



Pre-Upgrade Tasks

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Perform Pre-Upgrade Tasks

Before you begin the upgrade, perform the following tasks:

Procedure

- Step 1** Read the release notes for the new release and be sure that you understand the new features and how the upgrade interacts with the other products that are associated with your system.
- Step 2** Familiarize yourself with the requirements and limitations listed in this document. Ensure that your system meets all requirements, including network requirements, platform requirements, and software requirements.
- Step 3** Run the pre-upgrade COP. It runs a series of tests and detects issues that can cause upgrade failures. Install the pre-upgrade COP file to check the upgrade readiness from the current version to the version you are upgrading to, and if you find any issues in the report, fix them before upgrading. This reduces the chances of an upgrade failure.
- Step 4** Ensure that the software version you are upgrading from is running on a virtual machine. If your current deployment is running on MCS hardware, see the *Cisco Prime Collaboration Deployment Administration Guide* for information about how to migrate an existing cluster to a virtualized cluster.
- Step 5** Export user records using the Bulk Administration Tool (BAT):
- a) From Cisco Unified CM Administration, choose **Bulk Administration > Users > Export Users**.
 - b) Click **Find** to display all user records.
 - c) Click **Next**.
 - d) Enter a filename in the **File Name** text box and choose file format from the **File Format** drop-down list.
 - e) In the **Job Information** area, enter the Job description.
 - f) Click **Run Immediately** to export user records immediately
 - g) Click **Submit**.

- h) To download the exported file, choose **Bulk Administration > Upload/Download Files**.
- i) Enter search criteria for the file that you generated and click **Find**.
- j) Select the check box that corresponds to the file that you want to download and click **Download Selected**.
- k) In the File Download pop-up window, click **Save**.
- l) In the Save As pop-up window, choose the location where you want to save the file and click **Save**. Ensure that you copy the file off of the server and save it to a remote PC or device.

Step 6

Use the Real-Time Monitoring Tool (RTMT) to verify that you have enough common partition space for the upgrade. Typically, you need at least 25G of common partition space; however, your deployment may require more space if you have a lot of TFTP data (device firmware loads), music-on-hold (MOH) files, or if you have many locale files installed. If you do not have enough space, perform one or more of the following steps to create enough space:

- For upgrades from 9.x and earlier, use the Disk Expansion COP file (ciscocm.vmware-disk-size-reallocation-<latest_version>.cop.sgn) to expand the vDisk size if your virtual environment has additional available disk space. Ensure that you review the Readme file that supports this COP file before you proceed.
- Note** If you are upgrading from Release 10.0(1) and above, you do not need to install the disk expansion Cisco Options Package (COP) file.
- Use the Free Common Space COP file (ciscocm.free_common_space_v<latest_version>.cop.sgn). This COP file removes the inactive side in the common partition to increase available disk space without requiring a system rebuild. Ensure that you review the Readme file that supports this COP file before you proceed.
 - Manually remove outdated or unused firmware files from the TFTP directory. You can remove these files using the TFTP File Management page in the OS Administration interface, or you can use the `file list tftp` and `file delete tftp` commands from the command line interface.

You can download COP files and their Readme files from Cisco.com. Navigate to **Support > Downloads > Cisco Unified Communications Manager <Version> > Unified Communications Manager/CallManager/Cisco Unity Connection Utilities**.

Caution Performing an upgrade without sufficient disk space can cause the system to fail.

Step 7

Download any upgrade COP files that are required. COP files are required for refresh upgrades only. To determine which COP files you need, see the information about COP files and supported upgrade paths listed in the Related Topics section below.

Step 8

Ensure that you have the necessary license files for the new release.

Step 9

Ensure that there are no expired certificates on the partition, including any trust certificates in the certificate chain.

Perform this step for refresh upgrades on IM and Presence Service nodes only. Expired certificates are not imported during a refresh upgrade. As a result, a new certificate is generated during upgrade process and can cause errors.

Step 10

Back up your system, ensuring that you use a network device as the storage location for the backup files. Virtualized deployments of Unified Communications Manager do not support the use of tape drives to store backup files.

For more information, see the *Administration Guide for Cisco Unified Communications Manager*

Step 11

If you are upgrading from Release 9.x or earlier, you must disable extension mobility before you begin the upgrade process.

