



Using Cisco IP Telephony Applications Backup Utility, Version 3.5.6

Document Title Change

Use this document if you are searching for *Backing Up and Restoring Cisco CallManager Release 3.3*.

Purpose of the Document

This document provides procedures for the following topics:

- Installing, configuring, and backing up the data for applications that use the Cisco IP Telephony Applications Server Backup Utility, version 3.5.6
- Restoring the Cisco IP Telephony Applications Server, the Cisco CallManager cluster, the publisher database server, the subscriber server(s), and the data that you backed up by using the backup utility
- Replacing the publisher database server or co-resident servers

Contents

This document contains the following topics:

Cisco IP Telephony Applications Backup Utility

- [Frequently Asked Questions About the Cisco IP Telephony Applications Backup Utility, page 4](#)
 - [Which versions of Cisco CallManager does Cisco IP Telephony Applications Backup Utility 3.5.6 support?, page 4](#)
 - [How does the Cisco IP Telephony Applications Backup Utility work?, page 4](#)
 - [What data does the Cisco IP Telephony Applications Backup Utility back up?, page 6](#)
 - [What if I forgot to choose a Backup Server when I installed Cisco CallManager?, page 9](#)
 - [Can I change the purpose of the server?, page 9](#)



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- [Can I uninstall the backup utility?](#), page 9
- [How do I know if the backup completed successfully?](#), page 9
- [If I need to restore the MCS.sti file, do I need to reinstall the backup utility that created the MCS.sti file?](#), page 10
- [Frequently Asked Questions About the Cisco IP Telephony Applications Restore Utility](#), page 15

Cisco IP Telephony Applications Restore Utility

- [How does the Cisco IP Telephony Applications Restore Utility work?](#), page 15
- [How do I restore the data?](#), page 15
- [Where do I obtain the log file?](#), page 17
- [How do I restore the entire cluster?](#), page 17
- [How do I restore the publisher database server?](#), page 18
- [How do I restore subscriber servers?](#), page 19
- [How do I restore a CRA server or Cisco uOne server?](#), page 19
- [What post-restoration tasks should I perform?](#), page 19
- [How do I replace an existing or a failed publisher database server or co-resident server?](#), page 20

Related Documentation

- [Obtaining Documentation](#), page 20
- [Obtaining Technical Assistance](#), page 21

Conventions

Consider the following documentation conventions as you review this document:

Blue Text—To quickly navigate to a section or URL, click text that appears in blue.



Note

Reader, take note. Notes contain helpful suggestions or references to material not covered in the publication.



Caution

Reader, be careful. You may do something that could result in equipment damage or loss of data.

Cisco Customer Response Applications (CRA) and Cisco Customer Response Solutions (CRS) refer to the same product.

Cisco CDR Analysis and Reporting (CAR) and the Cisco Administrative Reporting Tool (ART) refer to the same product.

Locating Related Cisco CallManager Documentation

Cisco strongly recommends that you review the following documents before you perform any backup and restore procedures:

- *Release Notes for Cisco CallManager Release 3.3*

This document lists and describes the system requirements, new features, changed information, documentation updates, and open caveats for Cisco CallManager. Cisco provides versions of this document that match the version of the installation document.

- The appropriate Cisco IP telephony application documentation

Locate the release notes, installation/upgrade, and configuration guides for the applications that you want to integrate with Cisco CallManager.

Click the URLs in [Table 1](#) to navigate to the appropriate documentation.

Table 1 Quick Reference for URLs

Related Information and Software	URL
Operating system documentation and Virtual Network Computing (VNC) documentation	http://www.cisco.com/univercd/cc/td/doc/product/voice/iptel_os/index.htm
Cisco MCS hardware specifications	http://www.cisco.com/warp/public/779/largeent/avid/products/infrastructure.html
<i>Cisco IP Telephony BIOS and Operating System Roadmap</i>	http://www.cisco.com/univercd/cc/td/doc/product/voice/c_callmg/index.htm
<i>Cisco CallManager Compatibility Matrix</i>	http://www.cisco.com/univercd/cc/td/doc/product/voice/c_callmg/index.htm
Cisco CallManager documentation	http://www.cisco.com/univercd/cc/td/doc/product/voice/c_callmg/index.htm
Cisco CallManager support patches	http://www.cisco.com/kobayashi/sw-center/sw-voice.shtml
Related Cisco IP telephony application documentation	http://www.cisco.com/univercd/cc/td/doc/product/voice/index.htm
Cisco Integrated Communications System (ICS) 7750	http://www.cisco.com/univercd/cc/td/doc/product/voice/ics/index.htm



Note

If you need Cisco CallManager installation and backup/restore information for the Cisco Integrated Communication System (ICS) 7750, refer to the Cisco ICS documentation.

Frequently Asked Questions About the Cisco IP Telephony Applications Backup Utility

Review the following questions and responses before configuring or performing the backup.

Which versions of Cisco CallManager does Cisco IP Telephony Applications Backup Utility 3.5.6 support?

