



Preinstallation Information

This section provides information that you should consider before upgrading a Cisco CallManager server and frequently asked questions (FAQs) regarding the Cisco CallManager 4.1 upgrade.

Important Considerations

Before you proceed with the Cisco CallManager installation or upgrade, consider the following requirements and recommendations:

- Cisco CallManager requires a minimum of 1GB of memory on the Cisco CallManager servers. To avoid system problems, such as dropped calls, verify that your servers have a minimum of 1 GB of memory installed. If the installation process detects less than 1GB memory on the publisher server, the installation aborts. The installation process performs a similar check on the Cisco CallManager subscriber server; it allows the installation to continue if it detects less than the minimum requirement.
- Install the Cisco CallManager software on the publisher server first and then on the subscriber server(s).
- You cannot add a subscriber server to a cluster by installing a previous version of Cisco CallManager and then upgrading the subscriber server to the same version that is running on the publisher server. If you are adding a new subscriber server or replacing a subscriber server on the cluster, you must use the installation CDs with the same Cisco CallManager version that is running on the publisher server.
- Make sure that you are logged in as the administrator on the server before starting the Cisco CallManager installation.
- Install the Cisco CallManager software on one server at a time to ensure that subscriber servers can receive replicate copies of the database from the publisher database server.
- Make sure that the subscriber server that you are installing can connect to the publishing database server during the installation.
- Do not choose cancel after you start the installation. If you choose cancel, you will need to reimage your machine by reinstalling the operating system.
- Because security settings for the Cisco CallManager server are set up by the installation and upgrade script, do not make any adjustments to these predefined settings, or you may experience a significant impact to the functionality of your server.
- When entering passwords for the local Administrator and SA (SQL Server system administrator) accounts, use alphanumeric characters only.

- Enter the same administrator password on all servers in the cluster.
- Install the Cisco CallManager software during off-peak hours or during a maintenance window to avoid impact from call-processing interruptions.
- Do not implement multiple servers in a Cisco CallManager cluster by using a drive that was mirrored or cloned from a single Cisco CallManager server. This results in servers having duplicate Security ID (SID) and impairs Cisco CallManager operations. You must install the Cisco IP telephony operating system and Cisco CallManager software separately on each server by using the Cisco-provided installation disks.
- Do not configure any server in the cluster as a Domain Controller.
- Place the server in a Workgroup before you install the software.
- Configure the server by using static IP addressing to ensure that the server obtains a fixed IP address and that the Cisco IP Phones can register with the application when you plug the phones into the network.
- Do not attempt to perform any configuration tasks during the installation.
- Do not use terminal services to install the Cisco CallManager software
- Do not install any Cisco-verified applications until you complete installing Cisco CallManager on every server in the cluster.
- Cisco provides support for a limited set of applications on the servers where Cisco CallManager is installed. If you are uncertain whether a third-party application is supported, do not install it on the server.
- You must disable third-party, Cisco-verified applications on your servers before starting the Cisco CallManager installation.
- Install a security agent to protect your servers against unauthorized intrusion.
- Do not install Cisco Unity on a server where Cisco CallManager is installed.
- Installing or using Netscape Navigator on the Cisco MCS or the Cisco-approved, customer-provided server causes severe performance problems.
- Carefully read the instructions that follow before you proceed with the installation. See “[Upgrading Your Cisco CallManager Server \(When You Are Not Replacing Hardware\)](#)” section on page 2-1 and “[Performing Post-Upgrade Tasks](#)” section on page 3-1.

Frequently Asked Questions About Cisco CallManager 4.1 Upgrades

The following frequently asked questions apply for all Cisco CallManager 4.1 upgrades.

From which versions of Cisco CallManager can I upgrade to Cisco CallManager Release 4.1(3)?

