



Upgrade Overview

This section provides the following information:

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Types of upgrades

There are two types of upgrades:

- standard upgrades
- refresh upgrades

The server automatically determines whether you need to perform a standard upgrade or a refresh upgrade.

Standard upgrades

Standard upgrades are upgrades that do not require upgrades to the operating system. You can install upgrade software on your server while the system continues to operate.

For standard upgrades, you install the upgrade software as an inactive version. The system continues to function normally while you are installing the software. When the upgrade is complete, you can choose to automatically reboot the system to the upgraded software or you can manually switch to the new software at a later time. When you reboot to the new software, the old software version remains on the system. This allows you to revert to the old version in the unlikely event of issues with the new software. During an upgrade your configuration information migrates automatically to the upgraded version.



Note You can only make any provisioning changes to the database on the active software. The database for the inactive software is not updated. If you make changes to the database after an upgrade, you must repeat those changes after switching to the new software.



Note See *Resuming a Failed Upgrade* section of the *Troubleshooting* chapter for more details.

Refresh upgrades

Refresh upgrades are required in situations where incompatibilities exist between the old and new software releases. For example, a refresh upgrade is required when the major version of the embedded operating system changes between the version you are upgrading from and the version that you are upgrading to. Refresh upgrades require multiple reboots during installation to upgrade the underlying operating system, causing a temporary server outage while the software is installed. The duration of this outage will depend on your configuration and the size of the database.

**Note**

You must perform all refresh upgrades during a maintenance window because the system will not be available during the upgrade.

For refresh upgrades, the upgrade wizard allows you to choose whether or not to automatically run the new upgraded software when the upgrade completes. If you select not to run the new software, the system will reboot to the old software version when the upgrade is complete and you can manually switch to the new software at a later time.

If for any reason you decide to revert to the prior software version, you can switch versions to the older version of the software. This switch version requires a reboot. Be aware that any configuration changes that you made after upgrading the software will be lost.

COP Files

When you perform a refresh upgrade, you must install COP files before you begin upgrading from any of the following releases:

- upgrades from Cisco Unified Communications Manager 8.5(x) and older to Cisco Unified Communications Manager 10.0(x)
- upgrades from Cisco Unified Presence 8.5(4) to IM and Presence 10.0(x)

You can download the following COP files from Cisco.com:

COP file	Purpose
ciscocm.refresh_upgrade_v<latest_version>.cop.sgn	Required. Install this file on all Unified Communications Manager nodes to update the operating system so that it supports the new release.
ciscocm.cup.refresh_upgrade_v<latest_version>.cop	Required. Install this file on all IM and Presence Service nodes to update the operating system so that it supports the new release.
ciscocm.vmware-disk-size-reallocation-<latest_version>.cop.sgn	Optional. This COP file expands the vDisk size. Install this COP file on either Unified Communications Manager nodes or IM and Presence Service nodes if you need to increase the vDisk space to meet the space requirements of a refresh upgrade. This option requires a reboot.

COP file	Purpose
ciscocm.free_common_space_<latest_version>.cop.sgn	<p>Optional. This COP file removes the inactive side in the common partition to increase available disk space without requiring a system rebuild. Install this COP file on Unified Communications Manager nodes or IM and Presence Service nodes as required to perform an upgrade. You can use this COP file as an alternative to the COP file listed above, or in conjunction with it. This option does not require a reboot.</p> <p>Note You will not be able to switch back to the inactive version after installing this file.</p>

To find COP files on Cisco.com, navigate to **Support > Downloads > Cisco Unified Communications Manager Version 10.0 > Unified Communications Manager/CallManager/Cisco Unity Connection Utilities**.

**Caution**

If you do not install the COP file on all nodes for the required releases, the upgrade will fail.

COP File Installation

The following guidelines apply to installing COP files. If the documentation for a specific COP file contradicts these general guidelines, follow the COP file documentation:

- Install the appropriate COP file on every node in a cluster. Perform this task before you install new software on each node in the cluster and set up the database.
- After you install a COP file, you must restart the node.
- Restart Cisco Unified Communications Manager to ensure that configuration changes that are made during the COP file installation get written into the database.
- Restart the IM and Presence Service to ensure that configuration changes that are made during the COP file installation get written into the database.

Upgrade Process

You can begin an upgrade using either the command line interface or graphical user interface. You can monitor progress of the upgrade using the console until the command line interface and graphical user interface access has been restored. Once these interfaces are restored, you can use the command line interface or graphical user interface to continue to monitor upgrade progress.

