



Release Notes for Cisco Unity Connection Release 9.1(1) and 9.1(1a)

Published September 5, 2013

These release notes contain information on downloading software, new and changed support, new and changed functionality, limitations and restrictions, caveats, and documentation updates for Cisco Unity Connection Release 9.1(1) and 9.1(1a) and for Unity Connection in Cisco Unified Communications Manager Business Edition 6000 (CMBE 6000) Release 9.1(1) and 9.1(1a).



Note

Cisco Unity Connection is a Linux-based solution. It is available in two configurations—Cisco Unity Connection, and Cisco Unified Communications Manager Business Edition, in which Unity Connection is preloaded on the same platform with Cisco Unified Communications Manager. These release notes contain information for both configurations.

Cisco Unity Connection 9.1(1a) contains fixes and changes to the operating system and/or Cisco Unified Communications Manager 9.1(1a) application components, including components shared by Connection and Cisco Unified CM.

Note the following information:

- Throughout this document, references to 9.1(1) also apply to 9.1(1a), unless otherwise noted.
- Anything documented as compatible with Connection 9.1(1)—for example, versions and tools, and other Cisco products—are equally compatible with 9.1(1a).
- For more information, see the [“Cisco Unity Connection 9.1\(1a\)” section on page 5](#).



Note

Items in release notes may be added, or revised to correct or clarify information after the initial publication date (the date the software was released). When an item has been changed, the phrase “Added <date>” or “Revised <date>” is included in the text of an item.



Americas Headquarters:
Cisco Systems, Inc., 170 West Tasman Drive, San Jose, CA 95134-1706 USA

Contents

- [System Requirements, page 2](#)
- [Related Documentation, page 4](#)
- [New and Changed Requirements and Support—Release 9.1\(1\), page 4](#)
- [New Functionality—Release 9.1\(1\), page 6](#)
- [Changed Functionality—Release 9.1\(1\), page 9](#)
- [Installation and Upgrade Information, page 9](#)
- [Migration Information, page 19](#)
- [Limitations and Restrictions, page 19](#)
- [Caveats, page 21](#)
- [Obtaining Documentation and Submitting a Service Request, page 23](#)
- [Cisco Product Security Overview, page 23](#)

System Requirements

For Cisco Unity Connection

System Requirements for Cisco Unity Connection Release 9.x contains the most current Unity Connection requirements. The document is available at http://www.cisco.com/en/US/docs/voice_ip_comm/connection/9x/requirements/9xcucsysreqs.html.

For Cisco Unity Connection in Cisco Unified CMBE

System Requirements for Cisco Unity Connection in Cisco Unified CMBE Release 9.x contains the most current Unity Connection requirements. The document is available at http://www.cisco.com/en/US/docs/voice_ip_comm/connection/9x/requirements/9xcucmbesysreqs.html.

Compatibility Information

The following documents list the most current version combinations qualified for use with Cisco Unity Connection and Unity Connection in Cisco Unified CMBE (where applicable):

- *Compatibility Matrix: Cisco Unity Connection and the Software on User Workstations*
- *SCCP Compatibility Matrix: Cisco Unity Connection, Cisco Unified Communications Manager, and Cisco Unified Communications Manager Express*
- *SIP Trunk Compatibility Matrix: Cisco Unity Connection, Cisco Unified Communications Manager, and Cisco Unified Communications Manager Express*

The documents are available on Cisco.com at http://www.cisco.com/en/US/products/ps6509/products_device_support_tables_list.html.

Determining the Software Version

This section contains procedures for determining the version in use for the following software:

- [Cisco Unity Connection Application and Cisco Unity Connection SRSV Application, page 3](#)
- [Cisco Personal Communications Assistant Application, page 3](#)
- [Cisco Unified Communications Operating System, page 3](#)

Cisco Unity Connection Application and Cisco Unity Connection SRSV Application

This section contains two procedures. Use the applicable procedure, depending on whether you want to use Connection Administration or a command-line interface session to determine the version.

To Determine the Version of the Unity Connection Application by Using Cisco Unity Connection Administration

-
- Step 1** In Cisco Unity Connection Administration, in the upper-right corner below the Navigation list, select **About**.

The Unity Connection version is displayed below “Cisco Unity Connection Administration”.

To Determine the Version of the Unity Connection Application by Using the Command-Line Interface

-
- Step 1** Start a command-line interface (CLI) session. (For more information, see the Cisco Unified Communications Operating System Administration Help.)
- Step 2** Run the **show cuc version** command.
-

Cisco Personal Communications Assistant Application

To Determine the Version of the Cisco Personal Communications Assistant (PCA) Application

-
- Step 1** Sign in to the Cisco PCA.
- Step 2** On the Cisco PCA Home page, select **About** in the upper right corner. (The link is available on every Cisco PCA page.)
- Step 3** The Cisco Unity Connection version is displayed. The Cisco PCA version is the same as the Unity Connection version.
-

Cisco Unified Communications Operating System

This section contains two procedures. Use the applicable procedure, depending on whether you want to use Cisco Unified Operating System Administration or a command-line interface session to determine the version.

To Determine the Version of the Cisco Unified Communications Operating System by Using Cisco Unified Operating System Administration

- Step 1** In Cisco Unified Operating System Administration, the System Version is displayed below “Cisco Unified Operating System Administration” in the blue banner on the page that appears after you sign in.

To Determine the Version of the Cisco Unified Communications Operating System by Using the Command-Line Interface

- Step 1** Start a command-line interface (CLI) session. (For more information, see Cisco Unified Operating System Administration Help.)
- Step 2** Run the **show version active** command.

Related Documentation

For Cisco Unity Connection

For descriptions and URLs of Cisco Unity Connection documentation on Cisco.com, see the *Documentation Guide for Cisco Unity Connection Release 9.x*. The document is shipped with Unity Connection and is available at http://www.cisco.com/en/US/docs/voice_ip_comm/connection/9x/roadmap/9xcucdg.html.

For Cisco Unified Communications Manager Business Edition



Note

Content in these release notes refers to “Cisco Unified Communications Manager Business Edition” also. However, it does not apply to Business Edition 3000 and Business Edition 5000.

