



Upgrading from Cisco CallManager 3.2 (If You Are Not Replacing Hardware)

You must upgrade Cisco CallManager on the publisher database server and all subscriber servers in the cluster. For the order of the upgrade, see the [“Which server in the cluster do I upgrade first?”](#) section on page 1-3.



Caution

To successfully upgrade the publisher and subscriber database servers, you must perform all procedures exactly as stated in this document.

This section contains procedures and information on the following topics:

- [Before You Begin, page 2-1](#)
- [Upgrading the Cisco CallManager 3.2 Publisher Database Server, page 2-4](#)
- [Upgrading Cisco CallManager 3.2 Subscriber Servers, page 2-25](#)

Before You Begin

Before you start the upgrade, make sure that you perform the following tasks:

Table 2-1 Pre-Upgrade Tasks

	Pre-Upgrade Task	Related Topics
Step 1	Make sure that you run a recommended version of Cisco CallManager on all servers in the cluster.	From which versions of Cisco CallManager can I upgrade to Cisco CallManager Release 4.0(1)?, page 1-1
Step 2	Make sure that you understand the order in which you must upgrade the cluster.	Which server in the cluster do I upgrade first?, page 1-3 How does a coresident upgrade work if I have CRS installed with Cisco CallManager?, page 1-4
Step 3	Make sure that your server configuration supports this upgrade.	Which servers and operating system versions does Cisco support for this upgrade?, page 1-2
Step 4	Make sure that you have 2.0 gigabytes of available disk space on each of your servers for the Cisco CallManager upgrade.	

Table 2-1 Pre-Upgrade Tasks (continued)


	Pre-Upgrade Task	Related Topics
Step 5	If you run Cisco CallManager Extension Mobility and Cisco CallManager 3.2 before the upgrade, you must perform additional configuration tasks after the upgrade, so Cisco CallManager Extension Mobility runs as expected.	For more information, refer to the Cisco CallManager Extension Mobility upgrade section of the <i>Cisco CallManager Features and Services Guide for 4.0(1)</i> . To obtain the most recent version of this document, go to http://www.cisco.com/univercd/cc/td/doc/product/voice/c_callmg/index.htm .
Step 6	If you are using Cisco Unity as your voice-messaging system, configure the voice mail ports in Cisco CallManager to ensure proper migration.	For more information, refer to the <i>Release Notes for Cisco CallManager</i> . To obtain the most recent version of this document, go to http://www.cisco.com/univercd/cc/td/doc/product/voice/c_callmg/index.htm .
Step 7	You must assign a unique device name to each H.323 intercluster trunk. A registration problem occurs when multiple Cisco CallManager clusters have the same device name assigned to H.323 intercluster trunks in Cisco CallManager Administration.	Refer to the <i>Cisco CallManager Administration Guide</i> for information on the trunk configuration procedure.
Step 8	Verify that all H.323 dial-peer(s) point to a Cisco CallManager server in the device profile for which they are assigned. Cisco no longer provides the Run H.225D On Every Node option in Cisco CallManager Administration for H.323 gateways. If the session target statements in the dial-peer(s) do not point to the appropriate Cisco CallManager server, calls fail.	Refer to the <i>Cisco CallManager Administration Guide</i> for information on the gateway configuration procedure.
Step 9	<p>Perform the recommended backup procedures for all coresident software applications that are installed on the server.</p> <p> Caution Failing to complete a backup causes a loss of data and configuration settings. For information on performing the backup, refer to the documentation that supports the applications.</p> <p>The Cisco IP Telephony Applications Backup Utility does not back up any operating system files except Host/LMhost, if these files exist on the server.</p> <p>For a list of files that the utility backs up, refer to <i>Using Cisco IP Telephony Applications Backup Utility, Version 3.5.52</i> (or later). To obtain the latest version of the document, go to http://www.cisco.com/univercd/cc/td/doc/product/voice/backup/index.htm.</p>	How does a coresident upgrade work if I have CRS installed with Cisco CallManager?, page 1-4
Step 10	Be aware that 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.

Table 2-1 Pre-Upgrade Tasks (continued)

	Pre-Upgrade Task	Related Topics
Step 11	<p>Understand how Cisco CallManager updates service parameters.</p> <p>For Service Parameters with Nonnumeric Values Cisco CallManager always updates service parameters with non-numeric values to the suggested value.</p> <p>For Service Parameters with Numeric Values 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).</p>	For more information on service parameters, refer to the <i>Cisco CallManager Administration Guide</i> and the <i>Cisco CallManager System Guide</i> .
Step 12	Before the upgrade, obtain the local Administrator account password, the SQL server SA password, the Private Password Phrase, and the computer name of the publisher database server.	“Information That You May Need During the Upgrade” section on page 2-3

Information That You May Need During the Upgrade

Use the information in the following table when you perform the upgrade procedures.



Caution

When entering passwords for the local Administrator and SA (SQL Server system administrator) accounts, enter alphanumeric characters only. The account password must match on every server in the cluster. For each of the accounts, you must enter the same password on every server in the cluster.

The upgrade prompts you for a Private Password Phrase. The upgrade uses the string that you enter to create a unique, encrypted password. You must enter the same phrase on all servers in the cluster.

Table 2-2 Information That You May Need During the Upgrade

Data	Your Entry
Destination where the backup file is stored during the backup	
WorkGroup Name	
Name of your organization	
Computer name of the publisher database server	
Local Administrator account password (same password for all servers in cluster)	
LDAP (DC) Directory Manager password (same password for all servers in cluster)	
SQL Server SA password (same password for all servers in cluster)	
Private Password Phrase for the cluster (same phrase for all servers in cluster)	

Upgrading the Cisco CallManager 3.2 Publisher Database Server

Table 2-3 includes the entire upgrade process on the publisher database server if you do not need to replace server. To successfully migrate data and upgrade the publisher database server, you must perform all procedures exactly as stated in this section.

Table 2-3 Required Upgrade Tasks for the Cisco CallManager 3.2 Publisher Database Server

	Task	Important Information	Time It Takes To Perform Task
Step 1	Verify that you have performed all pre-upgrade tasks.	See the “Before You Begin” section on page 2-1 and the “Information That You May Need During the Upgrade” section on page 2-3.	Depends on the size of the cluster
Step 2	Remove all servers in the cluster from the NT Domain or Microsoft Active Directory Domain.	See the “Remove the System from the NT Domain or Microsoft Active Directory Domain and Reboot the Server (Required, If Configured)” section on page 2-12.	Depends on the size of the cluster

Table 2-3 Required Upgrade Tasks for the Cisco CallManager 3.2 Publisher Database Server (continued)

Task	Important Information	Time It Takes To Perform Task
Step 3 Manually disable and stop all third-party, Cisco-verified, and Cisco-provided coresident applications that are installed on your server.	Disabling platform agents and services, such as performance monitoring (for example, NetIQ), antivirus (Cisco-approved McAfee services), intrusion detection (for example, Cisco Security Agent), and remote management services, ensures that the upgrade does not encounter issues that are associated with these services. See the “Disable and Stop Third-Party, Cisco-Verified, and Cisco-Provided Coresident Applications and Reboot the Server (Required)” section on page 2-12.	20 minutes

Table 2-3 Required Upgrade Tasks for the Cisco CallManager 3.2 Publisher Database Server (continued)