Cisco IP Telephony Applications Backup Utility 3.5.6 supports the following Cisco CallManager releases, which serve as minimum requirements:

- Cisco CallManager 3.3(2) or later
- All releases of Cisco CallManager 3.2
- All releases of Cisco CallManager 3.1
- All releases of Cisco CallManager 3.0

**Note**

All CRA/CRS and Cisco uOne releases that are compatible with Cisco CallManager use this backup utility. To obtain compatibility information on CRA/CRS and Cisco uOne, refer to the *Cisco CallManager Compatibility Matrix*. See [Table 1](#).

How does the Cisco IP Telephony Applications Backup Utility work?

The Cisco IP Telephony Applications Backup Utility provides a reliable and convenient way to perform regularly scheduled automatic or user-invoked backups of your Cisco CallManager data.

About the Backup Server

The backup server actually performs the backup operation and the following tasks:

- Saves all backup utility settings
- Verifies authentication information that you provide during the configuration of the backup
- Backs up the data that you choose
- Stores the backup data in the backup destination that you specify
- Creates separate logs for the backup utility

About the Target Server(s)

The target server contains the data to be backed up. At the end of the Cisco CallManager installation, you add the target server(s) to the CallManager target list on the backup server.

When you add a target server to the backup server, make sure that you enter the computer name (not the IP address or the fully qualified DNS name).

If the target server is a remote server, you must provide a user name and password that has administrative privileges to the remote server.

About Backup Data and the MCS.sti file

The Cisco CallManager publisher database contains all the information that you configure with Cisco CallManager Administration, and the database updates each time that you make a change. Cisco CallManager updates the directory, and configuration information also updates periodically. Cisco strongly recommends that you make a backup of the Cisco CallManager database, configuration, and directory information by using the Cisco IP Telephony Applications Backup Utility every time that you make changes through Cisco CallManager Administration.

Each Cisco CallManager cluster has only one publisher database, and you do not need to back up the subscriber database servers.

However, you can configure the Cisco IP Telephony Applications Backup Utility to back up more than one Cisco IP Telephony Applications Server, such as publishing database servers of other Cisco CallManager clusters, Cisco uOne servers, or Cisco Customer Response Solutions (CRS/CRA) servers.

During the backup, the utility sends the data to a staging directory, and by default, one file called MCS.sti archives all data that is backed up from the target servers in the target list.



Caution

Each time that a backup is performed, the new backup file overwrites the existing MCS.sti file. If you want to retain previous backup data, you must archive or rename the existing MCS.sti file before the next backup is performed.

About the Staging Directory

The staging directory serves as a temporary directory where the backup utility places all files until it builds the single MCS.sti file.



Caution

During the backup, heed warnings about the amount of temporary space that is available on the staging directory. If you do not have enough temporary space on the staging directory, the backup will fail.

About the Schedule

In the Schedule tab, you configure the day and time that you want the backup to run.

Cisco sets a default schedule for when the backup is to run. You can change the schedule at any time.

The utility backs up all data at the same time. You cannot configure a separate schedule for each application.

About the Location Where the Data is Stored (Destination)

Cisco strongly recommends that you specify a tape drive or a network directory as the backup destination, not a local 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**.

If you choose to back up the data to a network directory, that server must have NETBIOS name resolution in place (not the IP address or the fully qualified DNS name).

What data does the Cisco IP Telephony Applications Backup Utility back up?

If you configure the backup settings as instructed in this document, the backup utility automatically backs up the information that displays in [Table 2](#):

Table 2 *Data Choices*

Check Box	Data Backed Up
Cisco CallManager	<p>The utility backs up the following data:</p> <ul style="list-style-type: none"> • Cisco CallManager publisher database on SQL Server 2000 or SQL Server 7.0, depending on the Cisco CallManager release • DC Directory LDAP directory • DirectoryConfiguration.ini • PubInfo.inf and Replication.ini, which contain the publisher and subscriber configuration information • Directory schema file, which includes avvid_schemaV25.txt • LmHosts file and hosts file, if configured • The files in C:\Program Files\Cisco\TFTPPath • Cisco Bulk Administration Tool (BAT) files • Cisco Call Detail Records (CDRs), which is optional for Cisco CallManager Release 3.3 • HKLM\Software\Cisco Systems, Inc.

Table 2 Data Choices (continued)

Check Box	Data Backed Up
Cisco Customer Response Applications (CRA)/(CRS)	<p>The utility backs up the following data, depending on the release:</p> <p>All versions of CRA</p> <ul style="list-style-type: none"> • LMHosts file and Hosts file • \$winsysdir\Ccn\Ccndir.ini • C:\Program Files\Cisco\bin\SaEnvProperties.ini • Files from C:\Program Files\Wfavvid, including Workflows (.aef), Java (.java), Jar (.jar), Properties (.properties), and .WAV (.wav) <p>CRA Release 3.0 and later</p> <ul style="list-style-type: none"> • Files from C:\Program Files\Wfavvid, including XML (.xml), Class (.class), WAR (.war), GSL (.gsl), and Digit (.digit), JobRunner.ini • Cfg files (.CFG) from C:\Program Files\Common • Cfg files (.CFG) from C:\Program Files\Desktop • AlarmService.ini • .GSL and .Digit from user and system grammar paths • Sch.ini to the staging directory • databases DB_CRA, DB_CRA_CCDR, SCHEDULERDB • database FCRASSVR (if ICD is installed) • .WAV (.wav) from user and system prompt paths • Grammar and prompt paths that were saved to UserPaths.ini
CDR Analysis and Reporting (CAR)	<p>The utility backs up the following data:</p> <ul style="list-style-type: none"> • CAR (ART) database • C:\Ciscowebs\ART\reports\Pregenerated • Registry Key HKLM\Software\Cisco Systems Inc.\ART
Cisco uOne	<p>The utility backs up the following data:</p> <ul style="list-style-type: none"> • LmHosts files • C:\Netscape\SuiteSpot\Backup\Db • %UONEHOME%\Params • %UONEHOME%\LdapData • C:\Netscape\SuiteSpot\Slapd-%ParsedServerName% • C:\Netscape\SuiteSpot\MailServer\Mailbox • C:\Netscape\SuiteSpot\MailServer\Spool • C:\Netscape\SuiteSpot\Mail-%ParsedServerName%.%Domain% • %UONEHOME%\Logs\Billinfo • C:\Dcdsrvr\Backup\Database.dat