For descriptions and URLs of Cisco Unified Communications Manager Business Edition documentation on Cisco.com, see the *Cisco Unified Communications Manager Business Edition Documentation Guide*. The document is shipped with Cisco Unified CMBE and is available at http://www.cisco.com/en/US/products/ps7273/products_documentation_roadmaps_list.html.



Note

The documentation links on Cisco.com for some Cisco Unity Connection in Cisco Unified CMBE 9.x, go to documents that are labeled for Cisco Unity Connection Release 9.x. Despite the version label, content in those documents applies to both Unity Connection configurations.

New and Changed Requirements and Support—Release 9.1(1)

This section contains information about new and changed requirements and support in the 9.1(1) release.

(For information on new and changed requirements and support in earlier versions of Cisco Unity Connection, see the applicable release notes at http://www.cisco.com/en/US/products/ps6509/prod_release_notes_list.html. Release notes for Cisco Unified Communications Manager Business Edition are available at http://www.cisco.com/en/US/products/ps7273/prod_release_notes_list.html.)

Cisco Unity Connection 9.1(1a)

Cisco Unity Connection 9.1(1a) contains fixes and changes to the operating system and/or Cisco Unified Communications Manager 9.1(1) application components, including components shared by Unity Connection and Cisco Unified CM.

The shipping DVD and the DVD image available on the Cisco Unity Connection 9.1 Software Download page on Cisco.com have been updated with release 9.1(1a).

For related information, see the following sections in these release notes:

- “Supported Cisco Unity Connection Upgrades” section on page 14
- “Related Caveats—Cisco Unified Communications Manager 9.1(1) Components That Are Used by Unity Connection 9.1(1)” section on page 22

Significant Changes to Unity Connection Upgrade Process Result in New Requirements

- The upgrade process from Unity Connection 8.5(x) and earlier versions to Unity Connection version 9.1(1) is similar to the upgrade process for version 8.6(x). To upgrade from Unity Connection 8.5(x) and earlier versions to Unity Connection version 9.1(1) the following are required:
 - You must download and install a Cisco Options Package before you upgrade to Unity Connection 9.1(1).
 - If you are upgrading a Cisco MCS7825-H3 server, the equivalent HP DL320G5, you must attach a 128-GB USB drive to the Unity Connection server. This is because the upgrade converts these servers from hardware RAID to software RAID, and the hard disks are reformatted. The USB drive is required so that the Unity Connection data and voice messages are not lost during the upgrade.
- The upgrade process from Unity Connection 9.0 to Unity Connection version 9.1(1) is similar to the upgrade process from version 8.6(x) to 9.0(x).
- The upgrade process from Unity Connection 8.5(x) and earlier to Unity Connection 9.1(1) is similar to the upgrade process from version 8.5(x) to 8.6(x).

Software Qualified for Use with Cisco Unity Connection on User Workstations

For the most current version combinations of software qualified for use on user workstations, see *Compatibility Matrix: Cisco Unity Connection and the Software on User Workstations* at http://www.cisco.com/en/US/docs/voice_ip_comm/connection/compatibility/matrix/cucclientmtx.html.

Utility Updates on the Cisco Unity Tools Website

Updates to utilities on the Cisco Unity Tools website are frequently posted between Cisco Unity Connection releases. The updates commonly do not apply to a specific release, so we do not list the tools that have been updated since the last version of Unity Connection. However, you can sign up to be notified when the utilities posted on the Cisco Unity Tools website are updated. Go to <http://www.ciscounitytools.com>, and sign up for receiving notifications.

Virtualization Enhancements

Cisco Unity Connection 9.1(1) can be deployed with VMWare vSphere ESXi4.1, 5.0, and 5.1. For more information on the VMware requirements, see

http://docwiki.cisco.com/wiki/Unified_Communications_VMware_Requirements

For more information on running Cisco Unity Connection as a virtual machine, see

http://docwiki.cisco.com/wiki/Unified_Communications_Virtualization

New Functionality—Release 9.1(1)

This section contains information about new functionality in the 9.1(1) release.

For information on new functionality in earlier versions of Cisco Unity Connection, see the applicable release notes at http://www.cisco.com/en/US/products/ps6509/prod_release_notes_list.html. Release notes for Cisco Unified Communications Manager Business Edition are available at http://www.cisco.com/en/US/products/ps7273/prod_release_notes_list.html.)

Note that the Cisco Unity Tools website may offer scripts and applications that were not included in Cisco Unity Connection 9.1(1). Some offerings may not be supported by Cisco TAC. See <http://www.ciscounitytools.com> for information.

Cisco Unity Connection Survivable Remote Site Voicemail

Cisco Unity Connection Survivable Remote Site Voicemail (Connection SRSV) is a backup voicemail solution that allows you to receive voice messages during WAN outages. It works in conjunction with Cisco Unified Survivable Remote Site Telephony (SRST) for providing voicemail service to a branch when the connectivity with the central Unity Connection voicemail service is lost.

Connection SRSV is used in the centralized Cisco Unified Communications Manager and Cisco Unity Connection environment with multiple branch offices or small sites. It provides limited voicemail and auto-attendant features that remain in synchronization with the central Unity Connection voicemail service so that when the WAN outage or failure occurs, the Unity Connection SRSV solution can provide voicemail service to the subscribers at the branch. When the network is restored, all the voicemails received by the branch subscribers are automatically uploaded to the central Unity Connection voicemail server.



Note

Cisco Unified Survivable Remote Site Voicemail has reached its end of life and Unity Connection SRSV 9.1(1) is introduced as its replacement. For more information on end of sale related information, refer to the end of life and end of sale notices at http://www.cisco.com/en/US/products/ps8605/prod_eol_notices_list.html.

For more information on how to configure Cisco Unity Connection SRSV at central Unity Connection location, refer to the “[Managing Cisco Unity Connection Survivable Remote Site Voicemail in Cisco Unity Connection 9.1\(1\) and later](#)” chapter of the *System Administration Guide for Cisco Unity Connection* available at http://www.cisco.com/en/US/docs/voice_ip_comm/connection/9x/administration/guide/9xcucsagx.html.

For more information on how to configure Cisco Unity Connection SRSV at branch location Unity Connection, refer to the Complete Reference Guide for Cisco Unity Connection Survivable Remote Site Voicemail (SRSV) guide available at http://www.cisco.com/en/US/docs/voice_ip_comm/connection/9x/srvs/guide/9xcucsrvsx.html.

