Windows Component > Applications Server and Details
	.Net Framework 3.5 SP1
	One of the following databases:
	Microsoft SQL Server 2005 Express, Standard or Enterprise
	Microsoft SQL Server 2008 Express, Standard or Enterprise
	NOTES
	Cisco Unified Business/Department Attendant Console server does not support the Cisco Media Convergence Server (MCS) version of Windows Server
	If the Cisco Unified Business/Department Attendant Console server installer does not detect a supported version of Microsoft SQL Server, it will automatically install Microsoft SQL Server 2008 Express
	Please see the Cisco Unified Business/Department Attendant Console Web Admin & Installation Guide for server configuration details

Additional Server Considerations

SQL

Microsoft SQL Server 2008 Express contains the following limitations:

- Accesses only a single CPU
- Uses only 1 GB of RAM
- Contains a maximum database size of 4 GB

The use of Microsoft SQL Server Standard or Enterprise should be strongly considered in a Cisco Unified Business/Department Attendant Console deployment where one or more of the following are expected:

- A large number of operators more than 10
- A high call volume more than 500 calls per operator per day
- A large directory greater than 10,000 contacts

If, over time, a Cisco Unified Business/Department Attendant Console system outgrows the use of Microsoft SQL Server 2008 Express, the database may be upgraded to Microsoft SQL Server Standard or Enterprise with minimal effort.

Data Backup

As with all systems, we advise that backup facilities are provided to ensure application and data integrity should an unforeseen circumstance arise.

If possible, choose a solution that offers one-step disaster recovery, such as one that has the ability to restore the complete contents of a hard drive from a bootable floppy disk and the restore media.

Server Redundancy

It is strongly recommended that the Cisco Unified Business/Department Attendant Console server should be a redundant system with the following redundancy methods:

- Multiple hot-swap power supplies
- Hot-swap Hard Drive arrays
- UPS / power conditioners
- RAID

This is at the discretion of the customer.

Antivirus Software

There are many different antivirus products that are supported on a Cisco Unified Business/Department Attendant Console server. Supporting guidelines on antivirus software can be found on the following site:

 $http://www.cisco.com/en/US/prod/collateral/voicesw/ps6788/vcallcon/ps556/prod_bulletin0900aecd806f6221.html\\$

It is important that the antivirus product supports **exclusions** – the ability for the user to define specific files and/or folders that will NOT be scanned by the antivirus program.

The following exclusions should be set when using antivirus software on a Cisco Unified Business/Department Attendant Console server:

File Location	Use
\\DBData	This folder is where the System Configuration Databases are located
\\Program Files\Cisco\Logging	This is where all the system log files are stored
\\Temp\Cisco\Trace	This is where the Cisco TSP Trace files are located



The "File Locations" and "File Names" may be changed by your System Administrator.

The files in the above table are constantly being written to and updated during standard operation of the Cisco Unified Business/Department Attendant Console server. Due to this, these files are permanently being accessed – an antivirus "scan on access" policy for these files will mean that the files are constantly being scanned for viruses. This will, in turn, slow down the operation of the server; therefore, excluding these files from being continuously scanned will allow the server to function as expected.

Network Requirements

The following table outlines the network requirements for running Cisco Unified Business/Department Attendant Console:

Applies To	Network Specification	
All network types	The network must support TCP/IP	
	Cisco Unified Business/Department Attendant Console web administration application must run under an Administrator profile (Local Administrator is acceptable)	
Microsoft Windows network	If the network uses DHCP, then the Cisco Unified Business/Department Attendant Console server will need a static IP address allocated to it	

Client Requirements

The minimum hardware and software required to run Cisco Unified Business/Department Attendant Console client are:

Cisco Unified Business/Department Attendant Console Client			
Applies To	Minimum Requirements		
PC hardware	2.0 GHz Pentium 4 processor		
	1 GB RAM		
	1 GB of available hard disk space		
	Network card, connected to the network using TCP/IP		
	SVGA (1024x768) display card		
	17-inch or larger monitor highly recommended		
	SoundBlaster-compatible sound card and speakers highly recommended		
	Keyboard with 10-key number pad		
Software	One of the following operating systems:		
	Microsoft Windows XP Professional Service Pack 2		
	Microsoft Windows Vista Professional 32-bit		
	Microsoft Windows Vista Professional 64-bit (using WoW64 emulation)		
	Microsoft Windows 7 32-bit		
	• Microsoft Windows 7 64-bit (using WoW64 emulation)		
	NOTES		
	Please see the Cisco Unified Business/Department Attendant Console Web Admin & Installation Guide for client configuration details		
Operator phones	NOTES		
	If the operator is using a Cisco 7931 IP phone, maximum calls on the Cisco Unified Communications Manager must be set to at least two		
	• If the operator is using a Cisco 89xx or 99xx IP phone, the rollover feature must be disabled on Cisco Unified Communications Manager		