To verify which versions of Cisco CallManager are compatible for upgrade, refer to the *Cisco CallManager Compatibility Matrix*. To obtain the most recent version of this document, go to http://www.cisco.com/univercd/cc/td/doc/product/voice/c_callmg/ccmcomp.htm

If your server runs a version of Cisco CallManager Release 3.2 or earlier, you must first upgrade every server in the cluster to the latest version of Cisco CallManager Release 3.3 before you can upgrade to a version of Cisco CallManager Release 4.1. For information on upgrading to Cisco CallManager Release 3.3 or 4.0, refer to the appropriate version of the *Upgrading Cisco CallManager* document. You cannot upgrade directly from Cisco CallManager Release 3.2 or earlier to Cisco CallManager Release 4.1.

Before you perform any upgrade procedures, Cisco strongly recommends that you install the latest operating system upgrade/service release, SQL service releases/hotfixes, and Cisco CallManager service release for the versions that currently run in the cluster. Cisco provides the service release and corresponding readme documentation on [cisco.com](http://www.cisco.com). To obtain these documents, go to <http://www.cisco.com/kobayashi/sw-center/sw-voice.shtml>.

**Caution**

Cisco recommends that you only upgrade to Cisco CallManager 4.1(3) from a version that is compatible for upgrade to 4.1(3). Versions that are not compatible for upgrade to 4.1(3) may contain features that are not supported in 4.1(3). If you upgrade from an unsupported version, you will not be able to access those features that are not supported in 4.1(3) and you will lose the data that is associated with those features.

Which servers and operating system versions does Cisco support for this upgrade?

For Cisco CallManager Release 4.1(3), Cisco supports the servers listed in the *Cisco CallManager Compatibility Matrix*. To obtain the most recent version of this document, go to http://www.cisco.com/univercd/cc/td/doc/product/voice/c_callmg/ccmcomp.htm.

Cisco recommends that you install Cisco-provided operating system version 2000.2.7 with the latest service release 2000.2.7.sr2 (or later) before you upgrade to Cisco CallManager Release 4.1(3).

For Cisco CallManager 3.3 Upgrades to 4.1(3)

If your server runs Cisco CallManager 3.3 and operating system version 2000.2.3 (or later), you can use the operating system upgrade CD-ROM or the operating system upgrade web download to upgrade the operating system to 2000.2.7sr2 or later. For detailed instructions, refer to “[Upgrading Your Cisco CallManager Server \(When You Are Not Replacing Hardware\)](#)” section on page 2-1.

For Cisco CallManager 4.0 Upgrades to 4.1(3)

If your server runs Cisco CallManager 4.0, you can use the operating system upgrade CD-ROM or the operating system upgrade web download to upgrade the operating system to 2000.2.7sr2 or later. For detailed instructions, refer to “[Upgrading Your Cisco CallManager Server \(When You Are Not Replacing Hardware\)](#)” section on page 2-1

Which third-party applications does Cisco support for this upgrade?

The Cisco AVVID Partner Program and Technology Affiliate Program require Interoperability Verification Testing (IVT) for all named AVVID Partners’ and Affiliates’ applications and products for major releases of Cisco CallManager. If you upgrade to this version of Cisco CallManager before IVT is completed, you may experience performance and compatibility issues with some Cisco-approved, third-party applications that run in your network. Before you upgrade Cisco CallManager, verify that all

the Cisco-provided and Cisco-approved applications that run in your network are compatible with this version of Cisco CallManager. Cisco-provided and Cisco-approved third-party applications include, but are not limited to, Cisco IP Contact Center, Cisco Emergency Responder, IVR, and so on.

Cisco strongly recommends that you do not upgrade to this version of Cisco CallManager until compatibility exists. After the compatible application becomes available, upgrade Cisco CallManager and then the application(s).

To determine if compatibility testing has been completed for a Cisco-approved third-party applications and products, refer to the following URLs.

Cisco AVVID Partner Program

<http://www.cisco.com/cgi-bin/ecoa/Search>

Enter the name of the company for which you want to search and then click **Search**.