The administrator can perform different operations on the branch that includes listing the branches, viewing data for an individual branch, creating, updating, and deleting a branch. For more information about administration of the branches and managing them through CUPi APIs, refer to the “[Cisco Unity Connection Provisioning Interface \(CUPi\) API -- SRSV APIs](#)” section of the *Cisco Unity Connection APIs*.

Table 1-1 lists the components required at central and branch locations.

Table 1-1 Components Required at Central and Branch Locations

Central Location	Branch Location
Cisco Unified Communications Manager	Cisco Unified SRST
Cisco Unity Connection	Cisco Unity Connection SRSV

Single Sign-On Support with Cisco Unity Connection Rest APIs

In Cisco Unity Connection 9.0(1) and earlier versions, single sign-on is supported with the following applications:

- Cisco Personal Communications Assistant
- Web Inbox
- Cisco Unity Connection Administration
- Cisco Unity Connection Serviceability

With Cisco Unity Connection 9.1(1) and later, single sign-on is supported with Rest APIs as well. The single sign-on feature allows the end users to login once and gain access to the Cisco Unity Connection Rest APIs without signing again.

To Enable the Single Sign On feature in Unity Connection

-
- Step 1** Start a command-line interface (CLI) session. (For more information, see the Cisco Unified Communications Operating System Administration Help.)
- Step 2** Run the **utils sso enable CLI** command.
-

For more information on the `utils sso <option>` CLI commands, see the applicable *Command Line Interface Reference Guide for Cisco Unified Communications Solutions* guide at http://www.cisco.com/en/US/products/ps6509/prod_maintenance_guides_list.html.

Voice Message Icon in Cisco ViewMail for Microsoft Outlook

Cisco Unity Connection ViewMail for Microsoft Outlook 9.0(1) and later, provide a unique voicemail icon for the new voice messages. It enables a voice message to be identified and distinguished from an usual email message.

The voicemail icon remains same for both the read and unread states of the voice messages.

The new voice message icon is supported with the following types of voice messages:

- Regular Voice Message
- Secured Voice Message
- Private Voice Message
- SpeechView transcribed Voice Message

The voice message icon is supported on the following Exchange servers:

- Microsoft Exchange 2010
- Microsoft Exchange 2007
- Microsoft Exchange 2003
- Microsoft Office 365

The voice message icon is supported on the following Outlook clients:

- Microsoft Outlook 2010 (32 bit/64 bit)
- Microsoft Outlook 2007
- Microsoft Outlook 2003

The voice message icon is supported for both the single inbox and IMAP users.



Note

As you install or upgrade to Cisco Unity Connection ViewMail for Microsoft Outlook 9.0(1), the VMO icon image is displayed only for the new voice messages and the old voice messages that already exist in your Outlook will have the same default email icon. When you reply, reply all, or forward the voice messages, the standard reply and forward icon is displayed.

It is recommended to install the ViewMail for Outlook 9.0(1) and later releases with Cisco Unity Connection 9.1(1) or later, to use the new voice message icon feature.

Note the following:

- (applicable for unified messaging only) In Cisco Unity Connection 9.1(1) with Outlook 2003 and 2007, the voice message icon will also be set for the following ViewMail for Outlook (VMO) releases:
 - VMO 8.6(5)
 - VMO 8.6(6)
 - VMO 8.6(7)
- If you revert from ViewMail for Outlook 9.0(1) to any previous versions of ViewMail for Outlook, the new voice message icon will still be displayed on the existing voice messages.
- (applicable for unified messaging only) Cisco Unity Connection 9.1(1) & later releases will set the voicemail icon on the new voice message with or without ViewMail for Outlook (VMO) installed in the outlook.

API Features

Enhancements in Existing APIs

Cisco Unity Connection Provisioning Interface

The Cisco Unity Connection Provisioning Interface (CUPI) API is expanded to include access for administrator when working on the branch. CUPI API enhancements include the following:

- Listing the branches
- Viewing a branch information
- Creating a branch
- Updating a branch
- Deleting a branch

For more information about CUPI, see http://docwiki.cisco.com/wiki/Cisco_Utility_Connection_APIs.

Changed Functionality—Release 9.1(1)

There is no changed functionality in this release.

Installation and Upgrade Information

- [Information for Cisco Unified Communications Manager Business Edition Customers](#), page 9
- [Installing Cisco Unity Connection for the First Time on a Physical Server](#), page 10
- [Installing Cisco Unity Connection for the First Time on a Virtual Machine](#), page 10
- [Cisco Unity Connection 9.1\(1\)—Restricted and Unrestricted Versions](#), page 13
- [Supported Cisco Unity Connection Upgrades](#), page 14
- [How Restricted and Unrestricted Versions Affect Upgrades](#), page 15
- [Installation and Upgrade Notes](#), page 18

Information for Cisco Unified Communications Manager Business Edition Customers

- For instructions on installing a new Cisco Unified CMBE server, see *Overview of Mandatory Tasks for Setting Up a Cisco Unified Communications Manager Business Edition 9.x Server* at http://www.cisco.com/en/US/docs/voice_ip_comm/connection/9x/cucmbe_task_list/9xcucmbetask.html and *Cisco Unified Communications Manager Business Edition 5000 Documentation Guide for Release 9.1(1a)* at http://www.cisco.com/en/US/partner/docs/voice_ip_comm/cucm/docguide/9_1_1/CUCM_BK_CB_ABE0BB_00_cucm-documentation-guide-91.html, at http://www.cisco.com/en/US/products/ps7273/prod_installation_guides_list.html.

- For instructions on upgrading a Cisco Unified CMBE server, see the “Software Upgrades” chapter of the applicable version of the *Cisco Unified Communications Operating System Administration Guide* at http://www.cisco.com/en/US/products/ps7273/prod_maintenance_guides_list.html.

**Caution**

If you are upgrading from Cisco Unified CMBE version 6.x or 7.x or 8.x and any languages other than U.S. English (ENU) are currently installed and in use on the 6.x or 7.x or 8.x server, you must install the language files for Unity Connection 9.x after the Cisco Unified CMBE upgrade. Otherwise, the Unity Connection conversation will not function properly for users who are configured to use non-ENU languages. For information on downloading and installing languages, see the “Downloading Connection 9.x Language Files” and “Installing Connection 9.x Language Files” sections in the “[Adding or Removing Cisco Unity Connection 9.x Languages](#)” chapter of the *Reconfiguration and Upgrade Guide* at http://www.cisco.com/en/US/docs/voice_ip_comm/connection/9x/upgrade/guide/9xcucrugx.html.