Software Compatibility

Cisco Unified Business/Department Attendant Console Version	TSP Version	Cisco Unified Communication Manager Version
8.6.2.20	7.1(5.2)	7.1(5)
	8.0(1.6)	8.0(1)
	8.0(1.6)	8.0(2C)
	8.5(1.1)	8.5(1)
	8.6(1.3)	8.6(1)
	8.6(2.2)	8.6(2)

Installation Instructions

The installation instructions for Cisco Unified Business/Department Attendant Console are covered in Chapter 4 of the Cisco Unified Business/Department Attendant Console Web Admin & Installation Guide which is available via the following address:

http://www.cisco.com/en/US/products/ps7282/prod_maintenance_guides_list.html

New and Changed Information

New Software Features in Version 8.6.2.20

Cisco Unified Business/Department Attendant Console version 8.6.2.20 is a maintenance release that resolves defects found in version 8.6.1 and previous releases. The specific defects fixed in this maintenance release are listed in the Resolved Caveats section of this document.

In addition to the resolved caveats, compatibility has been extended to include Cisco Unified Communication Manager version 8.6(2) and Cisco Unified Presence version 8.6(2)

New Software Features in Version 8.6.1

Cisco Unified Business/Department Attendant Console version 8.6.1 was a minor release and included the following new features:

- · Personal directory groups
- AND searching
- Wait time overflow (Only available in Cisco Unified Business Attendant Console)
- Assign operators to queues (Only available in Cisco Unified Business Attendant Console)
- Support for VMware ESXi 4.0 and 4.1
- Console client upgrade enhancement to retain user settings
- Device template enhancement to include or exclude call forwarding

- Support for JAWS 10, 11 and 12 accessibility software
- Support for Cisco Unified Presence versions 7.0, 8.0, 8.5 and 8.6
- Support for Cisco Unified Communications Manager versions 7.1(5) through 8.6(1)

Caveats

This section contains these topics:

- Resolved Caveats Version 8.6.2.20 on Page 13
- Open Caveats Version 8.6.2.20 on Page 16

Resolved Caveats - Version 8.6.2.20

Table 3 lists Caveats that have been resolved in Cisco Unified Business/Department Attendant Console version 8.6.2.20

The following table shows a list of caveats that have been found during testing.

Table 3 Resolved Caveats for Cisco Unified Business/Department Attendant Console version 8.6.2.20

Bug ID	Description
CSCtq86280	Installation doc needs to specify user to login as local admin
	http://tools.cisco.com/Support/BugToolKit/search/getBugDetails.do?method=fetchBugDetails&bugId=CSCtq86280
CSCtu13524	SQL exceptions cause memory leak in CT Server
	http://tools.cisco.com/Support/BugToolKit/search/getBugDetails.do?method=fetchBugDetails&bugId=CSCtu13524
CSCtu13548	Contact Lookup
	http://tools.cisco.com/Support/BugToolKit/search/getBugDetails.do?method=fetchBugDetails&bugId=CSCtu13548
CSCtu13766	SQL exceptions - LDAP
	http://tools.cisco.com/Support/BugToolKit/search/getBugDetails.do?method=fetchBugDetails&bugId=CSCtu13766
CSCts08784	Application User must be created as part of upgrade
	http://tools.cisco.com/Support/BugToolKit/search/getBugDetails.do?method=fetchBugDetails&bugId=CSCts08784
CSCts29555	Password not set correctly on creation of new user
	http://tools.cisco.com/Support/BugToolKit/search/getBugDetails.do?method=fetchBugDetails&bugId=CSCts29555
CSCts29046	Custom Added Contacts into Custom group disappear in CUxAC
	http://tools.cisco.com/Support/BugToolKit/search/getBugDetails.do?method=fetchBugDetails&bugId=CSCts29046
CSCtu13556	Operator is unable to answer calls
	http://tools.cisco.com/Support/BugToolKit/search/getBugDetails.do?method=fetchBugDetails&bugId=CSCtu13556