To see a list of third-party, Cisco-verified applications that may be installed on the server with Cisco CallManager, choose **IP Telephony** in the Solution pane and then choose **Operations, Administration, and Maintenance (OAM)** in the Solution Category drop-down list box.

Cisco AVVID Technology Affiliate Program

<http://www.cisco.com/cgi-bin/ecoa/Search?isAffil=Y>

Enter the name of the company for which you want to search and then click **Search**.



Caution

Installing or using Netscape Navigator on the Cisco MCS or the Cisco-approved, customer-provided server causes severe performance problems.



Tip

To obtain the latest list of compatible Cisco AVVID applications, refer to the Cisco CallManager Compatibility Matrix at the following URL:

http://www.cisco.com/univercd/cc/td/doc/product/voice/c_callmg/cmcomp.htm



Caution

Cisco supports a limited list of applications on the servers where Cisco CallManager is installed. If you are uncertain whether a third-party application is supported, do not install it on the server.

Which server in the cluster do I upgrade first?



Caution

When you perform the Cisco CallManager portion of the upgrade, you must upgrade one server at a time, so the subscriber servers can pull the replicas of the database from the publisher database server. For the subscriber servers to pull the replicas, the publisher database server must be running, and you must not make any changes on the publisher database server while you are upgrading the subscriber servers. After you complete the upgrade on one server and reboot the server, you can start the upgrade on the next server.



Caution

This document assumes that all servers are functional and running. If the servers are not functional and running, failover will not occur.

You must upgrade all the servers in the cluster. The order varies depending on the cluster configuration.

Cisco CallManager Runs on the Publisher

If the Cisco CallManager service runs on the publisher database server (two-server cluster), upgrade the servers in the following order:

1. Upgrade the publisher database server.

When you perform an upgrade, the Cisco CallManager service automatically stops, and the devices that are homed to the publisher database server failover to the subscriber server.

2. Upgrade the subscriber.

Cisco CallManager Does Not Run on the Publisher

If the Cisco CallManager service does not run on the publisher database server, upgrade the servers in the following order:

1. Upgrade the publisher database server.
2. Upgrade the Cisco TFTP server, if it exists separately from the publisher database server.
3. Upgrade servers, one server at a time, that have only Cisco CallManager-related services (Music on Hold, Cisco IP Media Streaming Application, and so on) running on them.

Make sure that you upgrade only one server at a time.

Make sure that the Cisco CallManager service does not run on these servers.

4. Upgrade each secondary server, one server at a time.

If you choose to oversubscribe the secondary server(s) during the upgrade, Cisco strongly recommends that you have no more than 5,000 devices that are registered to the secondary server during the upgrade and that you oversubscribe the secondary server(s) for no more than a few hours. Cisco strongly recommends that you perform the upgrade during off-peak hours when low call volume occurs (less than 1,000 busy hour call attempts).

If you configured your Cisco CallManager cluster by using approved Cisco configuration standards, which include configuring four primary servers and two secondary servers in the cluster, you can minimize call-processing interruptions if you register all devices to servers that are running the same version of Cisco CallManager during the entire upgrade process; for example, you register all devices to the secondary Cisco CallManager servers or the primary Cisco CallManager servers, but not to both types of servers.

5. Upgrade each primary server that has the Cisco CallManager service running on it. Remember to upgrade one server at a time.



Caution

When you upgrade the primary server(s), call-processing interruptions may occur for up to 30 minutes while the devices attempt to obtain the device loads and register to the upgraded version of Cisco CallManager.

6. Upgrade servers that have Cisco IP telephony applications running on them; for example, Cisco Conference Connection or Cisco Emergency Responder. Remember to upgrade one server at a time. Refer to the application documentation for more information.

How does a coresident upgrade work if I have CRS installed with Cisco CallManager?

For information on how to perform the upgrade on a coresident server, refer to the CRS documentation that is compatible with this version of Cisco CallManager.