Task	Important Information	Time It Takes To Perform Task
<p>Step 4 Manually remove versions of the Cisco IP Telephony Applications Backup.</p>	<p>Cisco recommends that you perform this task before you insert Cisco CallManager Backup Utility Disk. If the backup utility installation detects a previous version of the utility, verify that no backup utility exists under the Add/Remove Programs option in Microsoft Windows. Then, continue the installation, even if an error message states that a previous version is detected.</p> <p>Note You cannot uninstall Cisco IP Telephony Applications Backup Utility version 3.5.6 if you installed the utility during the Cisco CallManager 3.2(3) installation.</p> <p>See the “Remove Previous Versions of the Cisco IP Telephony Applications Server Backup Utility (Required)” section on page 2-13.</p>	5 minutes
<p>Step 5 Manually install and configure Cisco IP Telephony Applications Server Backup, Version 3.5.52 (or later).</p>	<p>The Cisco CallManager Backup Utility Disk contains the utility that you must install.</p> <p>About Backup Utility Configuration</p> <p>When the installation software prompts you to configure the Cisco IP Telephony Applications Backup Utility, be aware that you must configure the publisher database server as the Backup Server, so data and configuration migration can occur.</p> <p>About the Network Directory</p> <p>If you choose a network directory as the destination for the backup server, the directory must be shared in Windows 2000. To share a directory, log in on that server, right-click the directory folder icon that you want to share, click Sharing..., click Share this folder, and then click OK.</p> <p>About the Files That the Utility Backs Up</p> <p>The Cisco IP Telephony Applications Backup Utility does not back up any operating system files except Host/LMhost, if these files exist on the server. For a list of files that the utility backs up, refer to <i>Using Cisco IP Telephony Applications Backup Utility, Version 3.5.52</i> (or later). To obtain the latest version of the document, go to http://www.cisco.com/univercd/cc/td/doc/product/voice/backup/index.htm.</p> <p>For step-by-step instructions on how to install and configure the backup utility, see the “Install and Configure Cisco IP Telephony Applications Server Backup Utility, Version 3.5.52 or Later (Required)” section on page 2-14.</p>	15 minutes

Table 2-3 Required Upgrade Tasks for the Cisco CallManager 3.2 Publisher Database Server (continued)

Task	Important Information	Time It Takes To Perform Task
<p>Step 6 Manually back up the data that is on the publisher database server to either a network directory or local tape drive.</p>	<p>Consider the following information before you back up the server:</p> <p>About the Backup Utility Version To back up the data, you must use Cisco IP Telephony Applications Backup Utility, Version 3.5.52 or later, with this release of Cisco CallManager.</p> <p>About Data Deletion Do not back up the data to a local directory; the operating system installation erases all data that is stored on the local directory.</p> <p>About Temporary Disk Space If the server does not have enough temporary disk space to complete the backup, the backup fails.</p> <p>About Data Preservation Only data that is contained on the publisher database server restores.</p> <p>For example, if Cisco Trivial File Transfer Protocol (TFTP) does not reside on the publisher database server, the restoration at the end of the upgrade erases all customized TFTP information, such as specific phone or gateway loads. If you want to retain this information, you must reconfigure the system, so the loads exist on the publisher database server, or you must manually save this data before the restoration.</p> <p>After the backup, verify that no errors exist. Failure to successfully troubleshoot any problems could cause a total loss of data.</p> <p>For step-by-step instructions on how to perform the backup, see the “Back Up Existing Data (Required)” section on page 2-16.</p> <p>Tip To significantly improve the speed of the Cisco CallManager upgrade, archive or remove CDRs before backing up your system.</p>	<p>30 to 60 minutes, depending on the size of the Cisco CallManager and Call Detail Record (CDR) database</p>
<p>Step 7 After you verify that the backup completed successfully, verify that the dbname.ini and backup.ini files exist. Copy the files to the network directory or tape device where the MCS.sti file is stored.</p>	<p>See the “Verify That the dbname.ini and backup.ini Files Exist for the STI_DATA Drive; Copy the Files to the Network Directory Where the MCS.sti File Exists (Strongly Recommended)” section on page 2-17.</p>	<p>5 minutes</p>

Table 2-3 Required Upgrade Tasks for the Cisco CallManager 3.2 Publisher Database Server (continued)

	Task	Important Information	Time It Takes To Perform Task
Step 8	<p>Run Cisco CallManager Upgrade Assistant Utility 4.0(1) on all servers in the cluster.</p> <p>You must perform this task on one server in the cluster at a time, beginning with the publisher database server.</p>	<p>The Cisco CallManager Upgrade Assistant Utility verifies that your server is in a healthy state before the upgrade. Perform this task on one server in the cluster at a time, beginning with the publisher database server.</p> <p>See the “Run the Cisco CallManager Upgrade Assistant Utility on All Servers in the Cluster (Strongly Recommended)” section on page 2-18.</p>	1 to 20 minutes per server
Step 9	If the server supports drive removal, remove a drive, insert a replacement drive, and mirror the drives.	See the “Removing a Drive, Inserting a Replacement Drive, and Drive Mirroring (Strongly Recommended)” section on page 2-18.	15 to 60 minutes, depending on the server type

Table 2-3 Required Upgrade Tasks for the Cisco CallManager 3.2 Publisher Database Server (continued)

Task	Important Information	Time It Takes To Perform Task
<p>Step 10 Using the Cisco-provided operating system disks (Cisco IP Telephony Server Operating System Hardware Detection Disk and Cisco IP Telephony Server Operating System Installation and Recovery Disk), install operating system version 2000.2.4 or later.</p> <p>You must install Cisco-provided operating system 2000.2.4 or later via the Same Server Recovery method.</p> <p>If you are currently running Cisco-provided operating system version 2000.2.4 or later, you must install the operating system again by using same server recovery method with disks that ship with this version of Cisco CallManager.</p> <p>You cannot upgrade to Cisco-provided operating system version 2000.2.4 (or later) from a previous version of the operating system.</p>	<p>About Removing Drives</p> <p>After you verify that you have a good backup of data, you can remove a drive to save configured data; however, you must insert a replacement drive into the server before you begin the operating system procedures.</p> <p>Before you begin the operating system installation, make sure that you have all drives in the server and verify that the drives are functional. For example, insert two drives for the MCS-7835 and four drives for the MCS-7845.</p> <p>You must also remove additional hard drives from the server. Neglecting to perform these tasks causes failure of the Cisco CallManager installation and the loss of data/configuration settings from drive mirroring.</p> <p>About Name Resolution</p> <p>After installing the operating system and before installing Cisco CallManager, you must configure name resolution for the backup location.</p> <p>About NT and Microsoft Active Directory Domains</p> <p>Cisco requires that you remove and do not add any servers to the NT Domain or the Microsoft Active Directory Domain until you complete all installation procedures on all servers in the cluster. The installation fails if you do not perform this task.</p> <p>About Data Recovery</p> <p>Make sure that you choose Same Server Recovery during the operating system installation. Choosing this option ensures that the server retains the current network configuration data.</p> <p>About Passwords</p> <p>Make sure that you enter an Administrator password at the end of the operating system installation. If you leave the Administrator password blank, you cannot install Cisco CallManager on the server.</p> <p>Ensure that this password is the same on every server in the cluster.</p> <p>About Operating System Service Releases</p> <p>Cisco strongly recommends that you do not install any operating system service releases until you complete the upgrade on every server in the cluster.</p> <p>For step-by-step instructions on how to install the operating system, see the “Install the Operating System by Using Same Server Recovery (Required)” section on page 2-19.</p>	<p>45 to 75 minutes, depending on the server type</p>

Table 2-3 Required Upgrade Tasks for the Cisco CallManager 3.2 Publisher Database Server (continued)