- a) From Cisco Unified Serviceability, choose **Tools > Service Activation**.
- b) From the **Server** list, choose the node on which you want to deactivate services and click **Go**.
- c) Deselect the **Cisco Extension Mobility** services.
- d) Click **Stop**.
- e) Repeat Steps B through D for each node that is running **Cisco Extension Mobility** services.
- f) Make a list of all the nodes on which you have disabled these services. You will need to restart the services after the upgrade is complete.

Note that when you deactivate the Cisco Extension Mobility service, Cisco Extension Mobility users cannot log in and log out of phones that support Cisco Extension Mobility.

Step 12

Perform these additional tasks when you upgrade Cisco Unified Communications Manager:

- a) If you have special characters in your Cisco Unified Communications Manager default administrative password, when you upgrade from releases 8.x or 9.x, the connection between IM and Presence Service and Cisco Unified Communications Manager fails. Before you upgrade from an 8.x or 9.x release, you must change your password so that all special characters are removed.
- b) Use the **utils dbreplication setreptimeout** CLI command to increase the database replication timeout value when upgrading large clusters so that more Cisco Unified Communications Manager subscriber nodes have sufficient time to request replication. When the timer expires, the first Cisco Unified Communications Manager subscriber node, plus all other Cisco Unified Communications Manager subscriber nodes that requested replication within that time period, begin a batch data replication with the Cisco Unified Communications Manager database publisher node. The default database replication timeout value is 300 (5 minutes). Restore the timeout to the default value after the entire cluster upgrades and the Cisco Unified Communications Manager subscriber nodes have successfully set up replication. For more information, see the *Command Line Interface Guide for Cisco Unified Communications Solutions*.
- c) Ensure that the device name for the Cisco Unified Mobile Communicator device contains 15 or fewer characters. If the device name contains more than 15 characters for the Cisco Unified Mobile Communicator, the device does not migrate during the upgrade.
- d) Ensure that the IP subnet mask of the device is set using the following format:255.255.255.0. You can change the subnet mask by executing the **set network ip eth0 <server_IP_address> 255.255.255.0** command.
- e) Before you upgrade a Cisco Unified Communications Manager cluster, execute the **utils network ipv6 ping** CLI command to verify IPv6 networking on the first node (Cisco Unified Communications Manager database publisher node) and Cisco Unified Communications Manager subscriber nodes. If IPv6 is configured incorrectly on the Cisco Unified Communications Manager subscriber nodes, load detection may take 20 minutes.
- f) Apply all pre-9.0 licenses to Cisco Unified Communications Manager before you upgrade to Release 9.0 or later software. After you upgrade to Release 9.0 or later software, you cannot apply these licenses to Cisco Unified Communications Manager and you cannot apply them using the Cisco Prime License Manager. Ensure that you install all unused licenses or Product Authorization Keys (PAKs) before you upgrade the system. The Cisco Unified Communications Manager displays a warning to prompt you to install any unused licenses before proceeding.

Step 13

Perform these additional tasks when you upgrade the IM and Presence Service:

- a) Disable High Availability on the IM and Presence presence redundancy group. Select **Cisco Unified CM Administration > System > Presence Redundancy Group**.

For more information, see the *Deployment Guide for IM and Presence Service on Cisco Unified Communications Manager*.

- b) If you need to upgrade Cisco Unified Communications Manager as part of your IM and Presence upgrade, you must stop and restart the IM and Presence Sync Agent service. To restart the Sync Agent service,

navigate to Cisco Unified IM and Presence Serviceability and select **Tools > Control Center - Network Services**.

- c) Check that the IM and Presence Service node has connectivity with Cisco Unified Communications Manager.

You can use the Cisco Unified CM IM and Presence Administration System Troubleshooter to check node connectivity.

Step 14 Add a serial port to the virtual machine so that you can dump logs in the event of an upgrade failure.

- a) Power off the virtual machine.
- b) Edit the settings to add a serial port. For more information about making configuration changes using vSphere Client, refer to the user manual for the product.
- c) Attach the serial port to a .tmp file.
- d) Power on the virtual machine and proceed with the upgrade.

After you successfully upgrade the system, follow the procedure to [Remove the Serial Port](#). In the event of an upgrade failure, refer to [Dump a Log File After an Upgrade Failure](#).