How long does it take to upgrade the cluster?

To minimize call-processing downtime, Cisco strongly recommends that you perform all upgrade procedures for the Cisco CallManager and all upgrades/reinstallations for Cisco IP telephony applications within a consecutive time period (within one maintenance window).

Before you perform an upgrade, consider the time that it takes to perform pre-/post-upgrade tasks, Cisco IP telephony application upgrades/reinstallations, and Cisco-verified application upgrades/reinstallations.

For the time that it takes to perform specific tasks on the publisher database server, see [Upgrading Your Cisco CallManager Server \(When You Are Not Replacing Hardware\)](#), page 2-1

Will I experience call-processing interruptions and a loss of services during the upgrade?

Review the following information before you upgrade.

About Minimizing Call-Processing Interruptions

When you upgrade a cluster, two separate versions of Cisco CallManager run in the cluster at the same time. Be aware that the different Cisco CallManager versions that are running in the cluster will not interact and may cause call-processing interruptions to occur.

If you configured your Cisco CallManager cluster by using approved Cisco configuration standards, which include configuring four primary servers and two backup servers in the cluster, you can minimize call-processing interruptions if you register all devices to servers that are running the same version of Cisco CallManager during the entire upgrade process; that is, you register all devices to the backup Cisco CallManager servers or the primary Cisco CallManager servers, but not to both types of servers.

About a Loss of Services

During the upgrade, Cisco CallManager places Cisco CallManager-related services that display in Cisco CallManager Serviceability in an inactive state. After the upgrade completes, migrated services activate and start after the server reboots. To use additional services, you must activate the service on each server on which you want the service to run. For information on activating services, refer to the *Cisco CallManager Serviceability Administration Guide* or to online help in the Cisco CallManager application.



Caution

Cisco strongly recommends that you perform the upgrade during a single maintenance window to minimize call-processing interruptions.

May I use Terminal Services, Virtual Network Computing, and Integrated Lights Out to remotely upgrade the server?

Do not use Terminal Services or Integrated Lights Out (ILO) to upgrade to Cisco CallManager Release 4.1(3). Cisco installs Terminal Services, so Cisco Technical Assistance Center (TAC) can perform remote administration and troubleshooting tasks. Cisco does not support upgrades through Terminal Services.

**Caution**

Before the upgrade, Cisco strongly recommends that you disable Terminal Services and immediately reboot the server to prevent remote access to the server. Accessing the server via Terminal Services may cause the upgrade to fail.

After you upgrade the server, you must enable Terminal Services.

If you want to use Virtual Network Computing (VNC) to remotely upgrade the publisher database server, go to http://www.cisco.com/univercd/cc/td/doc/product/voice/iptel_os/index.htm to obtain the latest version of the VNC document.

**Caution**

If you have installed VNC but do not plan to use it to perform the upgrade, disable it to prevent remote access to the server. If you do not disable VNC and a user/administrator accesses the server during the upgrade, the upgrade will fail.

Do not use Integrated Lights Out (ILO) to perform upgrade or installation tasks. Cisco supports ILO for remote management and configuration tasks only.

May I add Cisco CallManager servers as members of a Windows domain?

Cisco does not recommend adding Cisco CallManager servers as members of a Microsoft Windows domain. However if your system architecture is dependent on servers joining a Windows domain, then you must disable the Network Time Protocol (NTP) software that is installed by Cisco CallManager when you add the server as a member of a domain and use Microsoft time service. You must disable the NTP service on every server in your cluster.

**Note**

You must install the server as a member of a workgroup during installation of Cisco CallManager.

**Note**

Do not make any modifications to the installed NTP configuration file (NTP.CONF). Modifications to the NTP.CONF file may result in synchronization problems with CDRs, Traces, Event Logging, and so on. Cisco does not support these modifications.