Task	Important Information	Time It Takes To Perform Task
Step 11 Use Cisco IP Telephony Server Operating System OS/BIOS Upgrade Disk that ships with Cisco CallManager to upgrade the Cisco-provided operating system to version 2000.2.5 (or later).	Before you perform the upgrade, be sure to read the operating system readme information that is posted on the operating system cryptographic software page. You can navigate to the site from the Cisco CallManager software page at http://www.cisco.com/kobayashi/sw-center/sw-voice.shtml .	45 to 75 minutes, depending on the server type
Step 12 Download and install the latest Cisco IP Telephony Server Operating System service release (2000-2-5sr2 or later). (Required)	The operating system service releases post on the voice products operating system cryptographic software page. You can navigate to the site from the Cisco CallManager software page. For installation instructions, refer to the file-specific readme document, <i>Cisco IP Telephony Operating System, SQL Server, Security Updates</i> , and <i>Installing the Operating System on the Cisco IP Telephony Applications Server</i> . To obtain the most recent version of these documents, go to http://www.cisco.com/kobayashi/sw-center/sw-voice.shtml .	15 minutes, depending on the Internet connection
Step 13 Download and install the latest OS-related security hotfixes, if any. (Recommended)	The operating system related security hotfixes post on the voice products operating system cryptographic software page. You can navigate to the site from the Cisco CallManager software page. Refer to the file-specific readme document, <i>Cisco IP Telephony Operating System, SQL Server, Security Updates</i> , and <i>Installing the Operating System on the Cisco IP Telephony Applications Server</i> . To obtain the most recent version of these documents, go to http://www.cisco.com/kobayashi/sw-center/sw-voice.shtml .	5 minutes

Table 2-3 Required Upgrade Tasks for the Cisco CallManager 3.2 Publisher Database Server (continued)

Task	Important Information	Time It Takes To Perform Task
<p>Step 14 Use the Cisco CallManager Installation, Upgrade, and Recovery Disks to install Cisco CallManager.</p> <p>Microsoft SQL Server 2000, Microsoft SQL Server 2000 Service Pack 3a, and DC Directory automatically install when you install Cisco CallManager via the disks.</p>	<p>About Configuring Name Resolution on the Backup Location</p> <p>After installing the operating system installation and before installing Cisco CallManager, you must configure name resolution for the backup location.</p> <p>About Data Restoration</p> <p>The disks that you insert for the Cisco CallManager installation also restores the data that you backed up by using backup utility version 3.5.52 or later. The restoration retains all TCP/IP configuration settings, but you lose all NIC settings that you have manually configured; for example, hard-coded Speed/Duplex settings. You must manually configure these settings after you install all servers in the cluster. Only the data that is contained on the publisher database server restores to the destination that you specify.</p> <p>For example, if Cisco TFTP does not reside on the publisher database server, the restoration at the end of the upgrade erases all customized TFTP information, such as specific phone or gateway loads. If you want to retain this information, you must reconfigure the system, so the loads exist on the publisher database server, or you must manually save this data before the restoration. Be aware that the restoration launches automatically.</p> <p>During the restoration, if your location is a network directory, you must click the Browse button and manually highlight the MCS.sti file. Failure to highlight the file causes the upgrade to fail.</p> <p>About Installed Services</p> <p>All services that display in the Service Activation window of Cisco CallManager Serviceability install, but only the services that you configured prior to the upgrade activate after the upgrade completes and the server reboots.</p> <p>If you want to run additional services, you must activate the service on each server in which you want the service to run. You must perform this task by browsing into Cisco CallManager Serviceability from a PC that does not have Cisco CallManager installed. For more information on how to activate services and for service considerations, refer to the <i>Cisco CallManager Serviceability Administration Guide</i>. Cisco CallManager places services in an inactive state until the upgrade completes.</p> <p>For step-by-step instructions on installing Cisco CallManager, see the “Upgrade the Operating System to Cisco-Provided Version 2000.2.5 (or Later) (Required)” section on page 2-21.</p>	<p>Restoring the Data— up to 70 minutes, depending on the size of the Cisco CallManager and CDR database</p> <p>Installing Cisco CallManager —45 to 90 minutes</p>
<p>Step 15 Upgrade the subscriber servers in the cluster.</p>	<p>See the “Upgrading Cisco CallManager 3.2 Subscriber Servers” procedure on page 2-25.</p>	<p>Depends on the size of the cluster.</p>

Remove the System from the NT Domain or Microsoft Active Directory Domain and Reboot the Server (Required, If Configured)



Tip

You can perform this task on all servers in the cluster at the same time.

The reboot causes call-processing interruptions if done at the same time.



Caution

When a server exists in a domain during an upgrade, authentication between servers may fail, or the non-default domain security policies may restrict Cisco CallManager from building critical NT accounts. Failing to remove the system from the domain and add it to a work group may cause upgrade errors, upgrade failures, or a total system failure, which includes a loss of data and a complete reinstallation of Cisco CallManager. Do not place the servers back into the domain until you have completed the upgrade procedures for every server in the cluster.

Convert any servers that exist in the NT Domain or Microsoft Active Directory Domain by performing the following procedure:

Procedure

- Step 1** Choose **Start > Settings > Control Panel > System**.
- Step 2** Click the **Network Identification** tab.
- Step 3** Click the **Properties** button.
- Step 4** Click the **Workgroup** radio button and enter a name, for example, WRKGRP, in the corresponding field.
- Step 5** Click **OK**.
- Step 6** When prompted to do so, reboot the server.
- Step 7** Log in to the server by using the Administrator password.
- Step 8** Perform this procedure on every server in the cluster that exists in the NT Domain.
- Step 9** Go to the Domain Controller and remove the computer accounts for the Cisco CallManager servers in the cluster.

Disable and Stop Third-Party, Cisco-Verified, and Cisco-Provided Coresident Applications and Reboot the Server (Required)



Tip

You must perform this task on all servers in the cluster at the same time.

The reboot may cause call-processing interruptions.

To review a list of Cisco-verified applications that Cisco supports and that you should disable before the installation, click <http://www.cisco.com/cgi-bin/ecoa/Search>. In the Solution pane, click **IP Telephony**. From the Solution Category drop-down list box, choose **Operations, Administration, and Maintenance (OAM)**. Click **Search**.

The following platform agents may interfere with the Cisco CallManager installation: antivirus services, intrusion detection services (for example, Cisco Security Agent), OEM server agents, server management agents, VOIP monitoring/performance monitoring, or remote access/remote management agents. Disabling platform agents and services, such as performance monitoring (for example, NetIQ), antivirus (Cisco-verified McAfee services), intrusion detection, and remote management services, ensures that you do not encounter issues that are associated with these services.

This document provides procedures for disabling Cisco-verified McAfee antivirus services only. If you need assistance with disabling other services or applications, refer to the corresponding documentation that accompanies the product.

To disable the McAfee antivirus services, perform the following tasks:

Procedure

-
- Step 1** Choose **Start > Settings > Control Panel > Administrative Tools > Services**.
 - Step 2** From the Services window, right-click one of the antivirus services; that is, Network Associates Alert Manager, Network Associates McShield, or Network Associates Task Manager, and choose **Properties**.
 - Step 3** In the Properties window, verify that the General tab displays.
 - Step 4** In the Service Status area, click **Stop**.
 - Step 5** From the Startup type drop-down list box, choose **Disabled**.
 - Step 6** Click **OK**.
 - Step 7** Perform **Step 1** through **Step 6** for all Cisco-approved McAfee antivirus services; for example, Network Associates Alert Manager, Network Associates McShield, and Network Associates Task Manager.
 - Step 8** Reboot the server and verify that the services are not running.



Caution

Make sure that the services do not start after the reboot.



Caution

If Cisco-verified antivirus or intrusion detection software is not currently installed on the server, Cisco strongly recommends that you do not install the software until you complete the entire upgrade/installation of all servers in the cluster.

Remove Previous Versions of the Cisco IP Telephony Applications Server Backup Utility (Required)

Uninstall any previous versions of the Cisco IP Telephony Applications Backup Utility by performing the following procedure.

**Note**

You cannot uninstall Cisco IP Telephony Applications Backup Utility version 3.5.6 if you installed the utility during the Cisco CallManager 3.2(3) installation.

Procedure

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- Step 1** Choose **Start > Settings > Control Panel**.
 - Step 2** Double-click **Add/Remove Programs**.
 - Step 3** Click **Cisco IP Telephony Applications Backup Utility**.
 - Step 4** Click **Remove**.
 - Step 5** Reboot the server and log in to the server by using the Administrator password.
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Install and Configure Cisco IP Telephony Applications Server Backup Utility, Version 3.5.52 or Later (Required)

The Cisco IP Telephony Applications Backup Utility does not back up any operating system files except Host/LMhost, if these files exist on the server. For a list of files that the utility backs up, refer to *Using Cisco IP Telephony Applications Backup Utility, Version 3.5.52* (or later). To obtain the latest version of the document, see <http://www.cisco.com/univercd/cc/td/doc/product/voice/backup/index.htm>.