When you upgrade a node, the new software is installed as an inactive version. To activate the new software, you must switch the node to the new software version. There are two ways to switch to the new software version:

- automatic switching—the system switches the version automatically as part of the upgrade process

- manual switching—you switch the version using the OS Administration interface after the upgrade process is complete

The method that you choose depends on the type of upgrade that you are doing. During the upgrade process, the wizard prompts you to choose whether to switch the software version automatically by rebooting to the upgraded partition, or whether to switch the version manually at a later time. The table below lists the switching method to use for each type of upgrade.

Upgrade type	Switching type	When prompted, choose . . .	Result
Standard upgrade	Automatic	Reboot to upgraded partition	When you choose this option, the system reboots to the new software version.
	Manual	Do not reboot after upgrade	When you choose this option, the system continues to run the old software version when the upgrade is complete. You can manually switch to the new software at a later time.
Refresh upgrade	Manual	Do not switch to new version after upgrade	Use this option only if you are performing a refresh upgrade in stages. When you choose this option the system reboots to the old software version when the upgrade is complete and you manually switch to the new software at a later time. When you use this upgrade method, you must switch your publisher node to the new software version before you upgrade your subscriber nodes.
	Automatic	Switch to new version after upgrade	Choose this option to use the new software version immediately following the upgrade.

When you switch versions, your configuration information migrates automatically to the upgraded version on the active partition.

If for any reason you decide to back out of the upgrade, you can restart the system to the inactive partition that contains the older version of the software. However, any configuration changes that you made since you upgraded the software will be lost.

For a short period of time after you install Cisco Unified Communications Manager or switch over after upgrading to a different product version, any changes made by phone users may be lost. Examples of phone user settings include call forwarding and message waiting indication light settings. This can occur because Cisco Unified Communications Manager synchronizes the database after an installation or upgrade, which can overwrite phone user settings changes.

Accessing the Upgrade File

The method that you use to access the upgrade file depends on your network environment. The following options are available:

- access the upgrade file on a remote FTP or SFTP server
- access the upgrade file on the physical DVD drive of a VMware ESXi server host
- upgrade from a data store ISO file on the local ESXi host; for this option, you must edit the virtual machine's CD/DVD drive to map to the file
- upgrade from a data store ISO file on a storage area network (SAN) that is connected to the ESXi host; for this option, you must edit the virtual machine's CD/DVD drive to map to the file

Sequence Rules

When you are planning to perform an upgrade using either the Unified CM OS Admin interface or the PCD upgrade task, you must ensure that your plan takes the following sequencing rules into account.

- The Unified Communications Manager publisher node must be the first node that you upgrade. The new software is installed as an inactive version.
- You can begin upgrading Unified Communications Manager subscriber nodes as soon as the publisher node has been upgraded with an inactive version of the new software.
- You must switch the Unified Communications Manager publisher node to the new software version and reboot it before you switch the version on any subscriber nodes. The publisher node must be the first node to switch to the new software version and reboot.
- If you upgrade a group of subscriber nodes, after you switch the software version and reboot, you must wait for database replication to complete on all subscriber nodes before proceeding with any COP file installs or configuration changes.
- If you are upgrading Unified Communications Manager nodes to a Maintenance Release (MR) or an Engineering Special (ES) Release and you are not upgrading IM and Presence Service nodes, you must reboot all IM and Presence nodes after the Unified Communications Manager upgrade is complete.
- If you are upgrading IM and Presence Service nodes in addition to Unified Communications Manager nodes:
 - The IM and Presence Service database publisher node must be the first IM and Presence Service node that you upgrade. The new software is installed as an inactive version.
 - You can begin upgrading IM and Presence Service subscriber nodes as soon as the publisher node has been upgraded with an inactive version of the new software.

- You can wait until all of the Unified Communications Manager nodes are upgraded to an inactive version before you upgrade the IM and Presence Service database publisher node, or you can choose to upgrade in parallel. If you upgrade in parallel, start upgrading the IM and Presence Service database publisher node at the same time that you upgrade the Unified Communications Manager subscriber nodes.
- You must switch to the new software version and reboot all Unified Communications Manager nodes, starting with the publisher node, before you can switch versions on the IM and Presence Service nodes.
- You must switch the IM and Presence Service database publisher node to the new software version and reboot it before you switch the software version on any IM and Presence Service subscriber nodes.
- If you upgrade a group of IM and Presence Service subscriber nodes, after you switch the software version and reboot, you must wait for database replication to complete on all subscriber nodes before proceeding.
- If you are upgrading IM and Presence Service nodes to a Maintenance Release (MR) or an Engineering Special (ES) Release and you are not upgrading Unified Communications Manager nodes, the following additional sequencing rules apply:
 - For upgrades using the Unified CM OS Admin interface, you must upgrade the Unified Communications Manager publisher node and then upgrade the IM and Presence Service nodes to the Maintenance Release (MR) or an Engineering Special (ES) Release.
 - If you are using the Prime Collaboration Deployment migration task, you must select the Unified Communications Manager publisher node in addition to the IM and Presence Service nodes.
 - If you are using the Prime Collaboration Deployment upgrade task, you do not need to select the Unified Communications Manager publisher node as long as the first 3 digits of new version of IM and Presence Service match the first 3 digits of the currently installed version of Unified Communications Manager.

