CHAPTER 6

# Upgrading the Software

The following topics describe how to upgrade the software on the Cisco TelePresence Exchange System:



## Requirements for Upgrading the Software

- All six nodes in the server cluster must run the exact same software version.

  See the *Release Notes for the Cisco TelePresence Exchange System* for your specific release for any restrictions on software version compatibility. The release notes are available at http://www.cisco.com/go/ctx-relnotes.

- You must download the applicable tar.gz files from Cisco.com before you start the upgrade process. Then, copy these tar.gz files to your own designated SSH File Transfer Protocol (SFTP) server.

  See the *Release Notes for the Cisco TelePresence Exchange System* for your specific release for the actual release version to download.

## Task List for Upgrading the Software

You must perform the upgrade process in the following order:

1. Contact the Cisco TAC and TME teams to install the upgrade user interface (UI) patch file by connecting to each node by using a remote account through Secure Shell (SSH). This patch installation procedure is independent of the actual upgrade window and can be done any time.

**Note** This procedure is applicable only to Cisco TelePresence Exchange System release 1.0.(x). To upgrade to subsequent releases, this procedure installs an upgrade UI patch to release 1.0.(x). However, this procedure is not required for initial installations of release 1.1.(x) or later.

2. Perform a database backup using the user interface of the Cisco TelePresence Exchange System Administrative Console. For detailed information about how to perform a database backup, see the "Configuring System Settings" chapter.

3. Perform the actual upgrade for all six nodes from the upgrade user interface (see "Upgrading the Database, Administration, and Call Engine Servers" section on page 6-3).

# Managing the Software Upgrade

The following topics describe how to manage the software upgrade process:



## Accessing the Upgrade Window

**Procedure**

To access the Cisco TelePresence Exchange System window, do the following procedure:

**Step 1** If you are upgrading from a previous release, browse to https://<*IP address of the administration server*>:9010/ctx-upgrade-admin.

The login window of the Cisco TelePresence Exchange System Upgrade displays.

**Step 2** Enter the Administrator Login username and password that you use for command line interface (CLI) access. (The Administrator Login username and password are specified during installation.) Then, click **Log In**.

**Note** Be aware that these user credentials are different from the credentials used to access the administration console.

**Step 3** Follow the online security instructions for your supported browser.

The Cisco TelePresence Exchange System Upgrade window displays.

The **Upgrade** link displays in the banner pane each time you access the administration console, and only if you want to upgrade.

## Navigation Pane of the Upgrade Window

The navigation pane is on the left side of the upgrade window. The navigation pane lists the tasks that you need to perform during the upgrade process. After each task is completed successfully, the system automatically takes you to the next task. Table 6-1 describes the tasks of the navigation pane of the upgrade window.

*Table 6-1 Upgrade Tasks*

| Task | Description |
|---|---|
| Node Sequence | Selecting three nodes to upgrade first. You must select one database node, one administration node, and one call engine node. |
| Patch File | Transferring the upgrade bundle patch file to all six nodes. |
| Validation | Validating that each node in the cluster is ready and that the MD5 checksum is correct. |
| Side A Maintenance | Placing the three nodes for Side A in maintenance mode. |
| Side A Installation | Installing the patch file for each of the three nodes for Side A. |
| Side B Maintenance | Placing the remaining three nodes for Side B in to maintenance mode. |
| Database Migration | Migrating the contents from the Side B database from the previous version over to the Side A database. |
| Side A Online | Bringing each of the three nodes for Side A out of maintenance mode to standalone mode with the upgraded version. |
| Side B Installation | Installing the patch file for each of the three nodes for Side B. |
| Side B Online | Bringing each of the three nodes for Side B online. |

# Upgrading the Database, Administration, and Call Engine Servers

### Before You Begin

- If possible, block users from scheduling meetings that will occur during this upgrade period.
- If possible, you should notify all users about your system downtime before you start the upgrade process.
- Verify that both database servers are synchronized.
- Verify that you have copied the upgrade bundle patch file to your own designated SFTP server.
- At a minimum, allow at least three hours to complete the actual upgrade on all of the administration, database, and call engine servers. However, the actual system downtime is less than 30 minutes.
- Verify the state of each node by accessing the CLI. For information about the commands, see the "Command Reference" appendix.