Item Needed: Cisco CallManager Backup Utility Disk Or the Backup Utility That Is Available on the Web

Perform the following procedure to remove the existing backup utility, install the new backup utility, and configure the utility:

Procedure

-
- Step 1** Decide if you are going to install the backup utility via disk or via the web.

**Tip**

To install the backup utility from the web, refer to *Using Cisco IP Telephony Applications Backup Utility, Version 3.5.52* (or later) for more information on how to perform this task.

To install via disk, continue with [Step 2](#).

- Step 2** To install via disk, insert the Cisco CallManager Backup Utility disk into the drive.
- Step 3** When the Upgrade Warning displays, read the information carefully before starting the upgrade.
- Step 4** At the bottom of the window, click **Backup Utility**.
- Step 5** Click the **Run the program from the current location** radio button and click **Next**.
- Step 6** When a prompt asks you to install the utility, click **Yes**.
- Step 7** If the software detects that a previous version of the backup utility exists on the server, click **Yes** to proceed.

**Note**

Even if you uninstall the previous version of the backup utility, you may receive an error message that the backup utility exists on the server. Continue the backup utility installation.

- Step 8** When the Welcome window displays, click **Next**.
- Step 9** Accept the terms of the license agreement by clicking the **I accept the terms in the license agreement** radio button and click **Next**.
- Step 10** In the Backup Role window, perform the following procedure:
- Click the **Backup Server** radio button.
 - Click **Next**.
- Step 11** Enter the BackAdmin Private Password Phrase; enter the phrase again in the Confirm Password field. Click **Next**.
- Step 12** Click the version of Cisco CallManager that is currently running in the cluster; then, click **Next**.
- Step 13** In the Ready to Install the Program window, click **Install**.
- The installation occurs, as indicated in the status bar. Do not click Cancel. Continue to wait while the installation completes.
- Step 14** When the Backup Utility Configuration window displays, perform the following procedure:
- With the CallManager tab open, verify that the publisher database server name displays in the CallManager Targets list. If the publisher database server name does not display, add it to the target list.
 - To test for Cisco CallManager components, click **Verify**.
 - When you receive the authentication results in the dialog box, click **OK**.

**Caution**

If you have installed CDR Analysis and Reporting (CAR) on the publisher database server, verify that you have added the publisher database server name (not IP address) to the Cisco CallManager and Cisco CAR target lists. Use the same naming conventions in each list, so the restore utility can restore CAR during the Cisco CallManager database restoration.

- Step 15** Click the **CER**, **CRA** (Cisco Customer Response Applications), or **CAR** (Cisco CDR Administrative and Reporting Tool) tab and repeat [Step 14](#) to configure the backup for CER, CRA, or Cisco CAR.
- Step 16** Click the **Destination** tab.
- Step 17** Configure the destination, the location where the backup utility stores the data. Cisco allows you to choose only one Destination for all stored data.
- To configure a network directory, see [Step 18](#) through [Step 21](#).
- To configure a tape device, see [Step 22](#) through [Step 24](#).

**Caution**

When you configure the destination, do not click the **Local Directory** radio button, or the operating system installation erases all existing data that is stored on the local directory.

To Configure a Network Directory

If you choose a network directory as the destination for the backup server, the directory must be shared in Windows 2000. To share a directory, log in on that server, right-click the directory folder icon that you want to share, click **Sharing...**, click **Share this folder**, and then click **OK**.

- Step 18** Click **Network Directory**.
- Step 19** Browse to the location of the directory and click the directory that you want to specify as the location.
- Step 20** Enter a user name and password with administrative privileges and click **Verify**; then, click **OK**.
- Step 21** In the lower, right corner of the window, click **OK**; then, go to [Step 25](#).

To Configure a Tape Device

- Step 22** Click **Tape Device**.
- Step 23** From the drop-down list box, choose the device that you want to use.
- Step 24** Click **OK**.
- Step 25** When a prompt asks you to save the settings and exit, click **Yes**.
- Step 26** When the installation completes, click **Finish**.
- Step 27** Click **Yes** to restart the server.
- Step 28** Log in to the server by using the local Administrator account and password.

Back Up Existing Data (Required)



Caution

The Cisco IP Telephony Applications Backup Utility does not back up any operating system files except Host/LMhost, if these files exist on the server. For a list of files that the utility backs up, refer to *Using Cisco IP Telephony Applications Backup Utility, Version 3.5.52* (or later). To obtain the latest version of the document, see <http://www.cisco.com/univercd/cc/td/doc/product/voice/backup/index.htm>.

You must back up the publisher database before you install the operating system. Perform the following procedure:

Procedure

- Step 1** Right-click the Cisco IP Telephony Applications Backup Utility icon in the Windows 2000 system tray and choose **Start backup now**.
- Step 2** In the pane on the left side of the window, choose the publisher database server.
- Step 3** Click **Start backup**.
- Step 4** After the backup completes, verify that the backup completed successfully. The Backup Utility Viewer displays the status of the backup operation by highlighting each task as it occurs. Use the information that is generated in the log window to help identify problems. When the current status returns to “Waiting until <time> on <date>,” the backup is complete. The last line in the log file indicates that the log is closed.

You can obtain the StiBack.log from C:\Program Files\Common Files\Cisco\Log on the backup server. If you receive the following error messages or other error messages in the log file, the process did not successfully back up the data:

- Cisco CallManager database could not be found on <Server Name>.
- Could not determine APPS version
- Could not find a CCM/ART/CDR SQL database on <Server Name>

- Error finding SQL database
- Error enumerating registry keys on <Server Name>
- Open file request returned Not Enough Space

Step 5 After the backup completes and you verify that no errors occurred, remove the Cisco CallManager Backup Utility Disk from the drive.

**Caution**

If you have not backed up coresident applications on the server, you will lose the data when you perform the operating system installation. Back up these applications now.

Verify That the dbname.ini and backup.ini Files Exist for the STI_DATA Drive; Copy the Files to the Network Directory Where the MCS.sti File Exists (Strongly Recommended)

**Caution**

Cisco strongly recommends that you verify that the dbname.ini and backup.ini files exist on the publisher database server. Cisco IP Telephony Applications Backup Utility, Version 3.5.52 (or later), creates these files during the backup. If these files do not exist, you cannot restore the MCS.sti file.

The files exist in the Recovery directory on the STI_Data drive. Depending on the system, these files exist on the D: or E: drive. For example, the files may exist on the publisher database server in one of the following locations: D:\recover\

After you locate the files, Cisco recommends that you copy the files to the network directory where the MCS.sti file exists.

Run the Cisco CallManager Upgrade Assistant Utility on All Servers in the Cluster (Strongly Recommended)



Tip

You must perform this task on one server in the cluster at a time, beginning with the publisher database server.

The reboot may cause call-processing interruptions.

Item Needed: Web Download of Utility

Run the Cisco CallManager Upgrade Assistant Utility to verify that your server is in a healthy state before the upgrade. The document that posts next to the utility on the web provides detailed information about the utility. To obtain the utility and the document, perform the following procedure:

Procedure

-
- Step 1** Click <http://www.cisco.com/kobayashi/sw-center/sw-voice.shtml>.
 - Step 2** Click **Cisco CallManager Version 4.0**.
The Cisco CallManager 4.0 software page displays.
 - Step 3** Locate and download the document.
 - Step 4** Using the document as a reference, download and run the utility on every server in the cluster where Cisco CallManager is installed.
-

Removing a Drive, Inserting a Replacement Drive, and Drive Mirroring (Strongly Recommended)

Item Needed: Newly Purchased Hard Drive

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

After you verify that you have a good backup of the data, you can remove a drive to save configured data; however, you must insert a replacement drive into the server before you begin the operating system procedures. This task may require that you purchase a new drive.