Can I use any backup utility that I want?

Cisco does not support any third-party backup utilities.

Cisco strongly recommends that you use the Cisco IP Telephony Applications Backup Utility to perform backups and that no third-party backup software is used.

However, if you do not want to use the Cisco IP Telephony Applications Backup Utility, you can either uninstall it after the installation or disable it, depending on how your server is set up.



Caution

Some application installations require that the utility serve as a mandatory component on the server. For example, a Cisco CallManager 3.3 upgrade requires that the utility remain on the publisher database server after the installation; therefore, the utility name does not display in the Add/Remove Programs window, and you cannot uninstall it.

To uninstall the utility, perform the following procedure:

Procedure to Uninstall the Utility

-
- Step 1 Choose **Start > Settings > Control Panel**.
 - Step 2 Double-click **Add/Remove Programs**.
 - Step 3 Click **Cisco IP Telephony Applications Backup Utility**.
If the application requires that the utility serve as a mandatory component on the server, the utility name does not display in the window. You cannot uninstall the utility, so close the window.
 - Step 4 Click **Remove**.
 - Step 5 Reboot the server and log in to the server by using the Administrator password.
-

To disable the Cisco IP Telephony Applications Backup service, perform the following procedure:

Procedure to Disable the Cisco IP Telephony Applications Backup Service

-
- Step 1 Choose **Start > Programs > Administrative Tools > Services**.
 - Step 2 Locate the service named **Cisco IP Telephony Applications Backup**.
 - Step 3 Right-click the service and choose **Properties**.
 - Step 4 Click **Stop** to immediately terminate the service.
 - Step 5 From the Startup Type drop-down list box, choose **Disabled**.
Choosing this option prevents the service from automatically starting after the server reboots.
 - Step 6 Click **OK**.
-

What if I forgot to choose a Backup Server when I installed Cisco CallManager?

If you did not designate a backup server during the installation, the backup utility cannot run. See [“Using the Backup Utility” section on page 10](#) to install the backup server.

Can I change the purpose of the server?

You can change a backup server to a backup target, or vice versa, but you must uninstall the version and then reinstall the utility on the server; you can then specify the purpose by clicking the backup server or backup target radio button during the installation. If you change a backup target to the backup server, you must configure the backup settings on the backup server. If you change the backup server to a backup target, be aware that you must choose and configure another backup server for the utility to run.

Can I uninstall the backup utility?

If you installed Cisco CallManager 3.3 in the cluster, you cannot uninstall Cisco IP Telephony Applications Backup Utility, Version 3.5.6, on the publisher database server. This utility serves as a mandatory component on the Cisco CallManager 3.3 publisher database server.

If you installed Cisco CallManager 3.1 or 3.2 in the cluster, you can uninstall Cisco IP Telephony Applications Backup Utility, Version 3.5.6, on any servers where the utility is installed. If you choose to upgrade to Cisco CallManager 3.3, you must install this version of the utility, or a later version, if available, before you can upgrade. Refer to the Cisco CallManager 3.3 upgrade documentation for more information.

How do I know if the backup completed successfully?

The backup process creates the log file, stiBack.log, under C:\Program Files\Common Files\Cisco\Logs on the backup server. In the log file, you can search for the word, “failed,” which indicates that the backup did not work properly.

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/CAR/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

**Caution**

During the backup, heed warnings about the amount of temporary space that is available on the staging directory. If you do not have enough temporary space, the backup will fail.

If I need to restore the MCS.sti file, do I need to reinstall the backup utility that created the MCS.sti file?

You can restore the data with the backup utility that currently runs on your system.

If you created the MCS.sti file with a different version of the backup utility and you now need to restore that file, defects from the previous version of the utility may cause errors to display in the current log file.

Complete the restoration and verify that the data restored properly.

Using the Backup Utility

To install/configure/modify your backup settings or to start a backup now from the backup server, perform the following steps:

Procedure

- Step 1** Determine which of the following tasks you need to perform and go to the corresponding steps that are listed:
- Installing the backup utility for the first time/Changing the purpose of the server—[Step 2](#) through [Step 9](#)
 - Modifying existing settings or configuring new backup settings—[Step 10](#) through [Step 17](#)
 - Starting a backup now—[Step 18](#)
 - Viewing the backup as it occurs—[Step 19](#)
 - Obtaining the log file—[Step 20](#)

Installing the Backup Utility for the First Time/Changing the Purpose of the Server/Reinstalling the Utility

Changing the purpose of the server requires a reinstallation of the backup utility.