  For a production system, you must test system usability.
- Verify that the database is backed up to an external server.
- We recommend that you schedule a meeting to make sure that the previous release version is working properly.
- Specify the meeting names when you are upgrading from the previous release to the current release. You should also verify that the existing meeting names are overwritten during the upgrade.
- Verify that all six nodes are displayed as online in the Cisco TelePresence Exchange System Upgrade window. If a node is displayed as offline, bring the node back online and verify connectivity.
- Verify that you have retrieved all call detail records and associated event records. Any previous records that remain will be purged during the upgrade process.

- Verify that the IP address can be directly reached for the two administration servers. During the upgrade process, you are required to access a specific administration server.
- By default, only CTS endpoints may join meetings hosted on a Cisco TelePresence Multipoint Switch. For new installations, the *Installation and Administration Guide for the Cisco TelePresence Exchange System Release 1.1* includes instructions on enabling these types of endpoints when you configure the Cisco TelePresence Multipoint Switch to work with the Cisco TelePresence Exchange System.

  If you have already configured a Cisco TelePresence Multipoint Switch to work with the Cisco TelePresence Exchange System, see the "Enabling Cisco TelePresence Endpoints Running TC Release 5.x to Join Meetings Hosted on the Cisco TelePresence Multipoint Switch" section on page 16-18.

### Procedure

**Note**
- During the entire upgrade process, all provisioning data is saved.
- If you cancel the operation from Step 2 to Step 5, all of your changes will be reverted before you return back to the Cisco TelePresence Exchange System Upgrade window. If you cancel the operation from Step 7 to Step 10, the system reverts back to the original state on Side B. The system is placed in nonredundant mode because only one side is active. Once both sides are upgraded, you cannot revert back from the user interface.

To upgrade the database, administration, and call engine servers, do the following procedure:

**Step 1** To begin the upgrade process, click **Start**.

In the navigation pane, the **Node Sequence** option is highlighted.

**Step 2** To start the tasks for the Node Sequence option, do the following steps:

**a.** In the Node Sequence option, select one of each type of node to upgrade first.

This selection is the primary role and named Side A. The remaining three nodes are upgraded second and named Side B.

**Note** Side A cannot be assigned a database node with a primary role.

**b.** To save the node sequence selections, click **Save Node Sequence**.

To cancel the operation and return back to the Cisco TelePresence Exchange System Upgrade window, click **Cancel**.

**Note** You are not allowed to cancel an operation while it is in progress.

In the navigation pane, the **Patch File** option is highlighted.

**Step 3** To transfer the upgrade bundle patch file from your own designated SFTP server, do the following steps:

**a.** In the URL field, enter the applicable IP address of the SFTP server and the location of the upgrade bundle patch file.

**Note** You are using the same upgrade bundle patch file that you previously downloaded.

**b.** In the Credentials field, enter your SFTP username and password.

**c.** To start the transfer process, click **Begin Transferring**.

The upgrade bundle patch file is downloaded from the specified SFTP server. Then, this file is uploaded automatically to all six nodes. When complete, a green check mark is displayed for each of the six nodes.

To cancel the operation and return back to the Cisco TelePresence Exchange System Upgrade window, click **Cancel**.

**Note** You are not allowed to cancel an operation while it is in progress.

In the navigation pane, the **Validation** option is highlighted.

**Step 4** To validate that each node in the cluster is ready to get upgraded, migrated, and that the MD5 checksum of the patch file matches with the MD5 checksum that you downloaded, do the following steps:

**a.** To start the validation process for the cluster, click **Validate Cluster**.

When complete, a green check mark is displayed for each of the six nodes and the patch file for the MD5 check sum.

If you receive an error that a node cannot be migrated, notify Cisco TAC immediately.

A health check on one or more nodes could fail if a process was not running or if the database servers are not synchronized. If the process was stopped manually, you need to start it. If the database servers display an error, complete the split brain recovery procedure. For more information about this procedure, see the "Split Brain Recovery" chapter.

**b.** To confirm that you have manually validated that the displayed MD5 checksum matches the MD5 checksum displayed from the Cisco.com download site, click **Checksum Is Correct**.

The system obtains the MD5 checksum from each of the six nodes, and validates that the MD5 checksum is the same on each node. Then, the MD5 checksum is displayed in the Validation window.