This process may take between 30 minutes to 60 minutes, depending on the size of the drive.

Perform the following steps to remove a drive, to insert a replacement drive, and to mirror the drives:

Procedure

-
- 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.
 - 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.
- c. After Windows 2000 finishes booting, insert the replacement hard drive in Slot 0.

**Note**

On the MCS-7845, do not insert the replacement drive into Slot 2 until the mirror process completes for the drive in Slot 0.

- d. On the MCS-7830, MCS-7835, or MCS-7845, choose **Start > Compaq Systems Tools > Compaq Array Configuration Utility**. When the Array Configuration Utility Warning window opens, click **OK**.
- e. Watch the status bar in the lower, right corner to determine when the mirroring process completes.
- f. This step applies for the MCS-7845 only.
After the mirroring process completes in Slot 0, insert the next drive into Slot 2. The mirroring process launches automatically after you insert the drive into Slot 2.

IBM xSeries Server

- Step 5** Perform the following procedure for the IBM xSeries server:
- a. Insert a replacement drive into Slot 0.
 - b. Press **F5**.
 - c. Choose **Start > Programs > ServeRaid Manager > ServeRaid Manager**. You can view the progression of the drive mirroring.

Install the Operating System by Using Same Server Recovery (Required)

Item Needed: Cisco IP Telephony Server Operating System Hardware Detection Disk

Procedure

- Step 1** Locate the Cisco IP Telephony Server Operating System Hardware Detection Disk.
- Step 2** Insert the disk into the drive and then immediately restart the system. Do not press any keys during the reboot.
- Step 3** When the Cisco IP Telephony Applications Server QuickBuilder welcome window opens, click **Next**.
- Step 4** When the Type of Installation window opens, choose **Same Server Recovery**; then, click **Next**.
- Step 5** A warning message states that the installation erases all data. Click **Next**.

- Step 6** In the Ready to Install window, click **Next**.
- Step 7** When the Server Configuration Wizard window displays, click **Next**.



Caution In the following configuration windows, Cisco CallManager automatically populates the data entry fields.

If the server does not belong to a Workgroup, join a Workgroup during this operating system installation. The Cisco CallManager installation requires joining a Workgroup.

Likewise, to successfully complete the upgrade, you must configure DNS or WINS, if you have not already done so.

- Step 8** The user name and the name of your organization display in the appropriate fields. The computer name and DNS domain suffix appear. Click **Next**.
- Step 9** The Join Domain window displays whether the server is in a Workgroup or Domain. If the server exists in a Domain, Cisco requires that you place the server in a Workgroup. To join a Workgroup, perform the following procedure:
- a. Enter a name of the Workgroup; for example, WRKGRP.
 - b. Click **Next**.
- Step 10** From the drop-down box, choose the appropriate time zone. Reset the current date and time, if applicable; then, click **Next**.
- Step 11** If you chose **Use the following IP address** during the original installation, the IP information for the server displays in the next window.
- If your server was configured for Domain Name System (DNS) or Windows Internet Name Service (WINS), the IP addresses of the primary DNS and WINS servers display. If DNS or WINS was not configured, empty IP addresses fields display.
- Click **Next**.
- Step 12** If you configured your server with a static IP address and you did not configure DNS/WINS, you must update the lmhosts file, so it contains a mapping of the IP address and hostname of each server in the cluster. Perform the following steps to configure the lmhosts file:
- a. In the LMHost window, check the **Check if you want to edit LMHosts file** check box.
 - b. Enter the IP Address and Server Name.
For example:
`172.16.0.10 dallascml`
 - c. Click **Add Server**.
 - d. Click **Next** to continue.



Note The Windows 2000 SNMP agent provides security through the use of community names and authentication traps. All SNMP implementations universally accept the default name “public.” Cisco sets the community rights to none for security reasons. If you want to use SNMP with this server, you must configure it.

- Step 13** To ensure security within the Windows 2000 SNMP agent, Cisco recommends that you change the default public community name. Enter a new name; then, click **Next**.

- Step 14** The installation process automatically enables Terminal Services. If you want, you can disable these services; then, click **Next**.
- Step 15** The disk drive automatically opens. Remove the hardware detection disk from the drive and insert the server-specific Cisco IP Telephony Server Operating System Installation and Recovery Disk into the drive. The configuration process continues automatically after detection of the appropriate disk. The server begins an installation and reboot process that takes about 10 minutes to complete.
- Step 16** The disk drive automatically opens. Remove the operating system disk; if prompted, press any key to reboot. If you do not receive a prompt, the server reboots automatically.
- Windows 2000 setup begins and takes about 10 minutes to complete. Do not power down the server or press any keys during setup.

**Caution**

If you receive a message that the configuration file is not found, manually enter the information and continue the installation.

- Step 17** When the dialog box displays, enter an administrative password in the Password field; enter the same password in the Confirm Password field and click **OK**.
- If you leave the password fields blank, you cannot install any Cisco IP telephony applications on the server.

**Tip**

Make sure that you enter the same password on all servers in the cluster.

- Step 18** Log in to the server by using the local Administrator account and password.

**Caution**

After performing the operating system installation and before installing Cisco CallManager, you must configure name resolution for the backup location.

Upgrade the Operating System to Cisco-Provided Version 2000.2.5 (or Later) (Required)

Before you perform the upgrade, be sure to read the operating system readme information that is posted on the operating system cryptographic software page. You can navigate to the site from the Cisco CallManager software page at <http://www.cisco.com/kobayashi/sw-center/sw-voice.shtml>.

Perform the upgrade on the publisher database server first; complete the Cisco CallManager upgrade on the publisher database server before you upgrade the operating system on the subscriber servers.

Download and Install the Latest Cisco IP Telephony Server Operating System Service Release (Required)

Download and install the latest Cisco IP Telephony Server Operating System service release (2000-2-5sr2 or later). The operating system service releases post on the voice products operating system cryptographic software page. You can navigate to the site from the Cisco CallManager software page.

For installation instructions, refer to the file-specific readme document, *Cisco IP Telephony Operating System, SQL Server, Security Updates*, and *Installing the Operating System on the Cisco IP Telephony Applications Server*. To obtain the most recent version of these documents, go to <http://www.cisco.com/kobayashi/sw-center/sw-voice.shtml>.

Download and Install the Latest OS Related Security Hotfixes (If Any) (Recommended)

The operating system related security hotfixes post on the voice products operating system cryptographic software page. You can navigate to the site from the Cisco CallManager software page.

For installation instructions, refer to the file-specific readme document, *Cisco IP Telephony Operating System, SQL Server, Security Updates*, and *Installing the Operating System on the Cisco IP Telephony Applications Server*. To obtain the most recent version of these documents, go to <http://www.cisco.com/kobayashi/sw-center/sw-voice.shtml>.

Install Cisco CallManager (Required)

Items Needed: Cisco CallManager Installation, Upgrade, and Recovery Disks 1 and 2

Perform the following procedure to install the directory, the database, and Cisco CallManager via disks. The disks also prompts you to restore the data that the backup utility stored to a network directory or tape device.



Caution

You may not see any indication that the installation and restoration are progressing. Do not reboot the server unless the installation prompts you to do so. You may not see any activity for up to an hour, depending on the size of your system. Do not remove the disks during the installation process unless prompted to do so. The installation does not prompt you to remove the disk at the end of the installation, so verify that the installation is complete before you remove the disk.

Procedure

Step 1 After you complete the operating system installation, insert Cisco CallManager 4.0 Installation, Upgrade, and Recovery Disk 1 of 2 into the drive.

The installation process automatically starts.

To acknowledge that you disabled/uninstalled Cisco-verified applications, click **Yes**.



Note This extraction may take several minutes. Do not reboot.

