



Restoring the Data

This section provides information on the following topics that relate to the restore process:

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- [Restoring the Data, page 4-3](#)
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- [Guidelines on Restoring a CRS Server or CER Server, page 4-6](#)
- [Tasks to Perform After Restoration, page 4-8](#)

Understanding How the Restore Process Works

The BARS restore process allows you to recover all data that was compressed into the Backupmm-dd-yy.tar file. The BARS Restore Wizard prompts you for the following information:

- The backup storage location of the archived Backupmm-dd-yy.tar file.
- The data destination server to which you want the restore utility to send the restored data.
- The application that you want restored.

The BARS restore process stops system services, copies the data that you want restored to a staging directory, notifies the data destination server that the data is ready for restoration, and then sends the data to the data destination server.



Caution

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



Caution

Ensure that all-third party applications, including Cisco-provided and approved applications that are co-resident on the Cisco Unified CallManager server, are stopped and disabled before you use the Restore process.

Also, be sure to stop and disable all intrusion-detection applications, such as Cisco Security Agent for Unified CallManager and any virus-protection software, before you use the restore process.

**Tip**

Before using BARS to perform a restore, reinstall any service releases; otherwise, BARS generates a version-mismatch error.

After using BARS to perform a restore, be sure to reinstall all Cisco Unified Communications applications products, plug-ins, locales, and add-on devices to versions that are compatible with the restored version of Cisco Unified CallManager. If this is not done, you might lose data during the next upgrade of Cisco Unified CallManager as well as losing all locales and add-on devices.

The restore process creates log files, which are text files that are saved by date, in the following folder:
C:\Program Files\Common Files\Cisco\Logs\BARS\Restore.

If the following messages or other 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

Related Topics

- [Accessing the Backup Log File After the Backup Completes, page 3-10](#)
- [Restoring the Data, page 4-1](#)
- [Appendix A, “BARS Error Messages”](#)
- [Location of Trace Files, page 1-11](#)

Important Information About the Restore Process

Be aware of the following items relating to the restore process:

- While restoring a server, you should not change passwords for SQL and LDAP directory. These passwords remain the same as they were when the backup was performed.
- While restoring a server, you should not change the host name or IP address. These settings should remain as they were when the backup was performed.
- The restore process cannot selectively restore user-level components, such as mailboxes or device settings.
- The restore process does not reinstall locale settings that were installed with Cisco Unified CallManager Locale Installer.
- The restore process does not reinstall bootstrap files.
- The restore process does not reinstall custom configurations.

Restoring the Data

This section describes how to restore data that the backup process stored in the Backup Storage Location.

Procedure

Step 1 Choose **Restore > Restore Wizard**.

The Restore Wizard guides you through the restoration.

Step 2 On the “Restore Wizard: Step 1 of 4” window, complete the information that is required to identify the backup storage location and the name of the archive, which contains the date and timestamp of the backup. Click **Next**.

Step 3 From the drop-down list boxes on the “Restore Wizard: Step 2 of 4” window, first choose the data destination server; then choose the application to restore. Click **Next**.



Note

If you are restoring the data on a Cisco Customer Response Solutions (CRS) (4.x release) cluster, specify one data destination server that belongs to the CRS cluster, and that server will restore the entire cluster.

If the archive that you chose on the previous window was a .tar file that was created from a manual backup as opposed to an archive that was created by using BARS, you are instructed to: “Enter CRS data destination server to restore” in the Data Destination Server field. Enter the name of any active CRS server in the CRS cluster and click **Next**.

Refer to the [“Restoring a CRS Release 4.x Cluster” section on page 4-6](#) for information about a CRS 4.x restore.

Also, if CRS Node Manager in your targeted server is down or if it has no CRS installed yet, you need to perform the steps that are shown in the [“Restoring a CRS Release 4.x Cluster” section on page 4-6](#).