To disable the Cisco-installed NTP software on a server:

- Step 1** Choose **Start > Programs > Administrative Tools > Services**.
- Step 2** Double-click the **Network Time Protocol** service.
- Step 3** In the Startup type field, choose **Disabled**.

Step 4 Click **Stop**.

Step 5 Click **OK**.

**Caution**

Every time that you upgrade your server, you must remove the server from the Windows Domain prior to installing the upgrade software.

When you complete your upgrade and you are adding the server to the Windows domain, you must disable the Cisco-installed NTP services again.

If you are joining the server to a Microsoft Windows 4.0 domain, you must also perform an additional procedure for synchronizing time. Refer to *How to Synchronize the Time on a Windows 2000-Based Computer in a Windows NT 4.0 Domain* at <http://www.microsoft.com>.

May I configure a server in the cluster as a Domain Controller?

Do not configure any server in the cluster as a Domain Controller. If you configure any server in the cluster as a Domain Controller, you cannot upgrade or reinstall Cisco CallManager on the server.

May I perform configuration tasks during the upgrade?

**Caution**

Do not attempt to perform any configuration tasks during the upgrade. Before the upgrade begins, disable all services that allow any administrator to perform remote configuration tasks. For example, disable Terminal Services or VNC before the upgrade to prevent an administrator from browsing into the server during the upgrade.

Notify all users that the upgrade is occurring, so users do not browse into the server during the upgrade.

Performing configuration tasks during the upgrade causes an upgrade failure.

May I remove a drive before I upgrade?

**Caution**

You cannot remove a drive if you have the MCS-7815, MCS-7820, MCS-7822, MCS-7825, or customer-provided IBM xSeries 330 server.

Removing a Drive and Inserting a Replacement Drive and Drive Mirroring Prior to the Upgrade

The “[Removing a Drive, Inserting a Replacement Drive, and Drive Mirroring \(Strongly Recommended\)](#)” section on page 2-12 describes how to properly perform this task.

Removing a Drive and Upgrading With One Drive In the Server

Perform the following procedure if you plan to remove a drive and upgrade with only one hard drive in the server.

-
- Step 1** Power off the publisher database server.
- Step 2** For all servers except the MCS-7845, remove the hard drive from Slot 0 and label the drive with the machine name, slot number, and current version of Cisco CallManager.
- For the MCS-7845, remove the drives from Slot 0 and Slot 2 and label them with the appropriate information.

- Step 3** Power on the system.

Cisco MCS

- Step 4** Perform the following procedure for the Cisco MCS (The MCS-7845 requires two spare hard drives):

- a. To enable interim recovery mode on the MCS-7830, MCS-7835, or MCS-7845, press **F2**.



Note The MCS-7835H-2.4 (or later) and MCS-7845H-2.4 (or later) default to F2, and the process automatically continues after a 10-second delay.

- b. This step applies only for the MCS-7830, MCS-7835, or MCS-7845. When prompted, press **F1** to continue.

- Step 5** Log in to the server by using the Administrator password.

IBM xSeries Server

- Step 6** To enable interim recovery mode on the customer-provided IBM xSeries 342 server, press **F5**.

- Step 7** Log in to the server by using the Administrator password.
-

Which Cisco IP telephony applications may I install on the Cisco CallManager server?

Consider the following information before you install other software besides Cisco CallManager on the Cisco MCS or the customer-provided server:

- You can install a compatible version of Cisco Customer Response Solutions (CRS), which you must purchase separately from Cisco CallManager.
- Do not install Cisco Unity, Cisco Conference Connection, Cisco Personal Assistant, or Cisco Emergency Responder on the server where Cisco CallManager is installed.
- Cisco strongly recommends that you install a security agent to protect your servers against unauthorized intrusion. Cisco offers two security agent options: Cisco Security Agent (CSA) for Cisco CallManager and Management Center for Cisco Security Agent (CSA MC).