- Step 2** The following message displays: “The Same System Recovery flag was detected. Is this server being configured as a Cisco CallManager Publisher?” Click **Yes**.
- Step 3** The Preparing to Install window displays. Do not click Cancel.
- Step 4** In the Welcome window, click **Next**.
- Step 5** Accept the terms of the license agreement by clicking the **I accept the terms in the license agreement** radio button and click **Next**.
- Step 6** In the Customer Information window, the User Name and Organization that you entered during the operating system installation display.
Cisco automatically populates the product key fields with the product key that you entered during the operating system installation. Click **Next**.
- Step 7** In the Setup Type window, ensure that the **Complete** radio button is chosen; then, click **Next**.
- Step 8** In the Setup Type window, the **Publisher** radio button automatically gets selected and grayed out. Click **Next**.
- Step 9** In the Administrator Password window, enter the Administrator password that you entered during the operating system installation.

**Caution**

When entering passwords for the local Administrator and SA (SQL Server system administrator) accounts, enter alphanumeric characters only. The account password must match on every server in the cluster.

- Step 10** Enter the Private Password Phrase for the cluster; confirm the private password phrase, and click **Next**.
The private password phrase contains 1 to 15 characters. This phrase may contain English lower-case letters, English upper-case letters, Westernized Arabic Numerals, and the following non-alphanumeric special characters: { } . < > : ? / | \ ` ~ ! @ \$ ^ & * () _ - +.
- Step 11** In the SQL Password window, enter the SA (SQL Server system administrator) password. To confirm the password, enter the password again in the next field; then, click **Next**.
- Step 12** In the Ready to Install the Program window, click **Install**.
The status bar indicates the progression of the installation. Continue to wait while the installation progresses.
- Step 13** A message displays that indicates that you need to install the next upgrade disk. Insert the Cisco CallManager 4.0 Installation, Upgrade, and Recovery Disk 2 of 2 and click **OK**.
Microsoft SQL Server 2000, Microsoft SQL Server 2000 Service Pack 3a (or later), and DC Directory install. This process takes 15 to 20 minutes.
A message displays that indicates that you need to install the first upgrade disk again.
- Step 14** Insert the Cisco CallManager 4.0 Installation, Upgrade, and Recovery Disk 1 of 2 and click **OK**.
- Step 15** To reboot the server, click **Yes**. Do not remove the disk from the drive.
- Step 16** Log in to the server by using the Administrator password.
- Step 17** The Cisco CallManager installation automatically launches. Continue to wait while the Cisco CallManager installation completes.
- Step 18** The Cisco IP Telephony Applications Restore Utility automatically launches the restoration of the Cisco CallManager data that you stored to a network directory or tape device.

- Step 19** In Step 1 of the restore utility, perform the following procedure:
- Choose the location of the data, the place where the data is stored.
If you chose a network directory, you must browse to and manually highlight the MCS.sti file. Failure to highlight the file causes the upgrade to fail.
 - Enter a username and password with administrator access rights on the server and then click **Verify**.
 - When you receive the authentication results in the dialog box, click **OK**.
 - Click **Next**.
- Step 20** In Step 2 of the restore utility, perform the following procedure:
- Highlight the CallManager target, which is the server that you want to restore.
 - Make sure that the SA password remains blank; then, click **Verify**.
 - A dialog box shows that authentication occurred successfully. Click **OK**.
 - Click **Next** to continue.
- Step 21** To accept that you will overwrite the target server and lose all existing data if you proceed, click **Yes**.
The utility restores the files to the server where you want the utility to send the files.
- Step 22** The restoration log displays. Verify that no errors exist in the log. If the following error messages or other error messages display in the log file, the process did not successfully restore the data:
- Failed to drop CCM/ART/CDR database from <Server Name>
 - Failed to restore DC Directory
 - Failed to stop DC Directory service
 - Failed to restart DC Directory service
- Step 23** After you verify that no errors exist, click **OK**.
The Cisco CallManager installation takes approximately 45 to 90 minutes. Although you may see no indication that the installation is progressing, continue to wait while the installation completes.
- Step 24** After the installation completes, click the **Finish** button.
- Step 25** When a prompt asks you to reboot the server, click **Yes**.
- Step 26** After you reboot the server, remove the disk from the drive.
- Step 27** Log on to the server by using the Administrator password.
- Step 28** Verify that your data and configuration restored to the server.
- Step 29** If the publisher database server is the only server where you plan to install Cisco CallManager, see the [“Performing Post-Upgrade Tasks” section on page 4-1](#).
If you have subscriber servers that you need to install, see the [“Upgrading Cisco CallManager 3.2 Subscriber Servers” section on page 2-25](#).
-

Upgrading Cisco CallManager 3.2 Subscriber Servers


To complete installation tasks on each subscriber server, you should allot 60 to 120 minutes, depending on the server type. Consider the time that it takes to perform pre-/post-upgrade tasks.

Table 2-4 describes how to upgrade the subscriber database servers.

Table 2-4 Required Upgrade Tasks for the Cisco CallManager 3.2 Subscriber Servers

	Task	Important Information and Resources
Step 1	Verify that you have performed all pre-upgrade tasks.	See the “ Before You Begin ” section on page 2-1.
Step 2	Verify that you have removed all servers from the NT or Microsoft Active Directory Domain.	See the “ Remove the System from the NT Domain or Microsoft Active Directory Domain and Reboot the Server (Required, If Configured) ” section on page 2-26.
Step 3	Verify that you have disabled and stopped all third-party, Cisco-verified, and Cisco-provided coresident applications that run on the server. Make sure that you have rebooted the server.	See the “ Disable and Stop Third-Party, Cisco-Verified, and Cisco-Provided Coresident Applications and Reboot the Server (Required) ” section on page 2-27.
Step 4	Run the ServPrep utility.	See the “ Run the ServPrep Utility (Required) ” section on page 2-28.
Step 5	Using the Cisco-provided operating system disk, install Cisco-provided operating system 2000.2.4 (or later).	<p>If you are currently running Cisco-provided operating system version 2000.2.4 or later, you must install the operating system again using same server recovery method with disks that ship with this version of Cisco CallManager.</p> <p>You cannot upgrade to Cisco-provided operating system version 2000.2.4 from a previous version of the operating system.</p> <p>See the “Install the Operating System by Using Same Server Recovery (Required)” section on page 2-29. Consider the same guidelines for the subscriber servers that you used for the publisher database server.</p>
Step 6	Use Cisco IP Telephony Server Operating System OS/BIOS Upgrade Disk that ships with Cisco CallManager to upgrade the Cisco-provided operating system to version 2000.2.5 (or later).	Before you perform the upgrade, be sure to read the operating system readme information that is posted on the operating system cryptographic software page. You can navigate to the site from the Cisco CallManager software page at http://www.cisco.com/kobayashi/sw-center/sw-voice.shtml .
Step 7	Download and install the latest Cisco IP Telephony Server Operating System service release (2000-2-5sr2 or later). (Required)	<p>The operating system service releases post on the voice products operating system cryptographic software page. You can navigate to the site from the Cisco CallManager software page.</p> <p>For installation instructions, refer to the file-specific readme document, <i>Cisco IP Telephony Operating System, SQL Server, Security Updates, and Installing the Operating System on the Cisco IP Telephony Applications Server</i>. To obtain the most recent version of these documents, go to http://www.cisco.com/kobayashi/sw-center/sw-voice.shtml.</p>

Table 2-4 Required Upgrade Tasks for the Cisco CallManager 3.2 Subscriber Servers (continued)

	Task	Important Information and Resources
Step 8	Download and install the latest OS-related security hotfixes, if any. (Recommended)	<p>The operating system related security hotfixes post on the voice products operating system cryptographic software page. You can navigate to the site from the Cisco CallManager software page.</p> <p>For installation instructions, refer to the file-specific readme document, <i>Cisco IP Telephony Operating System, SQL Server, Security Updates</i>, and <i>Installing the Operating System on the Cisco IP Telephony Applications Server</i>. To obtain the most recent version of these documents, go to http://www.cisco.com/kobayashi/sw-center/sw-voice.shtml.</p>
Step 9	<p>Task That You Perform Serially</p> <p>Perform the Cisco CallManager installation on one server at a time.</p>	<p>See the “Installing Cisco CallManager on Subscriber Database Server(s)” section on page 2-32.</p> <p> Caution You must perform the Cisco CallManager installation serially; that is, on one server at a time. After you reboot the server and after you verify that the server pulled the subscription from the publisher database server, you can begin the upgrade on the next server.</p>
Step 10	After you complete the installation on all servers in the cluster, perform post-upgrade tasks.	See the “ Performing Post-Upgrade Tasks ” section on page 4-1.