To restore CRS versions prior to CRS 4.0, follow the restore procedure for other applications that are described in [“Restoring the Data” section on page 4-3](#).

You can only choose a single application to restore. If you want to restore additional applications, you must repeat the process.

Step 4 In the Authentication Information portion of the “Restore Wizard: Step 3 of 4” window, enter a user name and a password that has administrative access privileges on the data destination server. Click **Next**.

Step 5 The restoration process overwrites all data on the data destination server that you chose in [Step 3](#). To complete the restoration process, click the **Restore** button on the “Restore Wizard: Step 4 of 4” window.

Step 6 When the restore process finishes, reboot the restored server for the process to take effect.

Step 7 Verify that the restored data is on the server.



Note

After you have verified that the restore completed successfully on the publisher server, restart the subscriber servers. This ensures that database updates from the restored publisher server, get propagated correctly to the subscriber servers.

Step 8 To restore any other servers in the system, repeat this procedure.

Related Topics

- [Restoring the Cisco Unified CallManager Cluster, page 4-4](#)
- [Restoring Subscriber Servers, page 4-5](#)

Restoring the Cisco Unified CallManager Cluster

**Caution**

All preinstallation and postinstallation tasks that are noted in the Cisco Unified CallManager installation and upgrade documents apply to restoring the cluster. Review the guidelines before you begin any restoration procedures.

You need to reinstall Cisco Unified CallManager and perform a BARS restore on every server in the cluster only if one of the following conditions exists:

- Every machine in the Cisco Unified CallManager cluster becomes irrecoverably corrupted.
- The entire cluster needs to be rebuilt on new hardware.

If either of the preceding conditions exist, perform the following procedure to install and restore the Cisco Unified CallManager cluster. Otherwise, follow the directions for restoring just the Cisco Unified CallManager publisher or subscriber server, as applicable.

**Note**

If the backed-up version of Cisco Unified CallManager does not match the version that is current running in the cluster, you cannot perform a BARS restore. In this situation, you must reinstall Cisco Unified CallManager on every server in the cluster and proceed to reconfigure the system manually.

**Caution**

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.

**Tip**

Before using BARS to perform a restore, reinstall any service releases; otherwise, BARS generates a version-mismatch error.

After using BARS to perform a restore, be sure to reinstall Cisco Unified Communications applications products, plug-ins, locales, and add-on devices to versions that are compatible with the restored version of Cisco Unified CallManager. If this is not done, you might lose data during the next upgrade of Cisco Unified CallManager as well as lose all locales and add-on devices.

Procedure to Restore the Cisco Unified CallManager Cluster

Use the following procedure to restore the cluster:

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- Step 1** Reinstall the operating system on the publisher database server.

If you are installing OS 2000.2.7 or earlier, and are reinstalling the operating system on the same server, you can choose the **Same Server Recovery** option to keep the original host name and IP address that you entered during the initial installation. However, if the host name and IP address have been updated since the initial installation, the updated values will not get used. If you are installing OS 2000.4.1 or later, you no longer can use this option.



Note If you will be reinstalling Cisco CallManager 3.3(2), manually remove the `D:\stiRecover.flg` file before proceeding with Cisco Unified CallManager reinstallation.

- Step 2** Reinstall Cisco Unified CallManager on the publisher database server.
- Make sure that the Cisco Unified CallManager version that is installed on this server matches the version of the latest successful publisher database server backup.
- Step 3** Restore the data to the publisher database server. Refer to the [“Restoring the Data” section on page 4-3](#).
- Step 4** Install the operating system and Cisco Unified CallManager on all applicable subscriber servers in the cluster. Make sure that the Cisco Unified CallManager version that is installed on each subscriber server matches the version of Cisco Unified CallManager that is installed on the publisher database server.
- This process resynchronizes the replications between the publisher servers and subscriber servers.
- Step 5** Restore subscriber servers on which CDR/TFTP data was backed up; refer to the [“Restoring Subscriber Servers” section on page 4-5](#). Always restore one server at a time.
- Step 6** After you restore the Cisco Unified CallManager servers, you can restore other application servers.