- There is no supported migration path from Unity Connection to Cisco Unified Communications Manager Business Edition (CMBE). If you want to migrate from Unity Connection to Cisco Unified CMBE, you must reinstall all software and recreate all system and user data.

Installing Cisco Unity Connection for the First Time on a Physical Server

**Caution**

With restricted and unrestricted versions of Unity Connection software available, download software or order a DVD carefully. Upgrading a restricted version to an unrestricted version is supported, but future upgrades are then limited to unrestricted versions. Upgrading an unrestricted version to a restricted version is not supported. (See also the “[How Restricted and Unrestricted Versions Affect Upgrades](#)” section on page 15.)

You must use the Cisco Unity Connection DVD to install a new a new version of 9.1(1) physical server. For instructions on installing a new Unity Connection physical server, see the *Installation Guide for Cisco Unity Connection Release 9.x* at http://www.cisco.com/en/US/docs/voice_ip_comm/connection/9x/installation/guide/9xcucigx.html.

Installing Cisco Unity Connection for the First Time on a Virtual Machine

Revised June 26, 2013

**Caution**

With restricted and unrestricted versions of Unity Connection software available, download software or order a DVD carefully. Upgrading a restricted version to an unrestricted version is supported, but future upgrades are then limited to unrestricted versions. Upgrading an unrestricted version to a restricted version is not supported. (See also the “[How Restricted and Unrestricted Versions Affect Upgrades](#)” section on page 15.)

For virtualization requirements, see the “Requirements for Installing Cisco Unity Connection on a Virtual Machine” section of the *System Requirements for Cisco Unity Connection Release 9.x* at http://www.cisco.com/en/US/docs/voice_ip_comm/connection/9x/requirements/9xcucsysreqs.html.

For instructions on installing Unity Connection on a new virtual machine, see the *Installation Guide for Cisco Unity Connection Release 9.x* at http://www.cisco.com/en/US/docs/voice_ip_comm/connection/9x/installation/guide/9xcucigx.html.

While installing Unity Connection on a virtual machine with 1v CPU and upto 4 GB RAM, make sure to install the *ciscocm.cuc_license_patch.sgn* COP file. For more information on the specific Unity Connection version for which you need to install the COP file, see the Readme file available at the Download Software page. To download the cop file, sign in to a computer with a high-speed Internet connection, and go to the Voice and Unified Communications Downloads page at <http://www.cisco.com/cisco/software/navigator.html?mdfid=280082558>.



Note To access the software download page, you must be signed in to Cisco.com as a registered user.

For instructions on migrating from an existing Unity Connection physical server to a new virtual machine, see the “[Migrating from a Cisco Unity Connection Physical Server to a Unity Connection 9.x Virtual Machine](#)” chapter of the *Upgrade Guide for Cisco Unity Connection Release 9.x* at http://www.cisco.com/en/US/docs/voice_ip_comm/connection/9x/upgrade/guide/9xcucrux.html.

You can either manually configure the virtual machine for Unity Connection or you can download and deploy a VMware OVA template, which automatically configures the virtual machine for Unity Connection. To download the template, see the next section, “[Downloading a VMware OVA Template for a Unity Connection 9.1\(1\) Virtual Machine](#).” The installation and migration documentation tells you when to deploy the template.



Note Virtualization is not supported for use with Cisco Unified Communications Manager Business Edition.

Downloading a VMware OVA Template for a Unity Connection 9.1(1) Virtual Machine

A VMware OVA template is not required to configure VMware for Unity Connection, but templates are provided to simplify the process of configuring VMware for Unity Connection. If you want to deploy the VMware OVA template for Unity Connection, do the following procedure to download the OVA file.

To Download a VMware OVA Template for a Unity Connection 9.1(1) Virtual Machine

- Step 1** Sign in to a computer with a high-speed Internet connection, and go to the Voice and Unified Communications Downloads page at <http://www.cisco.com/cisco/software/navigator.html?mdfid=280082558>.
- Step 2** In the tree control on the **Downloads** page, expand **Products>Voice and Unified Communications>IP Telephony>Unified Messaging>Cisco Unity Connection**, and select **Cisco Unity Connection Virtualization**.
- Step 3** On the **Download Software** page, select **OVA-9.1**, and the download links appear on the right side of the page.
- Step 4** Confirm that the computer you are using has sufficient hard-disk space for the downloaded files. (The download file sizes appear below the download links.)



Note To access the software download page, you must be signed in to Cisco.com as a registered user.

Step 5 Select the applicable link to download.

CUC_9.1_vmv7_v1.5.ova	Cisco Unity Connection 9.1 OVAs for vsphere ESXi4.1 and higher
CUC_9.1_vmv8_v1.5.ova	Cisco Unity Connection 9.1 OVAs for vsphere ESXi5.0 and higher
CUC_SRE_9.1_vmv7_v1.0.ova	Cisco Unity Connection 9.1 OVAs for vsphere ESXi4.1 and higher (Supports SRE-910 Blades)
CUC_SRE_9.1_vmv8_v1.0.ova	Cisco Unity Connection 9.1 OVAs for vsphere ESXi5.0 and higher (Supports SRE-910 Blades)
CUCSRSV_9.1_200_user_vmv8_v1.0.ova	Cisco Unity Connection SRSV 9.1 OVAs for vsphere ESXi5.0 and higher (Supports SRE-910 & SRE-900 Blades)

The following configurations are available with the OVA file, and you can select the required configurations for deploying the OVA template:

-
- For up to 100 users Unity Connection users (SRE 910 blade server).
 - Configures one virtual CPU, 4 GB RAM, and one 160-GB virtual disk with the file system aligned at 64KB blocks.
-
- For up to 1,000 Unity Connection users.
 - Configures one virtual CPU, 4 GB RAM, and one 160-GB virtual disk with the file system aligned at 64KB blocks.
-
- For up to 5,000 Unity Connection users.
 - Configures two virtual CPUs, 6 GB RAM, and one 200-GB virtual disk with the file system aligned at 64KB blocks.
-
- For up to 10,000 Unity Connection users.
 - Configures four virtual CPUs, 6 GB RAM, and two 146-GB virtual disks with the file system aligned at 64 KB blocks.
 - Comes in 3 variations: 146 GB, 300 GB, and 500 GB. In 300 GB and 500 GB variations.
-
- For up to 20,000 Unity Connection users.
 - Configures sever virtual CPUs, 8 GB RAM, and either two 300-GB virtual disks or two 500-GB virtual disks with the file system aligned at 64KB blocks.
 - When running on VMWare vSphere version ESXi4.x requires Enterprise Plus solution. There is no restriction when running on VMWare vSphere version ESXi5.x.
-
- For up to 200 Unity Connection SRSV users.
 - Configures one virtual CPU, 4 GB RAM, and one 160-GB virtual disk with the file system aligned at 64KB blocks.
-

Cisco Unity Connection 9.1(1)—Restricted and Unrestricted Versions

This release provides two versions of the Unity Connection software—restricted and unrestricted—that address import requirements for some countries related to encryption of user data and affects the following functionality:

In the unrestricted version, if the disabled settings listed above are changed manually, Unity Connection ignores the changes.

For the restricted version, “Restricted Installation” is included in the DVD label. For the unrestricted version, “Unrestricted Installation” is included in the DVD label and “UNRST” is included in the download filename.

The two-version change was introduced with Unity Connection version 7.1(5a), but it was not included in the 8.0(x) releases. Versions 7.1(5) and earlier were equivalent to what is now referred to as the restricted version.

**Caution**

With restricted and unrestricted versions of Unity Connection software available, download software or order a DVD carefully choose the software carefully. Upgrading a restricted version to an unrestricted version is supported, but future upgrades are then limited to unrestricted versions. Upgrading an unrestricted version to a restricted version is not supported.

For related information, see the following sections in these release notes:

- “Supported Cisco Unity Connection Upgrades” section on page 14
- “How Restricted and Unrestricted Versions Affect Upgrades” section on page 15

Supported Cisco Unity Connection Upgrades

**Caution**

With restricted and unrestricted versions of Unity Connection software available, download software or order a DVD carefully. Upgrading a restricted version to an unrestricted version is supported, but future upgrades are then limited to unrestricted versions. Upgrading an unrestricted version to a restricted version is not supported. See also the “How Restricted and Unrestricted Versions Affect Upgrades” section on page 15.

For information on whether you can upgrade directly to Unity Connection 9.1(1), see the “Supported Cisco Unified Communications Manager Upgrades” section of the Cisco Unified Communications Manager Software Compatibility Matrix at http://www.cisco.com/en/US/docs/voice_ip_comm/cucm/compat/ccmcompmatr.html.

You refer to the full version number of Cisco Unified CM that is currently installed on the active partition to determine upgrade support. The version can be viewed by running the CLI command `show version active`.

Full version numbers include the build number (for example, 9.0.1.20000-43); the software versions listed on the download pages on Cisco.com are abbreviated version numbers (for example, 9.0(1)). In the tables of the “Supported Cisco Unified Communications Manager Upgrades” section of the compatibility matrix, full version numbers are listed in the System Version row.

**Note**

Abbreviated version numbers for Unity Connection and Cisco Unified CM are identical except that Unity Connection 2.x versions correspond with Cisco Unified CM 6.x versions.

Do not refer to version numbers in any of the administration user interfaces because those versions apply to the interfaces themselves, not to the version of the product software installed on the active partition.

If you cannot upgrade directly from your current version to Unity Connection 9.1(1), do the following:

- Step 1** Find an intermediate version that is supported both for an upgrade from your current version and for an upgrade to 9.1(1).
- Step 2** Upgrade to the intermediate version. See the applicable *Upgrade Guide for Cisco Unity Connection* at http://www.cisco.com/en/US/products/ps6509/prod_installation_guides_list.html.
- Step 3** Upgrade to Unity Connection 9.1(1). See the following section, “Upgrading to Cisco Unity Connection 9.1(1).”

You can upgrade from the following versions of Unity Connection directly to version 9.1(1):

- 9.0
- 8.6(x)
- 8.5(x)
- 8.0(3x), 8.0(2x), and 8.0(1)
- 7.1(5x) and 7.1(3x)

All corresponding service updates and engineering specials are supported for each branch.

How Restricted and Unrestricted Versions Affect Upgrades

With the Unity Connection 7.1(5a) release, Cisco started providing two versions of the Unity Connection software—restricted and unrestricted—to address import requirements for some countries related to encryption of user data. The two-version change continues with releases 7.1(5b) and later, and with Unity Connection 9.1(1); it was not included in 8.0(x) releases.

Note the following considerations about upgrading to Unity Connection 9.1(1):

- If you are upgrading from the restricted version of Unity Connection 7.1(5a or b), upgrade to the restricted version of Unity Connection 9.1(1).
- If you are upgrading from the unrestricted version of Unity Connection 7.1(5a or b), you can upgrade only to the unrestricted version of Unity Connection 9.1(1).
- If you are upgrading from any other version of Unity Connection supported for upgrades, upgrade to the restricted version of Unity Connection 9.1(1). You are upgrading from a version that is equivalent to what is now called the restricted version.
- If you are upgrade from Unity Connection 9.1(1) Engineering Special (ES) release, upgrade to Unity Connection 9.1(1) Service Update (SU) release is not allowed.

For more information on restricted and unrestricted versions, see the [“Cisco Unity Connection 9.1\(1\)—Restricted and Unrestricted Versions”](#) section on page 13.



Caution

With restricted and unrestricted versions of Unity Connection software available, download software or order a DVD carefully (Unrestricted software is intended for specific customers or countries, such as Russia, which impose requirements related to the encryption of user data). Upgrading a restricted version to an unrestricted version is supported, but future upgrades are then limited to unrestricted versions. Upgrading an unrestricted version to a restricted version is not supported. See also the [“How Restricted and Unrestricted Versions Affect Upgrades”](#) section on page 15.

Upgrading to Cisco Unity Connection 9.1(1)

To upgrade Unity Connection from a local DVD, you can do either of the following:

- Use a DVD shipped from Cisco.
- Download a signed .iso file from Cisco.com, and burn a disc image of the downloaded software. Burning a disc image extracts the files from the .iso file that you downloaded and writes them to a DVD.