Upgrade Task Lists

The following sections provide a list of the high-level tasks that you must perform for each of the supported upgrade scenarios:

- upgrade the software on both Unified Communications Manager nodes, and IM and Presence nodes
- upgrade the software on Unified Communications Manager nodes only
- upgrade the software on IM and Presence nodes only

Perform the tasks in the order shown in these high-level task lists. For detailed information about how to perform the tasks outlined in these task lists, refer to the Related Topics section included at the end of each task list.

Standard Upgrade of Unified Communications Manager and IM and Presence Nodes

Complete the high-level tasks listed in this section when you want to perform a standard upgrade on both the Unified Communications Manager nodes and the IM and Presence nodes in your network.

Procedure

Step 1 Perform all pre-upgrade tasks that apply to your site.

Step 2 Stop all configuration tasks.

Caution Do not make any configuration changes during an upgrade. For example, do not change passwords, perform LDAP synchronizations, or run any automated jobs until you have completed the upgrade on all nodes and performed the post-upgrade tasks. Any configuration changes that you make during an upgrade may be lost, and some configuration changes can cause the upgrade to fail.

We recommend that you suspend user synchronization with LDAP and do not resume synchronization until you have completed the upgrade on all Cisco Unified Communications Manager nodes and all IM and Presence Service nodes.

Do not modify any of the IM and Presence Service server entries on the Application Server or Server configuration pages of the Cisco Unified CM Administration interface. The IM and Presence Service upgrade process automatically updates these entries on the Cisco Unified Communications Manager cluster during the final stages (switch version) of the upgrade process.

Any manual modification of these entries during the upgrade process will result in data migration failures between IM and Presence Service and Cisco Unified Communications Manager. If such failures occur, you must restart the entire upgrade process for both Cisco Unified Communications Manager and IM and Presence Service clusters.

Step 3 Upgrade the Unified Communications Manager publisher node. The Unified Communications Manager publisher node is the first node in the cluster.

Step 4 Upgrade the Unified Communications Manager subscriber nodes.

Step 5 Switch the first node to the upgraded partition.

Step 6 Switch the subscriber nodes to the upgraded partition.

Note You can switch the subscriber nodes to the upgraded partition either all at once or one at a time, depending on your site requirements.

Step 7 Ensure that database replication is functioning between the first node (the Unified Communications Manager publisher node) and the subscriber nodes. You can check database replication status by using one of the following methods:

- In Cisco Unified Reporting, access the Unified Communications Manager Database Status report. Before you proceed, ensure the report indicates that you have a good database replication status with no errors. For more information about using Cisco Unified Reporting, see the *Cisco Unified Reporting Administration Guide*.
- In the Cisco Real Time Monitoring Tool, access the Database Summary service under the CallManager tab to monitor database replication status. The following list indicates the database replication status progress:

- 0 - Initializing; replication setup is in process.
- 1 - Replication setup script running on this node; transitional state.
- 2 - Set-up complete; replication is setup and in a good state.
- 3 - Out of sync; replication is setup, but some data is going out of sync.
- 4 - Failed; replication setup did not succeed.

Before you proceed, ensure that the database replication is setup and in a good state. For more information about using the Real Time Monitoring Tool, see the *Cisco Unified Real Time Monitoring Tool Administration Guide*.

Step 8 Perform post-upgrade tasks for Unified Communications Manager nodes.

Step 9 Upgrade the IM and Presence database publisher node. The IM and Presence database publisher node is the first node in the IM and Presence cluster.

Step 10 Upgrade the IM and Presence subscriber nodes.

Step 11 Switch the software to the new software release on the IM and Presence database publisher node (the first IM and Presence node). Wait until the first node has successfully restarted and is at the sign in prompt before you proceed to the next step.

Step 12 On the IM and Presence subscriber node, switch the software to the new software release. After the IM and Presence subscriber node has restarted and has come back online with the new software release, switch the software release on the next node. Wait until each of the nodes has successfully restarted (is at the sign in prompt) before you proceed with the software switch on the next node. Repeat until the new software release is running on all nodes.

Step 13 Run the following CLI commands:

- `run utils dbreplication status` to check for errors or mismatches in the database tables
- `run utils dbreplication runtimestate` to check if the database replication is active on a node

If database replication is active on all nodes, the output lists all the nodes and the **replication setup** value for each node is 2.