Remove the System from the NT Domain or Microsoft Active Directory Domain and Reboot the Server (Required, If Configured)



Tip

You can perform this task on all servers in the cluster at the same time.

The reboot causes call-processing interruptions if done at the same time.



Caution

When a server exists in a domain during an upgrade, authentication between servers may fail, or the non-default domain security policies may restrict Cisco CallManager from building critical NT accounts. Failing to remove the system from the domain and add it to a work group may cause upgrade errors, upgrade failures, or a total system failure, which includes a loss of data and a complete reinstallation of Cisco CallManager. Do not place the servers back into the domain until you have completed the upgrade procedures for every server in the cluster.

Convert any servers that exist in the NT Domain or Microsoft Active Directory Domain by performing the following procedure:

Procedure

- Step 1** Choose **Start > Settings > Control Panel > System**.
 - Step 2** Click the **Network Identification** tab.
 - Step 3** Click the **Properties** button.
 - Step 4** Click the **Workgroup** radio button and enter a name, for example, WRKGRP, in the corresponding field.
 - Step 5** Click **OK**.
 - Step 6** When prompted to do so, reboot the server.
 - Step 7** Log in to the server by using the Administrator password.
 - Step 8** Perform this procedure on every server in the cluster that exists in the NT Domain.
 - Step 9** Go to the Domain Controller and remove the computer accounts for the Cisco CallManager servers in the cluster.
-

Disable and Stop Third-Party, Cisco-Verified, and Cisco-Provided Coresident Applications and Reboot the Server (Required)



Tip

You must perform this task on all servers in the cluster at the same time.

The reboot may cause call-processing interruptions.

To review a list of Cisco-verified applications that Cisco supports and that you should disable before the installation, click <http://www.cisco.com/cgi-bin/ecoa/Search>. In the Solution pane, click **IP Telephony**. From the Solution Category drop-down list box, choose **Operations, Administration, and Maintenance (OAM)**. Click **Search**.

The following platform agents may interfere with the Cisco CallManager installation: antivirus services, intrusion detection services (for example, Cisco Security Agent), OEM server agents, server management agents, VOIP monitoring/performance monitoring, or remote access/remote management agents. Disabling platform agents and services, such as performance monitoring (for example, NetIQ), antivirus (Cisco-verified McAfee services), intrusion detection, and remote management services, ensures that you do not encounter issues that are associated with these services.

This document provides procedures for disabling Cisco-verified McAfee antivirus services only. If you need assistance with disabling other services or applications, refer to the corresponding documentation that accompanies the product.

To disable the McAfee antivirus services, perform the following tasks:

Procedure

- Step 1** Choose **Start > Settings > Control Panel > Administrative Tools > Services**.

- Step 2** From the Services window, right-click one of the antivirus services; that is, Network Associates Alert Manager, Network Associates McShield, or Network Associates Task Manager, and choose **Properties**.
- Step 3** In the Properties window, verify that the General tab displays.
- Step 4** In the Service Status area, click **Stop**.
- Step 5** From the Startup type drop-down list box, choose **Disabled**.
- Step 6** Click **OK**.
- Step 7** Perform [Step 1](#) through [Step 6](#) for all Cisco-approved McAfee antivirus services; for example, Network Associates Alert Manager, Network Associates McShield, and Network Associates Task Manager.
- Step 8** Reboot the server and verify that the services are not running.

**Caution**

Make sure that the services do not start after the reboot.

**Caution**

If Cisco-verified antivirus or intrusion detection software is not currently installed on the server, Cisco strongly recommends that you do not install the software until you complete the entire upgrade/installation of all servers in the cluster.

Run the ServPrep Utility (Required)

Item Needed: Cisco CallManager Subscriber Upgrade Disk 1

Before you install Cisco CallManager, you must run the ServPrep utility and install Cisco-provided operating system version 2000.2.5sr2 or later by using the Cisco-provided operating system disks.

The ServPrep utility, which you run on subscriber servers, updates the network configuration by creating the file, STISys.inf, which contains network information. The utility saves TCP/IP settings, but you lose manually configured NIC settings; for example, hard-coded Speed/Duplex settings. After you complete the installation on all servers in the cluster, you must manually configure previous NIC settings.

**Caution**

This utility supports all Cisco Media Convergence Servers, customer-provided HP DL320 and DL380 servers, and customer-provided IBM xSeries 330, 340, 342, and 345 servers that meet Cisco-approved configuration standards. Do not run this utility on any other servers, including customer-provided servers.

Procedure

- Step 1** Insert the Cisco CallManager Subscriber Upgrade Disk 1 into the drive as soon as you can do so.
 - Step 2** When the Upgrade Warning window displays, carefully read the information and click the **ServPrep Utility** link at the bottom of the window.
 - Step 3** Run the program from the current location; follow the prompts that display.
-

Install the Operating System by Using Same Server Recovery (Required)

Item Needed: Cisco IP Telephony Server Operating System Hardware Detection Disk

Procedure

- Step 1** Locate the Cisco IP Telephony Server Operating System Hardware Detection Disk.
- Step 2** Insert the disk into the drive and then immediately restart the system. Do not press any keys during the reboot.
- Step 3** When the Cisco IP Telephony Applications Server QuickBuilder welcome window opens, click **Next**.
- Step 4** When the Type of Installation window opens, choose **Same Server Recovery**; then, click **Next**.
- Step 5** A warning message states that the installation erases all data. Click **Next**.
- Step 6** In the Ready to Install window, click **Next**.
- Step 7** When the Server Configuration Wizard window displays, click **Next**.



Caution

In the following configuration windows, Cisco CallManager automatically populates the data entry fields.

If the server does not belong to a Workgroup, join a Workgroup during this operating system installation. The Cisco CallManager installation requires joining a Workgroup.

Likewise, to successfully complete the upgrade, you must configure DNS or WINS, if you have not already done so.

- Step 8** The user name and the name of your organization display in the appropriate fields. The computer name and DNS domain suffix appear. Click **Next**.
- Step 9** The Join Domain window displays whether the server is in a Workgroup or Domain. If the server exists in a Domain, Cisco requires that you place the server in a Workgroup. To join a Workgroup, perform the following procedure:
 - a. Enter a name of the Workgroup; for example, WRKGRP.
 - b. Click **Next**.
- Step 10** From the drop-down box, choose the appropriate time zone. Reset the current date and time, if applicable; then, click **Next**.
- Step 11** If you chose **Use the following IP address** during the original installation, the IP information for the server displays in the next window.

If your server was configured for Domain Name System (DNS) or Windows Internet Name Service (WINS), the IP addresses of the primary DNS and WINS servers display. If DNS or WINS was not configured, empty IP addresses fields display.

Click **Next**.

Step 12 If you configured your server with a static IP address and you did not configure DNS/WINS, you must update the lmhosts file, so it contains a mapping of the IP address and hostname of each server in the cluster. Perform the following steps to configure the lmhosts file:

a. In the LMHost window, check the **Check if you want to edit LMHosts file** check box.

b. Enter the IP Address and Server Name.

For example:

```
172.16.0.10 dallascml
```

c. Click **Add Server**.

d. Click **Next** to continue.