Related Topics

[Requirements and Limitations](#)

[Supported Upgrade Paths](#)

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[COP Files](#)

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Change Virtual Machine Configuration Specifications

Use the following procedure when you need to change the vCPU, vRAM, or vDisk on your virtual machine (VM) in order to upgrade to a new release of Unified Communications Manager or IM and Presence Service.



Caution

If you need to change the vNIC, you must change it after the upgrade is complete.

For information about VM requirements, see the Readme file with the OVA template that supports your release. For details about OVA templates and requirements, go to <http://www.cisco.com/go/uc-virtualized> and search on the topic "Implementing Virtualization Deployments."

Procedure

Step 1 Perform a Disaster Recovery System (DRS) backup.

For more information about performing a backup, see the *Cisco Unified Communications Manager Disaster Recovery Administration Guide*.

Step 2 (Optional) For an upgrade from 9.x or earlier, if you need to increase the vDisk space to meet the space requirements of a refresh upgrade, install the following COP file:

```
ciscocm.vmware-disk-size-reallocation-<latest_version>.cop.sgn
```

Step 3 Shut down the virtual machine.

Step 4 Change the configuration of the virtual machine as needed:

- a) Change the Guest OS version to match the requirements of the new release (Red Hat Enterprise Linux 6 (64-bit)).
- b) To change the vCPU, make the change in vSphere Client. Ensure that you change the reservation value to match the specifications of the new release.
- c) To change the vRAM, make the change in vSphere Client. Ensure that you change the reservation value to match the specifications of the new release.
- d) To increase the vDisk space, edit the disk size using vDisk. If the virtual machine has two disks, expand the second one.

The new space is automatically added to the common partition when you restart the virtual machine.

Note You need to change the disk size changes only if you need additional space to complete the upgrade. The disk space requirements are specified in the Readme file for the OVA template.

Expanding the disk size to add space to the common partition will not increase the user capacity of your system. If you need to extend the user capacity of your system, you must migrate from a single-disk to a multi-disk virtual machine.

If you need to shrink the vDisk or change the vDisk quantity, you must re-install the vDisk or install a new vDisk.

For more information about making configuration changes using vSphere Client, refer to the user manual for the product.

Step 5 Upgrade the software to the latest version.

Step 6 Modify the Network Adapter to use the VMXNET 3 Adapter type.

For information about modifying the Network Adapter to meet the requirements of this release, see the Readme file for the OVA template.

Step 7 Power on the virtual machine.

Upgrade vSphere ESXi

Use the following procedure when you need to update your vSphere ESXi hypervisor in order to upgrade to a new release of Unified Communications Manager.

Procedure

Step 1 Move the virtual machine that is running Unified Communications Manager off the host server using one of the following methods:

- If you have a hot standby host, use vMotion to migrate the virtual machine from one physical server to another.
- If you do not have a hot standby host, power down the virtual machine and copy it to a different location.

- Step 2** Upgrade the vSphere ESXi using the upgrade procedures provided by VMware.
- Step 3** Verify that the vSphere ESXi upgraded successfully.
- Step 4** Move the virtual machine that is running Unified Communications Manager back to the host server using one of the following methods:
- If you have a hot standby host, use vMotion to migrate the virtual machine from one physical server to another.
 - If you do not have a hot standby host, power down the virtual machine and copy it the host server.
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Obtain Upgrade File

Before you begin the upgrade process, you must obtain the appropriate upgrade file from Cisco.com.

For more information, see the *Cisco Unified Communications Manager Release Notes*.

You can access the upgrade file during the installation process from either a local DVD or from a remote FTP or SFTP server. Be aware that directory names and filenames that you enter to access the upgrade file are case-sensitive.

Increase the Virtual Disk Size

Follow this procedure if you require extra temporary disk space in your VM for an upgrade or for disk logging activity. You can perform these steps while your system is running, but you must reboot your system for the increased disk size to take effect.



Note You can only increase your common partition; you cannot decrease it.

Before you begin

Perform a backup of your system.

Remove your Virtual Machine (VM) snapshots. Otherwise, the increase disk size option is greyed out. See [Working with Snapshots](#).

Procedure

- Step 1** Open the VMware Infrastructure (VI) client and connect to VirtualCenter or the ESX host.
- Step 2** Edit the virtual disk settings to increase the storage size. For information about how to configure this setting, see the VMWare documentation.
- Step 3** From the CLI, reboot your system with the **utils system restart** command.
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