Note If database replication is not complete (a value other than 2 is returned), core services will not start on the subscriber nodes until replication is complete. Select **Cisco Unified CM IM and Presence Administration > System > Notifications** to determine whether database replication is complete.

Replication takes 20-30 minutes on average, but it may take longer depending on the size of the database.

Step 14 Perform post-upgrade tasks for the IM and Presence Service.

Related Topics

[Perform Pre-Upgrade Tasks](#)

[Upgrade from a Local Source](#)

[Upgrade from a Remote Source](#)

[Switch the Software Version](#)

[Locale Installation](#)

[Post-Upgrade Tasks for Cisco Unified Communications Manager Nodes](#)

[Post-Upgrade Tasks for IM and Presence Nodes](#)

Refresh Upgrade of Unified Communications Manager and IM and Presence Nodes

Complete the high-level tasks listed in this section when you want to perform a refresh upgrade on both the Unified Communications Manager nodes and the IM and Presence Service nodes in your network.

Procedure

Step 1 Perform all pre-upgrade tasks that apply to your site.

Step 2 Stop all configuration tasks.

Caution Do not make any configuration changes during an upgrade. For example, do not change passwords, perform LDAP synchronizations, or run any automated jobs until you have completed the upgrade on all nodes and performed the post-upgrade tasks. Any configuration changes that you make during an upgrade may be lost, and some configuration changes can cause the upgrade to fail.

We recommend that you suspend user synchronization with LDAP and do not resume synchronization until you have completed the upgrade on all Cisco Unified Communications Manager nodes and all IM and Presence Service nodes.

Do not modify any of the IM and Presence Service server entries on the Application Server or Server configuration pages of the Cisco Unified CM Administration interface. The IM and Presence Service upgrade process automatically updates these entries on the Cisco Unified Communications Manager cluster during the final stages (switch version) of the upgrade process.

Any manual modification of these entries during the upgrade process will result in data migration failures between IM and Presence Service and Cisco Unified Communications Manager. If such failures occur, you must restart the entire upgrade process for both Cisco Unified Communications Manager and IM and Presence Service clusters.

Step 3 If you are performing a refresh upgrade that requires a COP file, install the required COP file.

If you are unsure whether you need to install a COP file, review the information about supported upgrade paths.

Step 4 Upgrade the Unified Communications Manager publisher node. The Unified Communications Manager publisher node is the first node in the cluster.

Step 5 Switch the software to the new software release. To do this, select **Switch to new version after upgrade**. The publisher node must be running the new software before you upgrade each subscriber node.

Step 6 Upgrade each Unified Communications Manager subscriber node.

Step 7 Switch the software on the subscriber nodes to the new software release. To do this, select **Switch to new version after upgrade**.

Note You can switch the subscriber nodes to the upgraded partition either all at once or one at a time, depending on your site requirements.

Step 8 Ensure that database replication is functioning between the first node (the Unified Communications Manager publisher node) and the subscriber nodes. You can check database replication status by using one of the following methods:

- In Cisco Unified Reporting, access the Unified Communications Manager Database Status report. Before you proceed, ensure the report indicates that you have a good database replication status with no errors. For more information about using Cisco Unified Reporting, see the *Cisco Unified Reporting Administration Guide*.
- In the Cisco Real Time Monitoring Tool, access the Database Summary service under the CallManager tab to monitor database replication status. The following list indicates the database replication status progress:
 - 0 - Initializing; replication setup is in process.
 - 1 - Replication setup script running on this node; transitional state.
 - 2 - Set-up complete; replication is setup and in a good state.
 - 3 -Out of sync; replication is setup, but some data is going out of sync.
 - 4 - Failed; replication setup did not succeed.

Before you proceed, ensure that the database replication is setup and in a good state. For more information about using the Real Time Monitoring Tool, see the *Cisco Unified Real Time Monitoring Tool Administration Guide*.

Step 9 Perform post-upgrade tasks for Unified Communications Manager nodes.

Step 10 If you are performing a refresh upgrade that requires a COP file, install the required COP file on every IM and Presence node in the cluster and restart the nodes.

If you are unsure whether you need to install a COP file, review the information about supported upgrade paths. See the Related Topics section below for more information.

Step 11 Upgrade the IM and Presence database publisher node. The IM and Presence database node is the first node in the IM and Presence cluster.

Step 12 Switch the software to the new software release. To do this, select **Switch to new version after upgrade**. The IM and Presence database publisher node must be running the new software before you upgrade the IM and Presence subscriber nodes.

Step 13 Upgrade each IM and Presence subscriber node.