- Step 2** Perform one of the following tasks:
- a. If you are currently installing Cisco CallManager and the Backup Utility Setup window automatically displays, go to [Step 3](#).
 - b. To install the backup utility from the web, click the following URL:
<http://www.cisco.com/kobayashi/sw-center/sw-voice.shtml>.
 - c. Choose **The Application** (for example, Cisco CallManager) > **Download...Cryptographic Software...** > **Download Cisco 3DES Cryptographic Software under export licensing controls**.
 - d. Locate the backup and restore file on the page that displays.
 - e. Download the backup and restore file to your hard drive.
 - f. Note the location where you save the downloaded file.
 - g. Double-click the downloaded file to begin the installation.



Caution You may receive a message that a previous version of the utility was detected. Continue the installation.

- Step 3** When the Welcome window displays, click **Next**.
- Step 4** Click the appropriate radio button to accept the license agreement. Click **Next**.
- Step 5** Click the version of Cisco CallManager that you have installed in the cluster. Click **Next**.
- Step 6** Perform the following procedure from [Table 3](#), depending on whether you want to install the backup server or backup target.

Table 3 *Choosing the Backup Server or Backup Target*

Backup Server	Backup Target
<p>Click Backup Server.</p> <p>The backup server actually performs the backup operation. It stores the backup data in the directory or tape drive destination that you specify. You only specify one backup server.</p>	<p>Click Backup Target.</p> <p>The backup target(s) is a server (source) that contains the data that the utility will back up. You can specify more than one backup target; to configure backup settings, you must add all backup targets to the CallManager targets list on the backup server.</p>
<p>If you want to configure backup settings immediately after you install the utility, check the Run Backup Configuration Manager at the end of the setup check box.</p>	<p>Click Next.</p>
<p>Click Next.</p>	<p>Go to Step 7.</p>

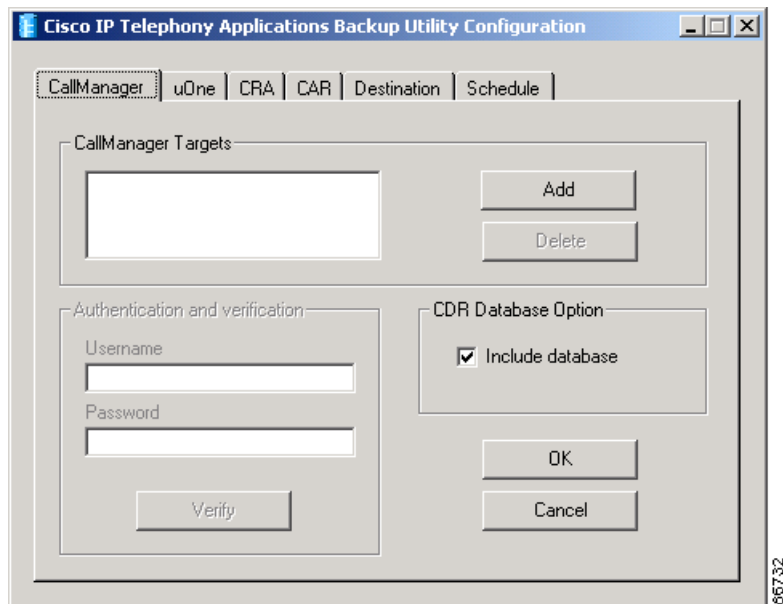
- Step 7** To install the backup utility, click **Install**.
- The status bar indicates the progression of the installation.
- Step 8** If you did not choose to run the Backup Configuration Manager after the setup, click **Finish**.
- Step 9** Perform one of the following tasks, depending on what you want to accomplish:
- If you checked the Run Backup Configuration Manager at the end of setup check box, click **No** when a prompt asks you to restart the server; configure the backup settings by going to [Step 10](#).
You must add CallManager (or CRA, Cisco uOne, or CAR) targets to the backup server. You must also configure the destination, which is the location where you plan to store the data, and the schedule, which specifies the days and time when you want to run the utility.
 - If you do not plan to configure backup settings at this time, click **Yes** to restart the server.
After the server reboots, you can remove the CD-ROM from the CD-ROM drive and log in to the server by using the Administrator password.

Modifying Existing Settings or Configuring New Backup Settings on the Backup Server

- Step 10** If the window in [Figure 1](#) does not automatically display on the backup server, perform one of the following methods:
- Right-click the backup icon in the Windows 2000 system tray. Choose **Configure Settings**.
 - If the backup icon does not display in the Windows 2000 system tray, choose **Start > Programs > Cisco IP Telephony Applications Backup > Backup Configuration**.

If the backup is running, an error message states that you should right-click the backup icon in the Windows 2000 system tray.

Figure 1 CallManager Tab



Step 11 Verify that the servers that are listed in the CallManager Targets pane are the ones that you want to include. These target servers contain data that you want to back up through the utility.