CSCtu13572	Operator Resize Problem on Windows 7
	http://tools.cisco.com/Support/BugToolKit/search/getBugDetails.do?method=fetchBugDetails&bugId=CSCtu13572
CSCtu13583	When pressing F2 for alternate contacts the top contact number is highlighted
	http://tools.cisco.com/Support/BugToolKit/search/getBugDetails.do?method=fetchBugDetails&bugId=CSCtu13583
CSCtu13601	User Name and Password Felds are Pre Filled on adding new operator
	http://tools.cisco.com/Support/BugToolKit/search/getBugDetails.do?method=fetchBugDetails&bugId=CSCtu13601
CSCtu13619	Old Password is not removed
	http://tools.cisco.com/Support/BugToolKit/search/getBugDetails.do?method=fetchBugDetails&bugId=CSCtu13619
CSCtu13634	Installation document does not explain how to configure product under accessibility
	http://tools.cisco.com/Support/BugToolKit/search/getBugDetails.do?method=fetchBugDetails&bugId=CSCtu13634
CSCtu13643	Call Park Devices Out of Service
	http://tools.cisco.com/Support/BugToolKit/search/getBugDetails.do?method=fetchBugDetails&bugId=CSCtu13643
CSCtu13661	Console Queue order
	http://tools.cisco.com/Support/BugToolKit/search/getBugDetails.do?method=fetchBugDetails&bugId=CSCtu13661
CSCtu13681	CTI Route Point deregisters, which causes the calls into that queue to ring busy
	http://tools.cisco.com/Support/BugToolKit/search/getBugDetails.do?method=fetchBugDetails&bugId=CSCtu13681
CSCtu13698	Memory Spike on a load in CTI Server
	http://tools.cisco.com/Support/BugToolKit/search/getBugDetails.do?method=fetchBugDetails&bugId=CSCtu13698
CSCtu13740	CTI Server stopping the display of BLF intermittently.
	http://tools.cisco.com/Support/BugToolKit/search/getBugDetails.do?method=fetchBugDetails&bugId=CSCtu13740
CSCtu13756	Cisco presence status disappear from full directory, but its visible on F2 screen.
	http://tools.cisco.com/Support/BugToolKit/search/getBugDetails.do?method=fetchBugDetails&bugId=CSCtu13756
CSCtu13780	Switching between the Personal Directory Tab is inconsistent with JAWS speech
	http://tools.cisco.com/Support/BugToolKit/search/getBugDetails.do?method=fetchBugDetails&bugId=CSCtu13780
CSCtu13787	Inconsistencies under JAWS when user does a search. It returns incorrect number
	http://tools.cisco.com/Support/BugToolKit/search/getBugDetails.do?method=fetchBugDetails&bugId=CSCtu13787
CSCtu13793	No Message is played when search does not return any contact
	http://tools.cisco.com/Support/BugToolKit/search/getBugDetails.do?method=fetchBugDetails&bugId=CSCtu13793

CSCuc01775	Issue with BLF status within console when using EM extensions: CUBAC:8.6.2.11
	http://tools.cisco.com/Support/BugToolKit/search/getBugDetails.do?method=fetchBugDetails&bugId=CSCuc01775
CSCuc68884	Operator randomly does not get its custom directory tabs in the operator client
	http://tools.cisco.com/Support/BugToolKit/search/getBugDetails.do?method=fetchBugDetails&bugId=CSCuc68884
CSCuc69055	CUEAC Client locks up. CUEAC 8.6.2.11
	http://tools.cisco.com/Support/BugToolKit/search/getBugDetails.do?method=fetchBugDetails&bugId=CSCuc69055
CSCtq57447	Issue with BLF status within console when using EM extensions: CUBAC:8.6.2.11
	http://tools.cisco.com/Support/BugToolKit/search/getBugDetails.do?method=fetchBugDetails&bugId=CSCtq57447
CSCuc46791	CUBAC default contact field mapping error RQST134503
	http://tools.cisco.com/Support/BugToolKit/search/getBugDetails.do?method=fetchBugDetails&bugId=CSCuc46791
CSCug98515	Transfer to Voicemail option grays out
	http://tools.cisco.com/Support/BugToolKit/search/getBugDetails.do?method=fetchBugDetails&bugId=CSCug98515
CSCug98552	DPI causes ARC GUI to display text setting incorrectly and does not minimization of application
	http://tools.cisco.com/Support/BugToolKit/search/getBugDetails.do?method=fetchBugDetails&bugId=CSCug98552
CSCtw72622	CSCtw72622: Attendant Console is not popup, when second call comes
	http://tools.cisco.com/Support/BugToolKit/search/getBugDetails.do?method=fetchBugDetails&bugId=CSCtw72622
CSCuh00950	Bug: Ctrl+M subject truncated
	http://tools.cisco.com/Support/BugToolKit/search/getBugDetails.do?method=fetchBugDetails&bugId=CSCuh00950
CSCuh00968	Operator Application POPs when working in another application
	http://tools.cisco.com/Support/BugToolKit/search/getBugDetails.do?method=fetchBugDetails&bugId=CSCuh00968
CSCuh01312	telephony service crashed
	http://tools.cisco.com/Support/BugToolKit/search/getBugDetails.do?method=fetchBugDetails&bugId=CSCuh01312
CSCtr89082	Custom CUPC/Jabber Status is not always displayed on the CUEAC client PC's
	http://tools.cisco.com/Support/BugToolKit/search/getBugDetails.do?method=fetchBugDetails&bugId=CSCtr89082