Step 14 Switch the software on the subscriber nodes to the new software release. To do this, select **Switch to new version after upgrade**.

Step 15 Run the following CLI command (on the publisher or subscriber node) to check if the database replication is active on a node:

```
utils dbreplication runtimestate
```

If database replication is active on all nodes, the output lists all the nodes and the **replication setup** value for each node is **2**.

Note If database replication is not complete (a value other than 2 is returned), core services will not start on the subscriber node. Select **Cisco Unified CM IM and Presence Administration > System > Notifications** to determine whether database replication is complete.

Replication takes 20-30 minutes on average, but it may take longer depending on the size of the database.

Step 16 Perform post-upgrade tasks for the IM and Presence Service.

Related Topics

[Perform Pre-Upgrade Tasks](#)

[COP Files](#), on page 2

[Upgrade from a Local Source](#)

[Upgrade from a Remote Source](#)

[Switch the Software Version](#)

[Locale Installation](#)

[Post-Upgrade Tasks for Cisco Unified Communications Manager Nodes](#)

[Post-Upgrade Tasks for IM and Presence Nodes](#)

Standard Upgrade of Unified Communications Manager Nodes Only

Complete the high-level tasks listed in this section when you want to perform a standard upgrade of only the Unified Communications Manager nodes in your network. When you upgrade Unified Communications Manager nodes without upgrading IM and Presence nodes, ensure that the installed version of the IM and Presence Service is compatible with the new version of the Unified Communications Manager software.



Note When Cisco Unified Communications Manager 10.0(x) is upgraded as part of a service update or a maintenance release, Cisco Sync Agent sends a notification to Cisco Unified CM IM and Presence Administration that the IM and Presence Service database publisher node and subscriber nodes must be rebooted. You must manually clear this notification after the reboots are complete. A warning message about the upgrade is also raised in the Cisco Unified Communications Manager OS Administration GUI.

Procedure

Step 1 Perform all pre-upgrade tasks that apply to your site.

Step 2 Stop all configuration tasks. Do not perform any configuration tasks during the upgrade.

Caution Do not make any configuration changes during an upgrade. For example, do not change passwords, perform LDAP synchronizations, or run any automated jobs until you have completed the upgrade on all nodes and performed the post-upgrade tasks. Any configuration changes that you make during an upgrade may be lost, and some configuration changes can cause the upgrade to fail.

We recommend that you suspend user synchronization with LDAP and do not resume synchronization until you have completed the upgrade on all Cisco Unified Communications Manager nodes.

Step 3 Upgrade the Unified Communications Manager publisher node. The Unified Communications Manager publisher node is the first node in the cluster.

Step 4 Upgrade the Unified Communications Manager subscriber nodes.

Step 5 When you have completed the upgrade of all the subscriber nodes, switch the publisher node to the upgraded software version.

Step 6 When the publisher node is switched to the new version, switch the subscriber nodes to the upgraded software version.

Step 7 Ensure that database replication is functioning between the first node (the Unified Communications Manager publisher node) and the subscriber nodes. You can check database replication status by using one of the following methods:

- In Cisco Unified Reporting, access the Unified Communications Manager Database Status report. Before you proceed, ensure the report indicates that you have a good database replication status with no errors. For more information about using Cisco Unified Reporting, see the *Cisco Unified Reporting Administration Guide*.
- In the Cisco Real Time Monitoring Tool, access the Database Summary service under the CallManager tab to monitor database replication status. The following list indicates the database replication status progress:
 - 0 - Initializing; replication setup is in process.
 - 1 - Replication setup script running on this node; transitional state.
 - 2 - Set-up complete; replication is setup and in a good state.
 - 3 - Out of sync; replication is setup, but some data is going out of sync.
 - 4 - Failed; replication setup did not succeed.

Before you proceed, ensure that the database replication is setup and in a good state. For more information about using the Real Time Monitoring Tool, see the *Cisco Unified Real Time Monitoring Tool Administration Guide*.

Step 8 Perform post-upgrade tasks for Unified Communications Manager nodes.

Step 9 If you upgraded Cisco Unified Communications Manager to a Maintenance Release (MR) or an Engineering Special (ES) Release and you do not upgrade the IM and Presence Service, you must reboot all IM and Presence nodes after the Unified Communications Manager upgrade is complete.

Related Topics

[Perform Pre-Upgrade Tasks](#)
[Upgrade from a Local Source](#)
[Upgrade from a Remote Source](#)
[Switch the Software Version](#)
[Locale Installation](#)
[Post-Upgrade Tasks for Cisco Unified Communications Manager Nodes](#)

Refresh Upgrade Of Unified Communications Manager Nodes Only

Complete the high-level tasks listed in this section when you want to perform a refresh upgrade of only the Unified Communications Manager nodes in your network. When you upgrade Unified Communications Manager nodes without upgrading IM and Presence nodes, ensure that the installed version of the IM and Presence Service is compatible with the new version of the Unified Communications Manager software.