If you are configuring the backup utility for Cisco CallManager, remember that you must add all backup target servers to the CallManager Targets list. If necessary, perform the following procedure to add a target:

- a. Add targets by clicking **Add**.
To add a remote server, you must connect the server to the network before you add it to the target list.
- b. In the dialog box that displays, enter the name of the target server.
When you add a target server to the backup server, you must enter the computer name (not the IP address or fully qualified DNS name).
- c. If the server is a remote server, enter a username and password with administrator access rights on the remote server and then click **Verify**.
The Backup Utility attempts to connect to the remote server. If the remote server is not found, the authentication fails. The server name remains in the target list but may not be accessible, and the backup will fail.
- d. When you receive the authentication results in the dialog box, click **OK**.
- e. If you are running Cisco CallManager Release 3.3, you can check the **Include Database** check box for the CDR Database option. This option does not apply for Cisco CallManager Release 3.1 or 3.2.
- f. In the lower, right corner of the window, click **OK**.



Tip

To remove servers from the target list, highlight the server, click **Delete**, and then click **OK**.

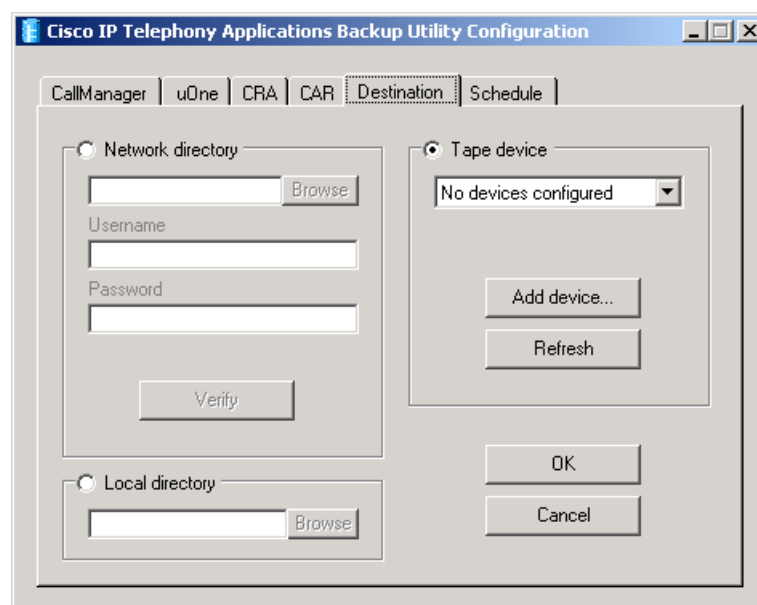
- Step 12** Click the **uOne**, **CRA** (Cisco Customer Response Applications), or **CAR** (Cisco CDR Analysis and Reporting) tab and repeat [Step 11](#) to configure the backup for Cisco uOne, CRA, or CAR.

**Caution**

This information applies if you are performing a Cisco CallManager 3.3 upgrade from a 3.1 or 3.2 version of Cisco CallManager. If you have installed CAR on the publisher database server, verify that you have added the publisher database server name (not IP address or fully qualified DNS name) to the CallManager and CAR target lists. Use the same naming conventions in each list, so the restore utility can restore CAR database during the Cisco CallManager data restoration.

[Figure 2](#) shows an example of the Destination tab in the Cisco IP Telephony Applications Backup Utility. Cisco allows you to configure only one destination for all applications that use the backup utility.

Figure 2 Destination Tab



- Step 13** Click the **Destination** tab. Choose Network directory, Tape device, or Local directory.

**Note**

You may click the Tape device radio button only if you have the MCS-7835, MCS-7845-1400, IBM xSeries 340, or xSeries 342 server. The server must have a tape drive.

If you plan to restore data from one server to another server by using a tape drive, make sure that both servers use the same tape format.

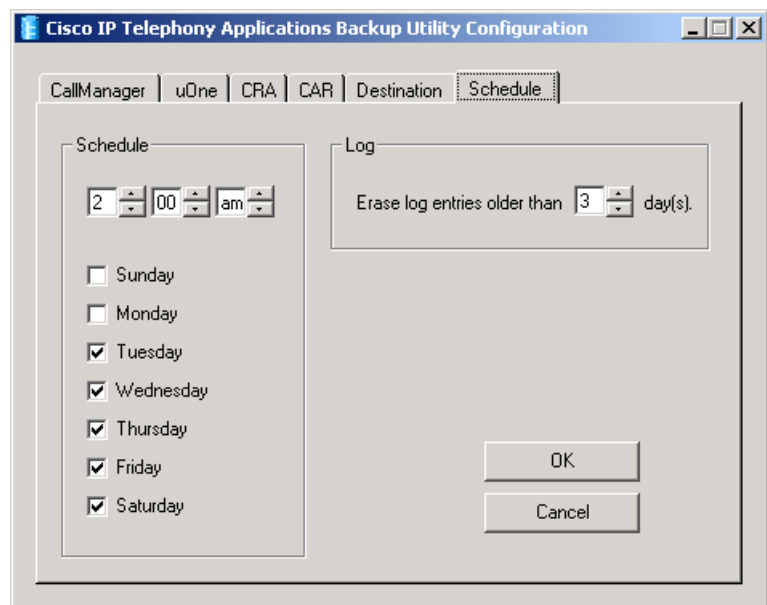
Figure 3 shows an example of the Schedule tab in the Cisco IP Telephony Applications Backup Utility Configuration window. Cisco only allows you to schedule the same days and time for all applications that use the backup utility. The backup utility backs up all affected applications during the scheduled time.



