# Best Practices

# Cluster Discovery

During cluster discovery, a small Cisco Options Package (COP) file is installed on the servers that are being discovered. For this reason, ensure that before you initiate a discovery, no upgrades or COP file installations are in progress on the servers in the cluster that you want to discover.

# Upgrades

When you initiate an upgrade of an application server (Cisco Unified Communications Manager, IM and Presence Service, Cisco Unified Contact Center Express, or Cisco Unity Connection) from the Cisco Prime Collaboration Deployment Upgrade task, the upgrade works in the same manner as upgrades that are initiated by the Unified Communications application GUI or CLI. As a result, we recommend that you follow the same preupgrade procedures and postupgrade verifications as you would directly from the application server GUI.

# ESXi Host

Ensure that the virtual machines that you use for migrations or fresh installations reside on an ESXi host that was entered into the Cisco Prime Collaboration Deployment system. That ESXi host should not allow Disaster Recovery System (DRS) or vSphere vMotion.

# Migration and Installation Virtual Machines

Always create virtual machines (VMs) for new clusters using the appropriate Open Virtualization Format (OVA) for the unified communications application that you will install. Do not use an existing VM as a destination VM for migration (use a newly-created VM). After a failed migration, if Cisco Prime Collaboration Deployment had started to install the new VM, you must delete this VM and create a new one using the proper OVA.

**Note**  If you have to configure a VMware in various ESXi host servers, ensure that you enter a unique name for ESXi host servers and avoid using the default name from OVA.

# Premigration

### Source Cluster

- We recommend that you run a full backup by using Disaster Recovery System (DRS) on the cluster.

- We recommend that you check the size of the TFTP folder on the TFTP server. If a number of firmware endpoint COP files was installed on the TFTP server, and if the size of the TFTP directory on the TFTP server is larger than 2.5 GB, we strongly recommend that you delete any large unused firmware files in the `/usr/local/cm/tftp` directory.

The following procedures describe how to check TFTP space usage, and if necessary, how to remove TFTP files on the TFTP server (source node) before you perform a migration using Cisco Prime Collaboration Deployment.

# Check TFTP Directory Disk Usage

### Procedure

| | |
|---|---|
| **Step 1** | Log in using the CLI. |
| **Step 2** | Enter the following command: **admin:show diskusage tftp** |
| **Step 3** | Check the disk usage output for the following line: **/usr/local/cm/tftp/**. (Disk-usage information appears at the end of the output.) |
| **Step 4** | Check the size of the **/usr/local/cm/tftp directory**.<br>**Note**   We recommend recommended that the size not exceed 2.5 GB. If it does, reduce the size by deleting some files (see procedure below). Before you delete those files, copy them to another server as a backup in case you need them in the future. |

# Delete TFTP Files

### Procedure

| | |
|---|---|
| **Step 1** | Log in to the Cisco Unified Operating System Administration GUI on the TFTP server. |
| **Step 2** | Navigate to **Software Upgrades** and select **TFTP File Management**. |
| **Step 3** | Click **Find** to see a list of TFTP files. |
| **Step 4** | Check the check box of the TFTP file that you want to delete.<br>To delete multiple files, check multiple check boxes. |
| **Step 5** | Click **Delete Selected**. |
| **Step 6** | After you delete the files, check the disk usage again using the above procedure. |

### What to Do Next

**Note**   If the cluster has more than one TFTP server, perform these procedures on every TFTP server.

# Postmigration

Follow these postmigration best practices:

• Check endpoints

• Check database replication, for example:

```
admin:show perf query class "Number of Replicates Created and State of
    Replication" ==>query class :

- Perf class (Number of Replicates Created and State of Replication)
    has instances and values:

ReplicateCount -> Number of Replicates Created = 676

ReplicateCount -> Replicate_State = 2
```

The following list shows the possible values for Replicate_State:

• 0—Replication Not Started. Either no subscribers exist, or the Database Layer Monitor service is not running and has not been running since the subscriber was installed.

• 1—Replicates were created, but their count is incorrect.

• 2—Replication is good.

• 3—Replication is bad in the cluster.