Procedure

Step 1 Perform all pre-upgrade tasks that apply to your site.

Step 2 Stop all configuration tasks.

Caution Do not make any configuration changes during an upgrade. For example, do not change passwords, perform LDAP synchronizations, or run any automated jobs until you have completed the upgrade on all nodes and performed the post-upgrade tasks. Any configuration changes that you make during an upgrade may be lost, and some configuration changes can cause the upgrade to fail.

We recommend that you suspend user synchronization with LDAP and do not resume synchronization until you have completed the upgrade on all Cisco Unified Communications Manager nodes.

Step 3 If you are performing a refresh upgrade that requires a COP file, install the required COP file.

If you are unsure whether you need to install a COP file, review the information about supported upgrade paths.

Step 4 Upgrade the Unified Communications Manager publisher node. The Unified Communications Manager publisher node is the first node in the cluster.

Step 5 Switch the software to the new software release. To do this, select **Switch to new version after upgrade**. The publisher node must be running the new software before you upgrade each subscriber node.

Step 6 Upgrade each Unified Communications Manager subscriber node.

Step 7 Switch the software on the subscriber nodes to the new software release. To do this, select **Switch to new version after upgrade**.

Step 8 Ensure that database replication is functioning between the first node (the Unified Communications Manager publisher node) and the subscriber nodes. You can check database replication status by using one of the following methods:

- In Cisco Unified Reporting, access the Unified Communications Manager Database Status report. Before you proceed, ensure the report indicates that you have a good database replication status with no errors. For more information about using Cisco Unified Reporting, see the *Cisco Unified Reporting Administration Guide*.
- In the Cisco Real Time Monitoring Tool, access the Database Summary service under the CallManager tab to monitor database replication status. The following list indicates the database replication status progress:
 - 0 - Initializing; replication setup is in process.
 - 1 - Replication setup script running on this node; transitional state.
 - 2 - Set-up complete; replication is setup and in a good state.
 - 3 - Out of sync; replication is setup, but some data is going out of sync.
 - 4 - Failed; replication setup did not succeed.

Before you proceed, ensure that the database replication is setup and in a good state. For more information about using the Real Time Monitoring Tool, see the *Cisco Unified Real Time Monitoring Tool Administration Guide*.

Step 9 Perform post-upgrade tasks for Unified Communications Manager nodes.

- Step 10** If you upgraded Unified Communications Manager to a Maintenance Release (MR) or an Engineering Special (ES) Release and you do not upgrade IM and Presence Service, you must reboot all IM and Presence nodes after the Unified Communications Manager upgrade is complete.

Related Topics

[Perform Pre-Upgrade Tasks](#)
[COP Files](#), on page 2
[Upgrade from a Local Source](#)
[Upgrade from a Remote Source](#)
[Switch the Software Version](#)
[Locale Installation](#)
[Post-Upgrade Tasks for Cisco Unified Communications Manager Nodes](#)

Standard Upgrade of IM and Presence Nodes Only

Complete the high-level tasks listed in this section when you want to perform a standard upgrade the IM and Presence nodes in your network without upgrading Unified Communication Manager subscriber nodes.

When you upgrade IM and Presence nodes without upgrading Unified Communication Manager subscriber nodes, ensure that the installed version of Unified Communication Manager is compatible with the new version of the Unified Communication Manager software. The software version of the first IM and Presence node (the IM and Presence database publisher node) must match the first two numbers of the software version installed on the Unified Communications Manager publisher node. For example, IM and Presence Service software version 10.0.1.10000-1 is compatible with Cisco Unified Communications Manager software version 10.0.1.30000-2.

Procedure

- Step 1** Perform all pre-upgrade tasks that apply to your site.

- Step 2** Stop all configuration tasks. Do not perform any configuration tasks during the upgrade.

Caution Do not make any configuration changes during an upgrade. For example, do not change passwords, perform LDAP synchronizations, or run any automated jobs until you have completed the upgrade on all nodes and performed the post-upgrade tasks. Any configuration changes that you make during an upgrade may be lost, and some configuration changes can cause the upgrade to fail.

We recommend that you suspend user synchronization with LDAP and do not resume synchronization until you have completed the upgrade on all Cisco Unified Communications Manager nodes and all IM and Presence Service nodes.

Do not modify any of the IM and Presence Service server entries on the Application Server or Server configuration pages of the Cisco Unified CM Administration interface. The IM and Presence Service upgrade process automatically updates these entries on the Cisco Unified Communications Manager cluster during the final stages (switch version) of the upgrade process.