Caution

Schedule Cisco CallManager backups to occur during off-peak hours because CPU utilization is high during the backup process.

Figure 3 Schedule Tab



Step 14 Click the **Schedule** tab. Choose the days and times when you want an automatic backup to occur. The default sets the backup time to 2:00 am Tuesday through Saturday. Click **OK**.

Step 15 From the drop-down list box in the Log pane, choose the number of days that you want to retain log entries.

Step 16 Click **OK** to save the settings.

Step 17 If you did not reboot the server after you installed the utility, you must reboot the server now.

If the CD-ROM remains in the CD-ROM drive, you can remove the CD-ROM from the CD-ROM drive after the server reboots; then, you can log in to the server by using the Administrator password.

Starting a Backup Now

Step 18 Backups occur automatically according to the settings in the Schedule window of the Cisco IP Telephony Applications Backup Utility; however, if you want to start a backup now, right-click the Cisco IP Telephony Applications Backup Utility icon in the Windows 2000 system tray and choose **Start backup now**.

Viewing the Backup As It Occurs

- Step 19** In the Windows 2000 system tray on the backup server, click the Cisco IP Telephony Applications Backup Utility icon and choose **View status**. If the Cisco IP Telephony Applications Backup Utility icon is not in the Windows 2000 system tray, choose **Start > Programs > Cisco IP Telephony Applications Backup > Backup Viewer**; then, click the Cisco IP Telephony Applications Backup Utility icon in the Windows 2000 system tray and choose **View status**. Verify that the current status is “Waiting until <time> on <date>.” You can keep this log window open to view the progress of the backup utility.

Use the information that is generated in the log window to help identify problems. The last line in the log file indicates that the log is closed.

Obtaining the Log File

- Step 20** To verify that the backup competed successfully, you can obtain the StiBack.log from C:\Program Files\Common Files\Cisco\Logs on the backup server.

Frequently Asked Questions About the Cisco IP Telephony Applications Restore Utility

Review the following questions and responses before you perform any Cisco CallManager restoration procedures:

How does the Cisco IP Telephony Applications Restore Utility work?

You use the Cisco IP Telephony Applications Restore Utility to restore data to the server of your choice.

The utility does not provide prompts to restore servers or the entire cluster. You must perform a manual procedure to restore or replace a server.

How do I restore the data?



You must manually highlight the MCS.sti file to restore the data.



For a successful recovery, make sure that the version of Cisco CallManager that is running on your system matches the last successful backup.

The Cisco IP Telephony Application Restore Utility allows you to recover all data, if you chose to back the data up through the backup utility. When you restore, you must provide the following information:

- The location (server) where the archived MCS.sti file is stored
- The data, the MCS.sti file, that you want restored
- The server where you want the restore utility to send the restored data

By default, the MCS.sti file stores all data that was backed up from the target servers in the target list. When you restore data, you can restore only one application on one server at a time. For example, if you need to restore Cisco CallManager and CRA/CRS on a co-resident server, you must perform the procedure twice.

The restore utility copies the data that you want restored to a staging directory and then restores the extracted files to the chosen location. The restore utility also notifies the user when the restoration occurs.



Caution

During the restoration, services stop, which cause call-processing interruptions to occur. Cisco recommends that you use the restore utility during off-peak hours to minimize call-processing interruptions.

This section provides the procedure for restoring the data. This procedure does not restore the operating system, Cisco CallManager software, or any other software. To restore the data, perform the following steps:

Procedure

- Step 1** Perform one of the following tasks. Two options exist for Cisco CallManager Release 3.2 and 3.3.
- For Cisco CallManager Releases 3.1, 3.2, or 3.3— Choose **Start > Programs > Cisco IP Telephony Applications Backup > Restore Utility**.
 - For Cisco CallManager Releases 3.2 or 3.3—Right-click the backup icon in the Windows 2000 system tray and choose **Restore server**.
- Step 2** When the Restore Utility window displays, choose the location and name of the backup file that you want to restore and then click **Next**.



Caution

You must manually highlight the MCS.sti file to restore the data.

- Step 3** Choose the target server, which is the server where you want the utility to send the data. Click **Next**.
- Step 4** The restoration warns that you will overwrite the target server and lose all existing data on that server. Click **Yes**.
- Step 5** During the restore process, the Cisco IP Telephony Applications Restore Utility log window displays each event that occurs.
- You can use the log window to identify errors, such as the errors that display in the [“Where do I obtain the log file?”](#) section on page 17.
- Step 6** When the restore is complete, click **OK**.
- Step 7** Reboot the server by pressing **Ctrl+Alt+Del**.
- Step 8** Click the **Shut Down** button.
- Step 9** From the drop-down menu, choose **Restart** and click **OK**.

You must restart the server for the restoration to complete.

- Step 10** After you log in to the server by using the Administrator password, verify that the data restored to the server.
-

Where do I obtain the log file?

The restoration process creates the log file, stiRestore, under C:\Program Files\Common Files\Cisco\Logs. 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

How do I restore the entire cluster?