To upgrade Unity Connection from a network location, you must download a signed .iso file from Cisco.com, and copy the .iso file to an FTP or SFTP server. Unity Connection does not allow you to upgrade from a network location by copying either the contents of a DVD shipped from Cisco or the extracted contents of a downloaded .iso file to an FTP or SFTP server. This helps prevent someone from attempting to upgrade by using software that has been tampered with.

For instructions on downloading software that can be used to upgrade a Unity Connection 8.x or 7.x server to version 9.1(1), see the “[Downloading Software for an Upgrade to Cisco Unity Connection 9.1\(1\)](#)” section on page 16.

**Caution**

With restricted and unrestricted versions of Unity Connection software available, download software or order a DVD carefully (Unrestricted software is intended for specific customers or countries, such as Russia, which impose requirements related to the encryption of user data). Upgrading a restricted version to an unrestricted version is supported, but future upgrades are then limited to unrestricted versions. Upgrading an unrestricted version to a restricted version is not supported. See also the “[How Restricted and Unrestricted Versions Affect Upgrades](#)” section on page 15.

For instructions on upgrading:

- An upgrade to Unity Connection SRSV 9.1(1), see the [Upgrading Cisco Unity Connection SRSV 9.1 Version](#) chapter of the *Upgrade Guide for Cisco Unity Connection* at http://www.cisco.com/en/US/docs/voice_ip_comm/connection/9x/upgrade/guide/9xcucrux.html
- A Unity Connection 9.0 to version 9.1(1), see the [Upgrading Cisco Unity Connection 9.0 to the Shipping Cisco Unity Connection 9.1](#) chapter of the *Upgrade Guide for Cisco Unity Connection* at http://www.cisco.com/en/US/docs/voice_ip_comm/connection/9x/upgrade/guide/9xcucrux.html.
- A Unity Connection 8.x server to version 9.1(1), see the “[Upgrading Cisco Unity Connection 7.x, 8.0, 8.5, or 8.6 to the Shipping 9.0 Version](#)” chapter of the *Upgrade Guide for Cisco Unity Connection* at http://www.cisco.com/en/US/docs/voice_ip_comm/connection/9x/upgrade/guide/9xcucrux.html.
- A Unity Connection 7.x server to version 9.1(1), see the “[Upgrading Cisco Unity Connection 7.x, 8.0, 8.5, or 8.6 to the Shipping 9.0 Version](#)” chapter of the *Upgrade Guide for Cisco Unity Connection* at http://www.cisco.com/en/US/docs/voice_ip_comm/connection/9x/upgrade/guide/9xcucrux.html.

Downloading Software for an Upgrade to Cisco Unity Connection 9.1(1)

**Note**

The upgrade files can be used to upgrade Cisco Unity Connection, Cisco Unified Communications Manager, and Cisco Unified Communications Manager Business Edition. The files can be downloaded from the Unity Connection or Cisco Unified CM downloads page.

The upgrade application posted on Cisco.com can be used only to upgrade to Cisco Unity Connection 9.1(1). It cannot be used to install a new Unity Connection 9.1(1) server.

For information on whether you can upgrade directly from your current version to Unity Connection 9.1(1) or must upgrade to an interim version first, see the “[Supported Cisco Unity Connection Upgrades](#)” section on page 14.

To Download Software for an Upgrade to Cisco Unity Connection 9.1(1)

- Step 1** Log on to a computer with a high-speed Internet connection, and go to the Voice and Unified Communications Downloads page at <http://www.cisco.com/cisco/software/navigator.html?mdfid=280082558>.



Note To access the software download page, you must be signed on to Cisco.com as a registered user.

- Step 2** In the tree control on the Downloads page, expand **Products>Voice and Unified Communications>IP Telephony>Unified Messaging>Cisco Unity Connection**, and select **Cisco Unity Connection Version 9.1(1)**. If you are upgrading Unity Connection 8.5(1) or earlier version to Unity Connection 9.1(1), continue to [Step 3](#). However, if you are upgrading Unity Connection 8.6(1) to 9.1(1a), skip to [Step 5](#).

- Step 3** On the Select a Software Type page, select **Unified Communications Manager /CallManager/Cisco Unity Connection Utilities-COP-Files** to download the ciscocm.refresh_upgrade.cop (Cisco Option Package) file. The .cop file patches the current version of Unity Connection, which is required before you can upgrade to Unity Connection 9.1(1a).

- Step 4** Use a checksum generator to confirm that the MD5 checksum matches the checksum that is listed on Cisco.com. If the values do not match, the downloaded file is damaged.



Caution Do not attempt to use a damaged file to install the software, or the results will be unpredictable. If the MD5 values do not match, download the file again until the value for the downloaded file matches the value listed on Cisco.com.

Free checksum tools are available on the Internet, or example, the Microsoft File Checksum Integrity Verifier utility. The utility is described in Microsoft Knowledge Base article 841290, *Availability and Description of the File Checksum Integrity Verifier Utility*. The KB article also includes a link for downloading the utility.

- Step 5** On the Select a Software Type page, select **Cisco Unified Communications Manager/Cisco Unity Connection Updates**.

- Step 6** On the **Select a Release** page, select **9.1(1a)**, and the download buttons appear on the right side of the page.



Caution With restricted and unrestricted versions of Unity Connection software available, download software or order a DVD carefully (Unrestricted software is intended for specific customers or countries, such as Russia, which impose requirements related to the encryption of user data). Upgrading a restricted version to an unrestricted version is supported, but future upgrades are then limited to unrestricted versions. Upgrading an unrestricted version to a restricted version is not supported. See also the [“How Restricted and Unrestricted Versions Affect Upgrades”](#) section on page 15.

- Step 7** Confirm that the computer you are using has sufficient hard-disk space for the downloaded files. (The download descriptions include file sizes.)
- Step 8** Select the applicable download, then follow the on-screen prompts to complete the download, making note of the MD5 value.

Restricted version	UCSInstall_UCOS_9.1.1.20000-5.sgn.iso
Unrestricted version	UCSInstall_UCOS_UNRST_9.1.1.20000-5.sgn.iso

- Step 9** Use a checksum generator to confirm that the MD5 checksum matches the checksum that is listed on Cisco.com. If the values do not match, the downloaded files are damaged.