Any manual modification of these entries during the upgrade process will result in data migration failures between IM and Presence Service and Cisco Unified Communications Manager. If such failures occur, you must restart the entire upgrade process for both Cisco Unified Communications Manager and IM and Presence Service clusters.

- Step 3** Upgrade the Unified Communications Manager publisher node. The Unified Communications Manager publisher node is the first node in the cluster.
- Step 4** Upgrade the IM and Presence database publisher node. The IM and Presence database publisher node is the first node in the IM and Presence cluster.
- Step 5** Upgrade the IM and Presence subscriber nodes.
- Step 6** Switch the software to the new software release. To do this, select **Switch to new version after upgrade**. You must switch the software to the upgraded version in the following order:
- Switch the software on the Unified Communications Manager publisher node.
 - Switch the software on the IM and Presence database publisher node.
 - Switch the software on the IM and Presence subscriber nodes.

Wait until each of the nodes has successfully restarted and is at the sign in prompt before you proceed with the software switch on the next node. Repeat until the new software release is running on all nodes.

- Step 7** Run the following CLI command to check if the database replication is active on a node:

```
utils dbreplication runtimestate
```

If database replication is active on all nodes, the output lists all the nodes and the **replication setup** value for each node is **2**.

Note If database replication is not complete (a value other than 2 is returned), core services will not start on the subscriber nodes. Select **Cisco Unified CM IM and Presence Administration > System > Notifications** to determine whether database replication is complete.

Replication takes 20-30 minutes on average, but it may take longer depending on the size of the database.

- Step 8** Perform post-upgrade tasks for the IM and Presence Service.

In the event of an IM and Presence upgrade failure

If the upgrade of Unified Communications Manager nodes is successful but the upgrade of IM and Presence nodes fails, you must either:

- perform another upgrade of both the Unified Communications Manager nodes and the IM and Presence nodes after you address the issues that caused the failure
- perform a DRS restore on the Unified Communications Manager node where the backup was taken from to restore it to the configuration it had before the attempted upgrade of the IM and Presence nodes

Related Topics

[Perform Pre-Upgrade Tasks](#)

[Upgrade from a Local Source](#)

[Upgrade from a Remote Source](#)

[Switch the Software Version](#)

[Locale Installation](#)

[Post-Upgrade Tasks for IM and Presence Nodes](#)

Refresh Upgrade of IM and Presence Nodes Only

Complete the high-level tasks listed in this section when you want to perform a refresh upgrade the IM and Presence nodes in your network without upgrading Cisco Unified Communication Manager subscriber nodes. When you upgrade IM and Presence nodes without upgrading Unified Communications Manager subscriber nodes, ensure that the installed version of Unified Communications Manager is compatible with the new version of the IM and Presence Service software.

Procedure

Step 1 Perform all pre-upgrade tasks that apply to your site.

Step 2 Stop all configuration tasks. Do not perform any configuration tasks during the upgrade.

Caution Do not make any configuration changes during an upgrade. For example, do not change passwords, perform LDAP synchronizations, or run any automated jobs until you have completed the upgrade on all nodes and performed the post-upgrade tasks. Any configuration changes that you make during an upgrade may be lost, and some configuration changes can cause the upgrade to fail.

We recommend that you suspend user synchronization with LDAP and do not resume synchronization until you have completed the upgrade on all Cisco Unified Communications Manager nodes and all IM and Presence Service nodes.

Do not modify any of the IM and Presence Service server entries on the Application Server or Server configuration pages of the Cisco Unified CM Administration interface. The IM and Presence Service upgrade process automatically updates these entries on the Cisco Unified Communications Manager cluster during the final stages (switch version) of the upgrade process.

Any manual modification of these entries during the upgrade process will result in data migration failures between IM and Presence Service and Cisco Unified Communications Manager. If such failures occur, you must restart the entire upgrade process for both Cisco Unified Communications Manager and IM and Presence Service clusters.

Step 3 If you are performing a refresh upgrade that requires a COP file, install the required COP file.

If you are unsure whether you need to install a COP file, review the information about supported upgrade paths. See the Related Topics section below for more information.

Step 4 Upgrade the Unified Communications Manager publisher node. The Unified Communications Manager publisher node is the first node in the cluster.

Step 5 Switch the software to the new software release. To do this, select **Switch to new version after upgrade**. The Unified Communications Manager publisher node must be running the new software before you upgrade each IM and Presence subscriber node.

Step 6 Upgrade the IM and Presence database node. The IM and Presence database node is the first node in the IM and Presence cluster.

Step 7 Switch the software to the new software release. To do this, select **Switch to new version after upgrade**.