Note When reinstalling the entire cluster, the publisher server prior to reinstalling the subscriber servers. If this proper order is not followed, the subscriber server cannot properly communicate with the publisher server after the restore is complete.

Restoring Subscriber Servers

Cisco does not require that you remove the subscriber server from the Cisco Unified CallManager database before recovering the server. When the subscriber server authenticates to the publisher database server and pulls a duplicate of the database from the server, the subscriber server automatically adds itself to the database.

If you are reinstalling a subscriber server only, you did not need to do a BARS restore unless the CDR and TFTP data on this subscriber server was backed up with BARS and now needs to be restored. The subscriber server will acquire all Cisco Unified CallManager configuration data from the publisher server.

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

- Perform a new installation of both Cisco Unified CallManager and the Cisco-provided operating system:
 - For Cisco CallManager 3.3(3), as the minimum required operating system, use version 2000.2.3 with an upgrade to 2000.2.4 or a fresh install to operating system version 2000.2.4.
 - For Cisco Unified CallManager 4.0, 4.1, and 4.2, as the minimum required operating system, use version 2000.2.3 with an upgrade to version 2000.2.5. Ensure the operating system is also SR2 or later.



Note The version of Cisco Unified CallManager must match the version that is running on the publisher database server.

- Restore the subscriber server if its CDR and TFTP data was backed up.

Guidelines on Restoring a CRS Server or CER Server

Use the following guidelines to restore these application servers:

- Make sure that you have restored the Cisco Unified CallManager servers/data before you restore these application servers.
- After restoring Cisco Unified CallManager data, restore data that was backed up from the CRS server(s) at the same time as the Cisco Unified CallManager data. This action helps to prevent discrepancy between the CRS and Cisco Unified CallManager databases.
- Install the operating system on the server, if it is not already installed.
- Coresident servers (Cisco Unified CallManager and CRS installed on the same server) may already have the operating system installed.
- Install the application as if it were a new installation (for CRS versions prior to 4.0).
- Upgrade the application to the version of the backup that you want to restore, if necessary (for CRS versions prior to 4.0).
- Restore the backup data to the new server.
- To restore the data, Cisco recommends that you have backup data stored on tape device or on a network directory, not on the local directory of the failed server.
- Verify that the data was restored to the new server.

Restoring a CRS Release 4.x Cluster

This section describes how to restore data on your CRS cluster that the backup process stored in the backup storage location.



Note This procedure includes some information about when to invoke the CRS Installer as part of the BARS restore process. For complete information about the CRS Installer, refer to the CRS installation guide.

Also, refer to the CRS administration guide for information on patching and upgrades.

Procedure

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- Step 1** Perform this step only if the CRS Node Manager in the data destination server that you chose is down or does not yet have CRS installed. In either of these cases, do the following steps:
- a. Launch the CRS Installer on the targeted server.
 - b. Select or fill in the existing cluster profile and LDAP directory information.
 - c. Choose Repair Option.

- d. In the next window, choose Restore Option.
- e. Wait until the next window prompts you to initiate a restore with the BARS Restore Wizard.

Step 2 Choose **Restore > Restore Wizard**.

The Restore Wizard guides you through the restoration.

Step 3 On the “Restore Wizard: Step 1 of 4” window, complete the information that is required to identify the backup storage location and the name of the archive, which contains the date and timestamp of the backup. Click **Next**.

Step 4 The “Restore Wizard: Step 2 of 4” window displays in one of the following two versions:

- If the archive that you chose on the previous window was a .tar file that was created from a manual backup as opposed to an archive that was created by using BARS, the wizard prompts you to “Enter CRS data destination server to restore” in the Data Destination Server field. Enter the name of any active CRS server in the CRS cluster and click **Next**.