CSCtr89082	Arc Operator Console where the 'Info' field from Cisco Presence is not always populating
	http://tools.cisco.com/Support/BugToolKit/search/getBugDetails.do?method=fetchBugDetails&bugId=CSCtr89082
CSCuh01519	Alternates details show no data if only icon fields are chosen
	http://tools.cisco.com/Support/BugToolKit/search/getBugDetails.do?method=fetchBugDetails&bugId=CSCuh01519

Open Caveats - Version 8.6.2.20

Table 4 lists Caveats that are Open in Cisco Unified Business/Department Attendant Console v8.6.2.20 The following table shows a list of caveats that have been found during testing.

Table 4 Open Caveats for Cisco Unified Business/Department Attendant Console - v8.6.2.20

Application	Description
CSCuh35880	Unable to sync full directory with CUEAC
	http://tools.cisco.com/Support/BugToolKit/search/getBugDetails.do?method=fetchBugDetails&bugId=CSCuh35880

Software

The Cisco Unified Business/Department Attendant Console software can be downloaded from the following website:

http://www.cisco.com/go/ac

Related Documentation

Software Documents

The documents related to this product include:

- Cisco Unified Business/ Department/ Enterprise Attendant Console Design Guide
- Cisco Unified Business/Department Attendant Console User Guide
- Cisco Unified Business/Department Attendant Console Web Admin and Installation Guide

The latest documents may be found at:

http://www.cisco.com/en/US/products/ps7282/tsd_products_support_series_home.html

Obtaining Documentation, Obtaining Support, and Security

For information on obtaining documentation, obtaining support, providing documentation feedback, security guidelines, and also recommended aliases and general Cisco documents, 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

Cisco Product Security Overview

This product contains cryptographic features and is subject to United States and local country laws governing import, export, transfer and use. Delivery of Cisco cryptographic products does not imply third-party authority to import, export, distribute or use encryption. Importers, exporters, distributors and users are responsible for compliance with U.S. and local country laws. By using this product you agree to comply with applicable laws and regulations. If you are unable to comply with U.S. and local laws, return this product immediately.

A summary of U.S. laws governing Cisco cryptographic products may be found at: http://www.cisco.com/wwl/export/crypto/tool/stqrg.html. If you require further assistance please contact us by sending email to export@cisco.com. This document is to be used in conjunction with the documents listed in the "Related Documentation" section.

CCDE, CCENT, CCSI, Cisco Eos, Cisco HealthPresence, Cisco Ironport, the Cisco Iogo, Cisco Lumin, Cisco Nexus, Cisco Nurse Connect, Cisco Stackpower, Cisco StadiumVision, Cisco TelePresence, Cisco Unified Computing System, Cisco WebEx, DCE, Flip Channels, Flip for Good, Flip Mino, Flip Video, Flip Video (Design), Flipshare (Design), Flip Ultra, and Welcome to the Human Network are trademarks; Changing the Way We Work, Live, Play, and Learn, Cisco Store, and Flip Gift Card are service marks; and Access Registrar, Aironet, AsyncOS, Bringing the Meeting To You, Catalyst, CCDA, CCDP, CCIE, CCIP, CCNA, CCNP, CCSP, CCVP, Cisco, the Cisco Certified Internetwork Expert Iogo, Cisco IOS, Cisco Press, Cisco Systems, Cisco Systems Capital, the Cisco Systems logo, Cisco Unity, Collaboration Without Limitation, EtherFast, EtherSwitch, Event Center, Fast Step, Follow Me Browsing, FormShare, GigaDrive, HomeLink, Internet Quotient, IOS, iPhone, iQuick Study, IronPort, the IronPort logo, LightStream, Linksys, MediaTone, MeetingPlace, MeetingPlace Chime Sound, MGX, Networkers, Networking Academy, Network Registrar, PCNow, PIX, PowerPanels, ProConnect, ScriptShare, SenderBase, SMARTnet, Spectrum Expert, StackWise, The Fastest Way to Increase Your Internet Quotient, TransPath, WebEx, and the WebEx logo are registered trademarks of Cisco Systems, Inc. and/or its affiliates in the United States and certain other countries.

All other trademarks mentioned in this document or website 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. (0907R)

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

© 2010 Cisco Systems, Inc. All rights reserved.

Printed in the USA on recycled paper containing 10% postconsumer waste.