Note

The Windows 2000 SNMP agent provides security through the use of community names and authentication traps. All SNMP implementations universally accept the default name “public.” Cisco sets the community rights to none for security reasons. If you want to use SNMP with this server, you must configure it.

Step 13 To ensure security within the Windows 2000 SNMP agent, Cisco recommends that you change the default public community name. Enter a new name; then, click **Next**.

Step 14 The installation process automatically enables Terminal Services. If you want, you can disable these services; then, click **Next**.

Step 15 The disk drive automatically opens. Remove the hardware detection disk from the drive and insert the server-specific Cisco IP Telephony Server Operating System Installation and Recovery Disk into the drive. The configuration process continues automatically after detection of the appropriate disk. The server begins an installation and reboot process that takes about 10 minutes to complete.

Step 16 The disk drive automatically opens. Remove the operating system disk; if prompted, press any key to reboot. If you do not receive a prompt, the server reboots automatically.

Windows 2000 setup begins and takes about 10 minutes to complete. Do not power down the server or press any keys during setup.



Caution

If you receive a message that the configuration file is not found, manually enter the information and continue the installation.

Step 17 When the dialog box displays, enter an administrative password in the Password field; enter the same password in the Confirm Password field and click **OK**.

If you leave the password fields blank, you cannot install any Cisco IP telephony applications on the server.



Tip

Make sure that you enter the same password on all servers in the cluster.

Step 18 Log in to the server by using the local Administrator account and password.

**Caution**

After performing the operating system installation and before installing Cisco CallManager, you must configure name resolution for the backup location.

Upgrade the Operating System to Cisco-Provided Version 2000.2.5 (or Later) (Required)

Before you perform the upgrade, be sure to read the operating system readme information that is posted on the operating system cryptographic software page. You can navigate to the site from the Cisco CallManager software page at <http://www.cisco.com/kobayashi/sw-center/sw-voice.shtml>.

Perform the upgrade on the publisher database server first; complete the Cisco CallManager upgrade on the publisher database server before you upgrade the operating system on the subscriber servers.

Download and Install the Latest Cisco IP Telephony Server Operating System Service Release (Required)

Download and install the latest Cisco IP Telephony Server Operating System service release (2000-2-5sr2 or later). The operating system service releases post on the voice products operating system cryptographic software page. You can navigate to the site from the Cisco CallManager software page.

For installation instructions, refer to the file-specific readme document, *Cisco IP Telephony Operating System, SQL Server, Security Updates*, and *Installing the Operating System on the Cisco IP Telephony Applications Server*. To obtain the most recent version of these documents, go to <http://www.cisco.com/kobayashi/sw-center/sw-voice.shtml>.

Download and Install the Latest OS-Related Security Hotfixes (If Any) (Recommended)

The operating system related security hotfixes post on the voice products operating system cryptographic software page. You can navigate to the site from the Cisco CallManager software page.

For installation instructions, refer to the file-specific readme document, *Cisco IP Telephony Operating System, SQL Server, Security Updates*, and *Installing the Operating System on the Cisco IP Telephony Applications Server*. To obtain the most recent version of these documents, go to <http://www.cisco.com/kobayashi/sw-center/sw-voice.shtml>.

Installing Cisco CallManager on Subscriber Database Server(s)

Item Needed: Cisco CallManager Installation, Upgrade, and Recovery Disks 1 and 2

After you install Cisco CallManager on the publisher database server, you install the application on the subscriber database servers. For each subscriber database server, the installation takes 45 to 90 minutes, depending on the server type.



Caution

Perform the installation on one server at a time. This process ensures that the subscriber server(s) can receive a copy of the database from the publisher database server.



Caution

The installation procedure prompts you to remove the Cisco CallManager Installation, Upgrade, and Recovery Disks. Do not remove the disk unless the installation procedure directs you to do so.

Procedure

- Step 1** After you install the operating system and log in to the server by using the Administrator account and password, obtain the Cisco CallManager Installation, Upgrade, and Recovery Disk 1 of 2 and insert it into the drive.
- Step 2** To acknowledge that you disabled/uninstalled all Cisco-verified applications, click **Yes**.
- Step 3** The Preparing to Install window displays while the installation program copies files to your server. This process takes approximately 10 minutes. Do not click Cancel.
- Step 4** When the Welcome window displays, click **Next**.
- Step 5** Accept the Cisco CallManager license agreement by clicking the **I accept the terms in the license agreement** radio button; then, click **Next**.
- Step 6** In the Customer Information window, the User Name and Organization that you entered during the operating system installation automatically display.

Cisco automatically populates the product key fields with the product key that you entered during the operating system installation. Click **Next**.



Note

The publisher database server functions as the master database for all servers in the cluster. All servers except the publishing database server maintain subscriber databases, which are copies of the publisher database server. If you are configuring a subscriber database server, make sure that the server that you are installing can connect to the publishing database server, so the installation can continue. The installation process necessitates this connection, so the publisher database server can be copied to the local drive on the subscriber server. To make sure that a good connection exists between the servers, issue a ping command from the subscriber server to the publisher database server before you try to authenticate to it. If you are using Domain Name System (DNS), use a fully qualified domain name (for example, 'hostname.cisco.com') with the ping command. If the ping command is not successful, you can also try to access the publisher database server from all subscriber servers by choosing **Start > Run**, entering `\\<Publisher Server Name>\C$`, and then by clicking **OK**. If the publisher database server cannot access the subscriber server, you must exit the installation program, fix the problem, and begin the installation process again on the subscriber server.

- Step 7** Ensure that the **Complete** radio button is chosen.

- Step 8** In the Server Type window, perform the following procedure:
- Click the **Subscriber** radio button.
 - Enter the computer name of the publisher database server.

**Caution**

If you enter the IP address or fully qualified DNS of the publisher database server, the installation fails.

- Click **Next**.

**Caution**

When entering passwords for the local Administrator and SA (SQL Server system administrator) accounts, enter alphanumeric characters only. The account password must match on every server in the cluster.

- Step 9** In the Administrator password window, enter the local Windows administrator password. This password must match the Windows administrator password that is used on the publisher database server. Click **Next**.
- Step 10** Enter the Private Password Phrase for the cluster; confirm the private password phrase and click **Next**. The private password phrase contains 1 to 15 characters. This phrase may contain English lower-case letters, English upper-case letters, Westernized Arabic Numerals, and the following non-alphanumeric special characters: { } . < > : ? / | \ ` ~ ! @ \$ ^ & * () _ - +. This password must match the Private Password Phrase that you entered on the publisher database server.
- Step 11** In the SQL Password window, perform the following procedure:
- Enter the SA (SQL Server system administrator) password. This password must match the SA password that you entered on the publisher database server.
 - Press the **Tab** key.
 - To confirm the password, enter the password again; then, click **Next**.
- Step 12** Now that the Cisco CallManager and other included software are ready to be installed, click **Install**. This part of the installation takes about 30 to 45 minutes, depending on your server type. Continue to wait while the installation progresses.
- Step 13** A message displays indicating that you need to insert the next upgrade disk. Insert Cisco CallManager 4.0(1) Installation, Upgrade, and Recovery Disk 2 and click **OK**. A message displays indicating that you need to install the first upgrade disk again.
- Step 14** Insert the Cisco CallManager 4.0 Installation, Upgrade, and Recovery Disk 1 of 2 and click **OK**.
- Step 15** When the Cisco CallManager installation completes, click **Finish** to exit the wizard.
- Step 16** To restart the server, click **Yes**.
- Step 17** After the server reboots, remove the disk from the drive.
- Step 18** Log in by using the Administrator account and password.
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**Tip**

Repeat the procedures in the [“Upgrading Cisco CallManager 3.2 Subscriber Servers”](#) section on [page 2-25](#) on each subscriber server until you have upgraded all of the servers in your cluster. After you update all the servers, perform the appropriate procedures in the [“Performing Post-Upgrade Tasks”](#) section on [page 4-1](#).