**Caution**

Do not attempt to use a damaged file to install software, or the results will be unpredictable. If the MD5 values do not match, download the file again until the value for the downloaded file matches the value listed on Cisco.com.

Free checksum tools are available on the Internet, for example, the Microsoft File Checksum Integrity Verifier utility. The utility is described in Microsoft Knowledge Base article 841290, *Availability and Description of the File Checksum Integrity Verifier Utility*. The KB article also includes a link for downloading the utility.

- Step 10** If you are installing from a DVD, burn the DVD with the following considerations:
- Choose the option to burn a disc image, not the option to copy files. Burning a disc image will extract the thousands of files from the .iso file and write them to a DVD, which is necessary for the files to be accessible for the installation.
 - Use the Joliet file system, which accommodates filenames up to 64 characters long.
 - If the disc-burning application that you are using includes an option to verify the contents of the burned disc, choose that option. This causes the application to compare the contents of the burned disc with the source files.
- Step 11** Confirm that the DVD contains a large number of directories and files.
- Step 12** Delete unnecessary files from the hard disk to free disk space, including the .iso file that you downloaded.

Installation and Upgrade Notes

- [Installing Additional Cisco Unity Connection Languages, page 18](#)
- [Reverting a Server to the Cisco Unity Connection Version on the Inactive Partition, page 19](#)

Installing Additional Cisco Unity Connection Languages

Revised January 31, 2013

**Note**

All the locales, other than JPN, are released for Unity Connection 9.1(1).

For instructions on installing additional Unity Connection languages on the following server types, see the referenced documentation:

- On a new Unity Connection server, see the “[Installing Additional Languages on the Cisco Unity Connection 9.x Server](http://www.cisco.com/en/US/docs/voice_ip_comm/connection/9x/installation/guide/9xcucigx.html)” chapter of the *Installation Guide for Cisco Unity Connection* at http://www.cisco.com/en/US/docs/voice_ip_comm/connection/9x/installation/guide/9xcucigx.html.
- On an existing Unity Connection server, see the “[Adding or Removing Cisco Unity Connection 9.x Languages](http://www.cisco.com/en/US/docs/voice_ip_comm/connection/9x/upgrade/guide/9xcucrugx.html)” chapter of the *Upgrade Guide for Cisco Unity Connection* at http://www.cisco.com/en/US/docs/voice_ip_comm/connection/9x/upgrade/guide/9xcucrugx.html.

- On an existing Cisco Unified CMBE server, see the “Downloading Connection 9.x Language Files” and “Installing Connection 9.x Language Files” sections in the “[Adding or Removing Cisco Unity Connection 9.x Languages](http://www.cisco.com/en/US/docs/voice_ip_comm/connection/9x/upgrade/guide/9xcucrux.html)” chapter of the *Upgrade Guide for Cisco Unity Connection* at http://www.cisco.com/en/US/docs/voice_ip_comm/connection/9x/upgrade/guide/9xcucrux.html.

If you are installing Japanese because you want Cisco Unity Connection Administration to be localized, you must also install the Cisco Unified Communications Manager Japanese locale. See the “Locale Installation” section in the “Software Upgrades” chapter of the applicable *Cisco Unified Communications Operating System Administration Guide* at http://www.cisco.com/en/US/products/sw/voicesw/ps556/prod_maintenance_guides_list.html.

If you are installing other languages because you want the Cisco Personal Communications Assistant to be localized, you must also install the corresponding Cisco Unified Communications Manager locales. See the “Locale Installation” section in the “Software Upgrades” chapter of the *Cisco Unified Communications Operating System Administration Guide* at http://www.cisco.com/en/US/products/sw/voicesw/ps556/prod_maintenance_guides_list.html.

Reverting a Server to the Cisco Unity Connection Version on the Inactive Partition

If you revert from Cisco Unity Connection 9.1(1) to an earlier version of Unity Connection, some of the data for new Unity Connection 9.1(1) features is lost and cannot be retrieved when you upgrade again to Unity Connection 9.1(1).

For more information on how reverting affects Unity Connection features, see the “About Reverting from Unity Connection 9.x to the Version on the Inactive Partition” section in the “[Reverting Cisco Unity Connection 9.x Servers to the Version on the Inactive Partition](http://www.cisco.com/en/US/docs/voice_ip_comm/connection/9x/upgrade/guide/9xcucrux.html)” chapter of the *Upgrade Guide for Cisco Unity Connection Release 9.x* at http://www.cisco.com/en/US/docs/voice_ip_comm/connection/9x/upgrade/guide/9xcucrux.html.

Migration Information

For information on migrating from Cisco Unity to Cisco Unity Connection, see the applicable chapter in the *Upgrade Guide for Cisco Unity Connection Release 9.x* at http://www.cisco.com/en/US/docs/voice_ip_comm/connection/9x/upgrade/guide/9xcucrux.html.

Limitations and Restrictions

- [Licensing Requirements for Cisco Unity Connection](#), page 20
- [Media Master Cannot Open WAV Files Saved on a Workstation in G.729a Format](#), page 20
- [Replacing Disks in a RAID](#), page 20
- [Secure Messaging Limitations Regarding ViewMail](#), page 21

Licensing Requirements for Cisco Unity Connection

For information on the licensing requirements for Unity Connection 9.x, see the “Licensing Requirements” section in the applicable document:

- *System Requirements for Cisco Unity Connection Release 9.x* at http://www.cisco.com/en/US/docs/voice_ip_comm/connection/9x/requirements/9xcucsysreqs.html.
- *System Requirements for Cisco Unity Connection in Cisco Unified CMBE Release 9.x* at http://www.cisco.com/en/US/docs/voice_ip_comm/connection/9x/requirements/9xcucmbesysreqs.html, as applicable.

Media Master Cannot Open WAV Files Saved on a Workstation in G.729a Format

The Media Master cannot open WAV files prerecorded in the G.729a audio format and saved to a workstation.

This limitation has the following workarounds:

- Convert the WAV file to another audio format (for example, convert it to the G.711 audio format).
- Use a WAV file that is recorded in a supported audio format other than G.729a.
- Make the recording by using a phone or a computer microphone.

Note that when Cisco Unity Connection is configured to record in the G.729a audio format, the Media Master functions correctly for recording and playing by using a phone or a computer microphone.