The server that you choose restores the data for the entire CRS cluster on which it resides. This data destination server does not need to be the same server that you chose as the data source server when this CRS cluster was backed up.

- If the archive that you chose on the previous window was a .tar file that was created by using BARS, you are now instructed to: “Select data destination server and application to restore.”

From the drop-down lists on the “Restore Wizard: Step 2 of 4” window, first choose any active CRS server in the CRS cluster; then, choose the application (CRS) to restore. Click **Next**.



Note If you are restoring the data on a Cisco Customer Response Solutions (CRS) cluster, the CRS data destination server that you choose restores the data for the entire CRS cluster on which it resides. This data destination server does not need to be the same server that you chose as the data source server when this CRS cluster was backed up.

Step 5 In the Authentication Information portion of the “Restore Wizard: Step 3 of 4” window, enter a user name and a password that has administrative access privileges on the data destination server. Click **Next**.

Step 6 The restoration process overwrites all data on the cluster where the data destination server resides. To complete the restoration process, click the **Restore** button on the “Restore Wizard: Step 4 of 4” window. BARS now begins extracting the archive.

Step 7 The CRS Restore Wizard asks you to confirm that the correct archive is being restored. Click **Next** to continue.

Step 8 The BARS Restore Wizard performs the following actions:

- a. BARS compares the cluster data in archive with all nodes in the cluster. (Cluster data refers to CRS version, JTAPI version, database type and version, components, languages, and codec types.)
- b. If BARS determines that nodes with matched data exist, you will get prompted to choose any or all such nodes to repair if you know that a missing or corrupted binary file exists on a node.
- c. BARS also determines whether nodes with mismatched data exist. If nodes with mismatched data exist, these nodes get preselected (check-marked in their corresponding boxes on the window) for repair.

Select any nodes that you want repaired in addition to any preselected nodes with mismatched data and click **Next**.

Step 9 Continue to follow the instructions on the BARS Restore Wizard:

If you have selected nodes to repair or if nodes in the cluster with mismatched data exist, repair each such node. The repair process invokes the CRS Installer, which must be run separately for each node. The BARS Restore Wizard refreshes each time that the CRS Installer completes the recovery of a CRS node.

Also, if you ran the Restore option from the CRS Installer as described in [Step 1](#), you must now return to the CRS Installer to complete that operation. To repair a node, run the CRS Installer on that node; the Restore Wizard displays a list of nodes that need to be repaired/recovered.

When you finish running the CRS Installer for all necessary nodes, the BARS Restore Wizard continues.

Step 10 Follow the instructions on the remaining windows of the BARS Restore Wizard.

When the restore process completes, all CRS services automatically restart, and a BARS summary window displays. Make sure that the word “Success” displays on the summary window.

Related Topics

- [Restoring the Cisco Unified CallManager Cluster, page 4-4](#)
- [Restoring Subscriber Servers, page 4-5](#)

Replacing an Existing or a Failed 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, perform the following tasks:

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

You must have backup data stored on tape or on a network directory, not on the local directory of the existing or failed server, to replace the 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 entered on the original server.

Make sure that you locate the configuration information for this server before you begin.

Related Documents

- *Installing Operating System Version 2000.2.2 (or later)*
- *Installing Cisco CallManager Release 3.3 (or later)*

Tasks to Perform After Restoration

Whenever you run a restoration process, perform the following post-restoration tasks:

- For the restoration to take effect, make sure that you reboot the server after you restore the data.

- Verify that no errors occurred during the restoration.
- If necessary, reinstall the Cisco Unified Communications applications products, plug-ins, or service releases to versions that are compatible with the restored version of Cisco Unified CallManager. Refer to the *Cisco Unified CallManager Compatibility Matrix* for more information. To obtain the most recent version of the matrix document, see [Table 2 on page -ix](#).
- To obtain the locales that were used prior to the restoration, reinstall the Cisco Unified CallManager Locale Installer. To obtain locale installer documentation, see [Table 2 on page -ix](#).