• 4—Replication setup did not succeed.

# Task Validation

If a task is scheduled to start manually or start at a later time, the Validate button appears and you can run validation on the task manually. We recommend that you run the validation on a task before the start (you can run the validation anytime before the start), to identify problems such as missing virtual machines, communication issues, or missing ISO files. When the validation is run, a popup window opens with a list of validation problems. If no problems are found, the following message appears: "All validation tests passed."

# Cisco Prime Collaboration Deployment Shutdown

For best results, to shut down the Cisco Prime Collaboration Deployment server, use the command **utils server shutdown**. Failure to do so can result in Network File System (NFS) mount issues on the ESXi hosts.

# Monitoring Tasks

Use the Monitoring GUI page to view the status of your tasks. Click the task in the left column, and the task details appear on the right. Each step in the task (export, install, and so on) appears in the Task Status table below the details section. Click the arrow next to any step to see additional details for that step. Some steps may have several task actions within them. Scroll down to see all the actions and their status.

# Managing Files in the SFTP Datastore

The SFTP datastore page shows the ISO and COP files that were transferred to the Cisco Prime Collaboration Deployment server through SFTP. To place a file on the Cisco Prime Collaboration Deployment server, for

use in a migration, install or upgrade task, use an SFTP client and log in as adminsftp (use the administrator password as your password).

When you connect to the Cisco Prime Collaboration Deployment server, upload ISO files to be used by a migration or install task into the `/fresh_install` folder. Upload COP files to the `/upgrade folder.`

After a task is complete, if the ISO is not needed for another task, we recommend that you delete the ISO file from the SFTP datastore to conserve space on your Cisco Prime Collaboration Deployment server. If there are too many ISO files in the SFTP datastore when the Cisco Prime Collaboration Deployment is upgraded or a DRS backup is restored, the Cisco Prime Collaboration Deployment server may run out of space.

# Using Cisco Prime Collaboration Deployment with Clustering Over WAN

A minimum bandwidth of 100 Mbps is recommended if the Cisco Prime Collaboration Deployment server and other Unified Communications application nodes are communicating over a WAN.

# Sequence During Migration

When you create a migration task, the default sequence is presented, which has one server in each install step. You can use the editing tools in the sequence screen to place more than one server in a step. For best results, include no more than six servers in any one step.

# Server Readdress

With the Server Readdress feature, the system inserts a forced pause after each server readdress. Verify that the server was successfully changed and that the phones reregistered before you continue to the next readdress step.

# Fresh Install Publishers and Subscribers

When a fresh install task (new UC cluster) includes more than one server, the Cisco Prime Collaboration Deployment system automatically installs the Unified Communications Manager publisher first, and then inserts a forced pause following the publisher installation. During the pause, you can go to the Unified Communications Manager GUI of the newly installed publisher and add the other cluster servers into the **System** > **Servers** GUI. After all the subscribers to be installed in this cluster (Unified Communications Manager subscribers, IM and Presence publishers and subscribers) are added to the Unified Communications Manager publisher GUI, the user can click the **Resume** button on the Cisco Prime Collaboration Deployment Monitoring page to resume the fresh install task.

# Fresh Install of a Unified CM and IM and Presence Cluster

When you create a fresh install with both Unified Communications Manager and IM and Presence Service nodes, you must indicate which IM and Presence Service server is the publisher. After the Unified Communications Manager publisher install, the task pauses. This pause allows the subscriber install nodes to

enter into the Unified Communications Manager Publisher (**System** > **Server** GUI page). The IM and Presence Service publisher must be the first IM and Presence server that is added to this list. This step ensures that the IM and Presence Service publisher is installed as the first node.

# Email Notification

If a task encounters an error, the task is paused to wait for user intervention. Also, some tasks pause automatically in the task sequence to allow for manual interaction. We recommend that you set up email notification (Standard option) before you run any tasks in order to be notified of pauses or errors that may require your attention when the task runs.

# Test Email

When setting up email notification, click the **Send Test email** button to verify that the Cisco Prime Collaboration Deployment mail system can send email to your mail server. Check that the test email was received. Perform this test before you run tasks.