Step 8 Upgrade the IM and Presence subscriber nodes.

Step 9 Switch the software on the subscriber nodes to the new software release. To do this, select **Switch to new version after upgrade**.

Wait until each of the nodes has successfully restarted and is at the sign in prompt before you proceed with the software switch on the next node. Repeat until the new software release is running on all nodes.

Step 10 Run the following CLI command to check if the database replication is active on a node:

```
utils dbreplication runtimestate
```

If database replication is active on all nodes, the output lists all the nodes and the **replication setup** value for each node is 2.

Note If database replication is not complete (a value other than 2 is returned), core services will not start on the subscriber nodes. Select **Cisco Unified CM IM and Presence Administration** > **System** > **Notifications** to determine whether database replication is complete.

Replication takes 20-30 minutes on average, but it may take longer depending on the size of the database.

Step 11 Request that all IM and Presence client users in the local and remote cluster sign out, and sign back in to the application.

Step 12 Perform post-upgrade tasks for the IM and Presence Service.

In the event of an IM and Presence upgrade failure

If the upgrade of Unified Communications Manager nodes is successful but the upgrade of IM and Presence nodes fails, you must either:

- perform another upgrade of both the Unified Communications Manager nodes and the IM and Presence nodes after you address the issues that caused the failure
- perform a DRS restore on the Unified Communications Manager node where the backup was taken from to restore it to the configuration it had before the attempted upgrade of the IM and Presence nodes

Related Topics

[Perform Pre-Upgrade Tasks](#)

[COP Files](#), on page 2

[Upgrade from a Local Source](#)

[Upgrade from a Remote Source](#)

[Switch the Software Version](#)

[Locale Installation](#)

[Post-Upgrade Tasks for IM and Presence Nodes](#)

Parallel Upgrades

Complete the high-level tasks listed in this section when you want to upgrade nodes in a cluster in parallel.

You can begin upgrading subscriber nodes after the publisher node has finished upgrading. If you are performing a refresh upgrade, there will be a temporary server outage until all subscriber nodes get upgraded to the new software version.

Procedure

Step 1 Perform all pre-upgrade tasks that apply to your site.

Step 2 Stop all configuration tasks.

Caution Do not make any configuration changes during an upgrade. For example, do not change passwords, perform LDAP synchronizations, or run any automated jobs until you have completed the upgrade on all nodes and performed the post-upgrade tasks. Any configuration changes that you make during an upgrade may be lost, and some configuration changes can cause the upgrade to fail.

We recommend that you suspend user synchronization with LDAP and do not resume synchronization until you have completed the upgrade on all Cisco Unified Communications Manager nodes and all IM and Presence Service nodes.

Do not modify any of the IM and Presence Service server entries on the Application Server or Server configuration pages of the Cisco Unified CM Administration interface. The IM and Presence Service upgrade process automatically updates these entries on the Cisco Unified Communications Manager cluster during the final stages (switch version) of the upgrade process.

Any manual modification of these entries during the upgrade process will result in data migration failures between IM and Presence Service and Cisco Unified Communications Manager. If such failures occur, you must restart the entire upgrade process for both Cisco Unified Communications Manager and IM and Presence Service clusters.

Step 3 Upgrade the Unified Communications Manager publisher node. The Unified Communications Manager publisher node is the first node in the cluster.

Step 4 View the installation log to monitor the status of the upgrade by using the Software Installation/Upgrade window in Cisco Unified Communications Operating System Administration or by using the command line interface (CLI).

- List the install log:

```
file list install install_* date
install_log_2008-10-01.09.41.57.log      install_log_2008-10-08.12.59.29.log
install_log_2008-10-14.09.31.06.log
dir count = 0, file count = 3
```

- Search the most recent install log for the string `PRODUCT_VERSION`; for example:

```
admin:file search install install_log_2013-01-07.09.39.11.log PRODUCT_VERSION

Searching path: /var/log/install/install_log_2013-01-07.09.39.11.log
Searching file: /var/log/install/install_log_2013-01-07.09.39.11.log
01/07/2013 09:53:54 post_upgrade|PRODUCT_VERSION is 9.1.1.10000-11|<LVL::Info>
01/07/2013 09:53:54 post_upgrade|PRODUCT_VERSION_DISPLAY is
9.1.1.10000-11|<LVL::Info>
Search completed
```

Step 5 When the upgrade on the publisher node is complete, begin the upgrade on the subscriber nodes.

Step 6 Activate the new software on the publisher node.

Step 7 Activate the new software on the subscriber nodes.

Related Topics

[Perform Pre-Upgrade Tasks](#)
[Upgrade from a Local Source](#)
[Upgrade from a Remote Source](#)
[Switch the Software Version](#)