Replacing Disks in a RAID

Unity Connection supports only replacing a defective disk in a RAID with a blank disk to repair the RAID. Replacing disks in a RAID for any other reason is not supported.



Caution

Do not replace a disk in a RAID with a disk that contains data, even if the replacement disk was originally a disk in the same RAID in the same server.

Unity Connection documentation does not include any information on replacing disks in a RAID array. However, because Unity Connection and Cisco Unified Communications Manager mostly use the same servers, you can use the procedures in the “Performing Failed RAID Disk Replacement” section of the “Cisco Unified Communications Manager System Issues” chapter of the applicable *Troubleshooting Guide for Cisco Unified Communications Manager* at http://www.cisco.com/en/US/products/sw/voicesw/ps556/prod_troubleshooting_guides_list.html.

Secure Messaging Limitations Regarding ViewMail

- Adding non-audio attachments to secure messages composed in Cisco ViewMail for Microsoft Outlook version 8.5 is not supported at this time.
- With versions 8.0 and earlier of Cisco ViewMail for Microsoft Outlook:
 - Secure messages cannot be forwarded by using ViewMail for Outlook.
 - ViewMail for Outlook support only playing secure messages.

- Messages that are composed or replied to by using ViewMail for Outlook are not sent as secure, even when the users are assigned to a class of service for which the **Require Secure Messaging** field is set to **Always or to Ask**.

Caveats

You can find the latest caveat information for Cisco Unity Connection version 9.1(1) and for Unity Connection in Cisco Unified Communications Manager Business Edition 6000 version 9.1(1) by using Bug Toolkit, an online tool available for customers to query defects according to their own needs.

Bug Toolkit is available at www.cisco.com/go/bugs. Fill in your query parameters by using the custom settings in the **Advanced Settings** option.



Note

To access Bug Toolkit, you must be logged on to Cisco.com as a registered user.

This section contains the following caveat information:

- [Open Caveats—Unity Connection Release 9.1\(1\), and Unity Connection in Cisco Unified CMBE Release 9.1\(1\), page 21](#)
- [Related Caveats—Cisco Unified Communications Manager 9.1\(1\) Components That Are Used by Unity Connection 9.1\(1\), page 22](#)

Release notes for all versions of Cisco Unity Connection are available at http://www.cisco.com/en/US/products/ps6509/prod_release_notes_list.html.

Release notes for Cisco Unified Communications Manager Business Edition are available at http://www.cisco.com/en/US/products/ps7273/prod_release_notes_list.html.

Open Caveats—Unity Connection Release 9.1(1), and Unity Connection in Cisco Unified CMBE Release 9.1(1)

Revised January 31, 2013

This section list any Severity 1, 2, and 3 open caveats when Cisco Unity Connection version 9.1(1) was released. Select a link in the Caveat Number column to view the latest information on the caveat in Bug Toolkit. (Caveats are listed in order by severity, then by component, then by caveat number.)

Table 2 *Unity Connection Release 9.1(1) and Unity Connection in Cisco Unified CMBE 9.1(1) Open Caveats*

Caveat Number	Component	Severity	Description
CSCud21521	database	3	Lengthy Search Space name preventing login from GUI after installation
CSCud24957	admin	3	CUC 8.6.2 Bulk Edit Select All Button doesn't maintain original filter
CSCue10815	admin	3	Failed to create Private List for a Non-ASCII character user name
CSCue11027	admin	3	Failed to create Caller Group for a Non-ASCII character user name
CSCue24879	inbox	3	In IE auto fill functionality in webinbox not working for NON-ASCII user
CSCue20226	localization	3	IN notification subject header in outlook not localized for some locales
CSCue17916	admin	3	SMTP notification received on outlook is not localized for some locales

Related Caveats—Cisco Unified Communications Manager 9.1(1) Components That Are Used by Unity Connection 9.1(1)

Table 3 describes the Cisco Unified Communications Manager components that are used by Cisco Unity Connection. Caveat information for the Cisco Unified CM components is available in *Release Notes for Cisco Unified Communications Manager Release 9.1(1)* at http://www.cisco.com/en/US/docs/voice_ip_comm/cucm/rel_notes/9_0_1/CUCM_BK_RF912712_00_cucm-release-notes-90.html.

Table 3 Cisco Unified CM 9.1(1) Components That Are Used by Unity Connection 9.1(1)

Cisco Unified CM Component	Description
backup-restore	Backup and restore utilities
ccm-serviceability	Cisco Unified Serviceability web interface
cdp	Cisco Discovery Protocol Drivers
cli	Command-line interface (CLI)
cmui	Certain elements in the Unity Connection web interfaces (such as search tables and splash screens)
cpi-afg	Cisco Unified Communications Answer File Generator
cpi-appinstall	Installation and upgrades
cpi-cert-mgmt	Certificate management
cpi-diagnose	Automated diagnostics system
cpi-os	Cisco Unified Communications Operating System
cpi-platform-api	Abstraction layer between the Cisco Unified Communications Operating System and the applications hosted on the platform
cpi-security	Security for connections to the server
cpi-service-mgr	Service Manager (ServM)
cpi-vendor	External vendor issues
cuc-tomcat	Apache Tomcat and third-party software
database	Installation and access to the configuration database (IDS)
database-ids	IDS database patches
ims	Identity Management System (IMS)
rtmt	Real-Time Monitoring Tool (RTMT)

Caveat information for the Cisco Unified CM components is available in the following documents:

- *Release Notes for Cisco Unified Communications Manager Release 9.1(1)* at http://www.cisco.com/en/US/docs/voice_ip_comm/cucm/rel_notes/9_0_1/CUCM_BK_RF912712_00_cucm-release-notes-90.html.

Troubleshooting Information

Cisco Unity Connection troubleshooting information can be found in the *Troubleshooting Guide for Cisco Unity Connection Release 9.x* at http://www.cisco.com/en/US/docs/voice_ip_comm/connection/9x/troubleshooting/guide/9xcuctsgx.html.

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 using a reader application. The RSS feeds is a free service and Cisco currently supports RSS version 2.0.

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.

Further information regarding U.S. export regulations may be found at http://www.access.gpo.gov/bis/ear/ear_data.html.

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 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.

© 2012 Cisco Systems, Inc. All rights reserved.