Caution

All pre-/post- installation tasks that are noted in the Cisco CallManager 3.3 installation and upgrade documents apply to restoring the cluster. Review the guidelines before you begin any restoration procedures.

If you must restore the entire cluster because of an unforeseen event, consider the following information. As with new installations, always restore the publisher database server first. See [Table 4](#) for information on how to accomplish this task. After you restore the publisher database server, verify that you successfully completed the restoration.

While the publisher database server is functional and running, you can begin the restoration of the subscriber server(s). See [“How do I restore subscriber servers?”](#) for more information. Always restore one server at a time, so database replication occurs on the subscriber servers. If you attempt to restore the subscriber servers simultaneously, the servers cannot pull the database replica from the publisher database server.

After you restore the Cisco CallManager servers, you can restore other application servers, such as CRA or Cisco uOne servers.



Caution


Cisco strongly recommends that you do not change any passwords when you are restoring/replacing the server or cluster. The restoration process restores the previously backed up passwords, does not acknowledge the new passwords, and causes the system to malfunction.

If you change the Directory Manager password when you are restoring/replacing the server or cluster, the server cannot access the directory.

How do I restore the publisher database server?

Use the following guidelines in [Table 4](#) to restore the publisher database server:

Table 4 Restoring the Publisher Database Server

Step	Task	Important Notes
Step 1	Perform a new operating system installation or Same Server Recovery by installing Cisco-provided operating system 2000.2.3 or later.	Refer to <i>Installing the Operating System on the Cisco IP Telephony Applications Server</i> .
Step 2	If you are restoring Cisco CallManager Release 3.3 and you are not performing a Same Server Recovery, you must delete the file, D:\StiRecover.flg .	This document assumes that D: serves as the STI_DATA Partition. Cisco ICS-7750 does not use the D: drive as the STI_DATA partition.
Step 3	Perform a new Cisco CallManager installation from CD-ROM.  Caution If you are installing Cisco CallManager Release 3.2 or 3.1, do not install the backup utility during the installation. Instead, install the utility by downloading the utility that is available on the web.	Refer to the Cisco CallManager installation documentation that matches the version you plan to install.
Step 4	The Cisco CallManager version running on the publisher database server must match the version of the latest successful backup. If necessary, upgrade Cisco CallManager to the version of the latest successful backup.	Refer to the Cisco CallManager upgrade documentation that matches the version of the latest successful backup.
Step 5	Manually restore the latest successful backup (MCS.sti file) to the publisher database server.	See the “How do I restore the data?” section on page 15 .
Step 6	Verify that you successfully restored the data.	You can obtain StiRestore.log by using Windows Explorer to browse to the following file: C:\Program Files\Common Files\Cisco\Log For a list of error messages that could display, see the “Where do I obtain the log file?” section on page 17 .
Step 7	If you backed up CAR, you must install the CAR plugin on the server.	Refer to the <i>Cisco CallManager Administration Guide</i> .

How do I restore subscriber servers?

Cisco no longer requires that you remove the subscriber server from the Cisco CallManager database before recovering the server. When the subscriber server authenticates to the publisher database server and pulls the duplicate of the database from the server, the subscriber server automatically adds itself to the database.

Use the following guidelines to restore the subscriber server(s):

1. Perform a new installation of Cisco-provided operating system 2000.2.3 or later.
2. Perform a new installation of Cisco CallManager.
You do not need to restore the data.
3. Upgrade the server to match the version of Cisco CallManager that is running on the publisher database server.
4. See the [“What post-restoration tasks should I perform?”](#) section on page 19.

How do I restore a CRA server or Cisco uOne server?

Use the following guidelines to restore these application servers:

1. Make sure that you have restored the Cisco CallManager servers before you restore these application servers.
2. Install the operating system on the server, if it is not already installed.
Co-resident servers (Cisco CallManager and CRA/CRS installed on the same server) may already have the operating system installed.
3. Install the application as if it were a new installation.
4. Upgrade the application to the version of the backup that you want to restore, if necessary.
5. Restore the backup data to the new server.
To restore the data, you must have backup data stored on tape device or on a network directory, not on the local directory of the failed server.
6. Verify that the data was restored to the new server.
7. See the [“What post-restoration tasks should I perform?”](#) section on page 19.

What post-restoration tasks should I perform?

Perform the following post-restoration tasks:

- For the restoration to take effect, make sure that you reboot the server after you restore the data.
- If necessary, reinstall the Cisco IP telephony applications/products/plugins/support patches to the version that is compatible with the restored version of Cisco CallManager. Refer to the *Cisco CallManager Compatibility Matrix* for more information. See [Table 1](#).

How do I replace an existing or a failed publisher database server or co-resident server?



Tip

When you perform a server replacement, you must always manually enter the IP information, computer name, and other configuration data exactly as it was on the original server.

Before you begin, locate the configuration information for this server.

When one server is configured to replace an existing or failed server, the new server uses the IP information and computer name of the original server. To replace an existing or failed server, use the following guidelines:

1. Install the operating system and the software as if it were a new installation.
2. Upgrade the application to the version of the backup that you want to restore.
3. Restore the backup data to the new server.