If the MD5 checksums do not match, do not proceed and restart the upgrade.

To cancel the operation and return back to the Cisco TelePresence Exchange System Upgrade window, click **Cancel**.

**Note** You are not allowed to cancel an operation while it is in progress.

In the navigation pane, the **Side A Maintenance** option is highlighted.

**Step 5** To place the three nodes for Side A in maintenance mode, click **Put Side A Nodes Into Maintenance Mode**.

The other three nodes for Side B continue to handle calls in standalone mode. When complete, a green check mark is displayed for each of the three nodes for Side A.

To cancel the operation and return back to the Cisco TelePresence Exchange System Upgrade window, click **Cancel**.

**Note** We recommend that you do not cancel this operation.

In the navigation pane, the **Side A Installation option** is highlighted.

**Step 6** To install the patch file for each of the three nodes for Side A, click **Install Patch On Side A**.

After the installation, these nodes are rebooted and the new version is in maintenance mode. When complete, a green check mark is displayed for each of the three nodes for Side A.

This process involves installing new software on all of the Side A nodes and rebooting them. If an older firmware version is detected during a reboot, it is also upgraded. During the firmware update process, the machine reboots four times.

**Note** This process takes approximately one hour. If a firmware upgrade is also required, this process takes approximately two hours.

If you want to cancel the operation, revert the system back to nonredundant mode, and return back to the Cisco TelePresence Exchange System Upgrade window, click **Cancel**.

**Note** We recommend that you do not cancel this operation.

In the navigation pane, the **Side B Maintenance** option is highlighted.

**Step 7** To place the remaining three nodes for Side B in to maintenance mode, click **Put Side B Nodes Into Maintenance Mode**.

**Note** During this process, the entire system is offline. All new calls will fail and existing calls will drop.

To cancel the operation and return back to the Cisco TelePresence Exchange System Upgrade window, click **Cancel**.

**Note** We recommend that you do not cancel this operation.

In the navigation pane, the **Database Migration** option is highlighted.

**Step 8** To migrate the contents from the Side B database from the previous version over to the Side A database, click **Migrate Database**.

**Note** Depending on how much data that you need to migrate, this process may take more than five minutes.

To cancel the operation and return back to the Cisco TelePresence Exchange System Upgrade window, click **Cancel**.

**Note** We recommend that you do not cancel this operation.

In the navigation pane, the **Side A Online** option is highlighted.

**Step 9** To bring each of the three nodes for Side A out of maintenance mode to standalone mode with the upgraded version, click **Bring Side A Online**.

When the Side A nodes are online, these nodes can handle calls. The system operates in a nonredundant state.

If you want to cancel the operation, click **Cancel**.

In the navigation pane, the **Side B Installation** option is highlighted.

**Note** Before you start the process to install Side B, make sure that Side A is handling calls and scheduling meetings properly.

**Step 10** To install the patch file for each of the three nodes for Side B, do the following steps:

**a.** To start the patch installation process for these three nodes, click **Install Patch On Side B**.

After the installation, the nodes for Side B are rebooted and the new version is in maintenance mode.

This process involves installing new software on all of the Side B nodes and rebooting them. If an older firmware version is detected during a reboot, it is also upgraded. During the firmware update process, the machine reboots four times.

**Note** This process takes approximately one hour. If a firmware upgrade is also required, this process takes approximately two hours.

The system displays a message prompting you to confirm that you want to log in to Side A while Side B is being upgraded and restarted.

**b.** To confirm, click **Continue to Side A**.

When complete, a green check mark is displayed for each of the three nodes for Side B.

**Note** If the operation is cancelled, notify Cisco TAC immediately.

In the navigation pane, the **Side B Online** option is highlighted.

**Step 11** To bring each of the three nodes for Side B online, click **Bring Side B Online**.

When the Side B nodes are online, the system operates in a redundant state.

A success message displays informing you that the cluster nodes are online. The running version also displays. You can verify the status of each node by accessing the CLI. For information about the commands, see the "Command Reference" appendix.

**Step 12** To return to the Cisco TelePresence Exchange System Upgrade window, click **Return to Overview**.

### Related Topics

- Appendix C, "Command Reference"