CSA for Cisco CallManager designates a standalone agent and security policy that is designed to be used on all servers in the voice cluster. The policy that is included with this agent gets configured specifically for Cisco CallManager and Customer Response Applications (CRA), and you cannot update or view it. You can download the agent from CCO at <http://www.cisco.com/cgi-bin/tablebuild.pl/cmva-3des>.

If you want to add, change, delete, or view rules and policies that CSA for Cisco CallManager includes, or if you want to add support for non-Cisco approved, third-party applications, you must purchase and install the fully managed console, CSA MC. CSA MC requires a separate dedicated server to be used as the management center. This management center allows you to create agent kits that are then distributed to agents that are installed on other network systems and servers.

To access information on Cisco Security Agent, see http://www.cisco.com/univercd/cc/td/doc/product/voice/c_callmg/sec_vir/index.htm and http://www.cisco.com/univercd/cc/td/doc/product/rtrmgmt/cw2000/cw2000_b/vpnman/vms_2_2/csa_4_0/index.htm

**Caution**

If you are uncertain whether a Cisco IP telephony application is supported on the Cisco CallManager server, do not install it.

What additional information should I know before I upgrade?

This document assumes that all servers in your cluster are currently in an operational state.

About Security and Account Policies

**Caution**

If you change any security or account policies from the default, the upgrade may fail. For more information on security and account policies, refer to Microsoft documentation.

About Service and Enterprise Parameters in Cisco CallManager Administration

Cisco CallManager always updates service parameters with non-numeric values to the suggested value.

If your service parameters are set to the suggested value, Cisco CallManager automatically updates the value during the upgrade to match the new suggested value.

If your customized value exists between the range of minimum and maximum values, Cisco CallManager does not change the customized value.

If you configured customized values that are not between the minimum and maximum range of values, the customized value changes during the upgrade to the maximum or minimum value. For example, if the maximum value equals 10 and the value that you configured is 12, Cisco CallManager automatically sets the value to 10.

During the upgrade, some non-servicewide parameters may change to clusterwide parameters (formerly known as servicewide parameters).

About H.323 Intercluster Trunks

A registration problem occurs when multiple Cisco CallManager clusters have the same device name assigned to more than one H.323 intercluster trunk in Cisco CallManager Administration. You must assign a unique device name to each H.323 intercluster trunk. Refer to the *Cisco CallManager Administration Guide* for information on the trunk configuration procedure.

About H.323 Gateways

Cisco no longer provides the Run H.225D On Every Node option in Cisco CallManager Administration for H.323 gateways. Before you upgrade, verify that all H.323 dial-peer(s) point to a Cisco CallManager server in the device profile for which they are assigned. If the session target statements in the dial-peer(s) do not point to the appropriate Cisco CallManager server, calls fail.

About the Database

After you upgrade Cisco CallManager, the database name automatically increments; for example, from CCM0300 to CCM0301. Third-party CDR software may have SQL triggers that are hard coded to the original database name. The triggers may point to the previous database name and cause all CDR flat files to write to the BAD directory on the publisher database server. If you need technical assistance with this issue, directly contact the third-party software vendor.

When should I perform post-upgrade tasks?

Do not perform any post-upgrade tasks until you complete the upgrade on all servers in the cluster.

What if I encounter problems during the upgrade?

Cisco recommends that if you encounter problems during the upgrade, take the following actions:

1. During the upgrade if you receive an error message that displays in a dialog box, see the [“Upgrade Messages” section on page 5-1](#) and perform the recommended corrective action.
2. Obtain and review all log files (*.log and *.txt) from the following directories:
 - C:\Program Files\Common Files\Cisco\Logs
 - C:\Program Files\Common Files\Cisco\Directory
 - C:\Install\DBInstall
 - C:\Dcdsrvr\log

Be aware that not all error messages that display in the log file are catastrophic. MSI generates error messages in the log file for many reasons; for example, attempts to access a service that Cisco CallManager does not use.