To restore the data, you must have backup data stored on tape or on a network directory, not on the local directory of the existing or failed server.

4. Verify that the data was restored to the new server.
5. See the [“What post-restoration tasks should I perform?”](#) section on page 19.

Obtaining Documentation

These sections explain how to obtain documentation from Cisco Systems.

World Wide Web

You can access the most current Cisco documentation on the World Wide Web at this URL:

<http://www.cisco.com>

Translated documentation is available at this URL:

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

Documentation CD-ROM

Cisco documentation and additional literature are available in a Cisco Documentation CD-ROM package, which is shipped with your product. The Documentation CD-ROM is updated monthly and may be more current than printed documentation. The CD-ROM package is available as a single unit or through an annual subscription.

Ordering Documentation

You can order Cisco documentation in these ways:

- Registered Cisco.com users (Cisco direct customers) can order Cisco product documentation from the Networking Products Marketplace:
http://www.cisco.com/cgi-bin/order/order_root.pl
- Registered Cisco.com users can order the Documentation CD-ROM through the online Subscription Store:
<http://www.cisco.com/go/subscription>
- Nonregistered Cisco.com users can order documentation through a local account representative by calling Cisco Systems Corporate Headquarters (California, U.S.A.) at 408 526-7208 or, elsewhere in North America, by calling 800 553-NETS (6387).

Documentation Feedback

You can submit comments electronically on Cisco.com. In the Cisco Documentation home page, click the **Fax** or **Email** option in the “Leave Feedback” section at the bottom of the page.

You can e-mail your comments to bug-doc@cisco.com.

You can submit your comments by mail by using the response card behind the front cover of your document or by writing to the following address:

Cisco Systems, Inc.
Attn: Document Resource Connection
170 West Tasman Drive
San Jose, CA 95134-9883

We appreciate your comments.

Obtaining Technical Assistance

Cisco provides Cisco.com as a starting point for all technical assistance. Customers and partners can obtain online documentation, troubleshooting tips, and sample configurations from online tools by using the Cisco Technical Assistance Center (TAC) Web Site. Cisco.com registered users have complete access to the technical support resources on the Cisco TAC Web Site.

Cisco.com

Cisco.com is the foundation of a suite of interactive, networked services that provides immediate, open access to Cisco information, networking solutions, services, programs, and resources at any time, from anywhere in the world.

Cisco.com is a highly integrated Internet application and a powerful, easy-to-use tool that provides a broad range of features and services to help you with these tasks:

- Streamline business processes and improve productivity
- Resolve technical issues with online support
- Download and test software packages

- Order Cisco learning materials and merchandise
- Register for online skill assessment, training, and certification programs

If you want to obtain customized information and service, you can self-register on Cisco.com. To access Cisco.com, go to this URL:

<http://www.cisco.com>

Technical Assistance Center

The Cisco Technical Assistance Center (TAC) is available to all customers who need technical assistance with a Cisco product, technology, or solution. Two levels of support are available: the Cisco TAC Web Site and the Cisco TAC Escalation Center.

Cisco TAC inquiries are categorized according to the urgency of the issue:

- Priority level 4 (P4)—You need information or assistance concerning Cisco product capabilities, product installation, or basic product configuration.
- Priority level 3 (P3)—Your network performance is degraded. Network functionality is noticeably impaired, but most business operations continue.
- Priority level 2 (P2)—Your production network is severely degraded, affecting significant aspects of business operations. No workaround is available.
- Priority level 1 (P1)—Your production network is down, and a critical impact to business operations will occur if service is not restored quickly. No workaround is available.

The Cisco TAC resource that you choose is based on the priority of the problem and the conditions of service contracts, when applicable.

Cisco TAC Web Site

You can use the Cisco TAC Web Site to resolve P3 and P4 issues yourself, saving both cost and time. The site provides around-the-clock access to online tools, knowledge bases, and software. To access the Cisco TAC Web Site, go to this URL:

<http://www.cisco.com/tac>

All customers, partners, and resellers who have a valid Cisco service contract have complete access to the technical support resources on the Cisco TAC Web Site. The Cisco TAC Web Site requires a Cisco.com login ID and password. If you have a valid service contract but do not have a login ID or password, go to this URL to register:

<http://www.cisco.com/register/>

If you are a Cisco.com registered user, and you cannot resolve your technical issues by using the Cisco TAC Web Site, you can open a case online by using the TAC Case Open tool at this URL:

<http://www.cisco.com/tac/caseopen>

If you have Internet access, we recommend that you open P3 and P4 cases through the Cisco TAC Web Site.

Cisco TAC Escalation Center

The Cisco TAC Escalation Center addresses priority level 1 or priority level 2 issues. These classifications are assigned when severe network degradation significantly impacts business operations. When you contact the TAC Escalation Center with a P1 or P2 problem, a Cisco TAC engineer automatically opens a case.

To obtain a directory of toll-free Cisco TAC telephone numbers for your country, go to this URL:

<http://www.cisco.com/warp/public/687/Directory/DirTAC.shtml>

Before calling, please check with your network operations center to determine the level of Cisco support services to which your company is entitled: for example, SMARTnet, SMARTnet Onsite, or Network Supported Accounts (NSA). When you call the center, please have available your service agreement number and your product serial number.

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