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Cisco Prime Collaboration Provisioning Overview

This document provides information on features of Cisco Prime Collaboration 11.0, 11.1, 11.2, and 11.5. Cisco Prime Collaboration Provisioning provides a scalable web-based solution to manage your company’s next-generation communication services. Cisco Prime Collaboration Provisioning manages IP communication endpoints and services in an integrated IP telephony, video, voicemail, and unified messaging environment that includes Cisco Unified Communications Manager, Cisco Unified Communications Manager Express, Cisco Unity (not applicable for Cisco Prime Collaboration 11.0 and later versions), Cisco Unity Express, Cisco Unity Connection systems, and analog gateways.

Note

- Throughout this document, any reference to Cisco Unified Communications Manager can also be understood to refer to Cisco Unified Communications Manager, unless explicitly noted.
- Video provisioning is supported for endpoints registered to Cisco Unified Communications Manager only. Cisco Prime Collaboration Provisioning does not support video endpoints registered to Video Communication Server (VCS).

Cisco Prime Collaboration Provisioning provides the following features:

- Provisioning for initial deployments and implementations, and then remains deployed to provide ongoing operational provisioning and activation services for individual users.
- A single, consolidated view of users across the organization. It provides a set of business-level management abstractions, which are policy-driven by using automation, for managing user services across the Cisco Unified Communications applications.
• Template capability, which permits defining standard configurations that can be reused for new sites or location deployments. Batch provisioning permits the rollout of large numbers of users at the same time.

• Administrators can configure policy at various levels to determine who can do delegated management, for whom that delegation applies, how business-level services apply to Cisco Collaboration Systems, and which types of users are permitted to order which standard services.

By using this policy and standard configuration approach, you can provision and activate user services easily. At the same time, it retains the overall ability to manage and provide services that use the underlying Cisco Unified Communications applications.

Refer Cisco Prime Collaboration 11.X Data Sheet for more details on the features and benefits of Cisco Prime Collaboration Provisioning.

Cisco Prime Collaboration Provisioning permits standard services (for example an endpoint, line, or voice mail) to be ordered for a user (the owner of the individual endpoint, line, or voice mail). You can also order Cisco Jabber Services for Tablet, Desktop, Android, BlackBerry, and iPhone. Cisco Prime Collaboration Provisioning processes all changes to the underlying Cisco Unified Communications applications as service requests or orders.

Cisco Prime Collaboration Provisioning creates an order to make a user-level change (to an endpoint, a line, and so on), or an IP communications-level infrastructure change (such as provisioning a new calling search space or route pattern). All orders in the system are tracked and viewable, both across orders and by username or ID. The order records show who initiated the order, the times of various process steps, and what the order contained.

Cisco Prime Collaboration Provisioning allows delegation of the order management capability so that requests for service additions, changes, or deletions can be done without requiring an underlying knowledge of the voice applications that are delivering those services. Cisco Prime Collaboration Provisioning provides the same service management experience, regardless of the technology delivering the Cisco Unified Communications services.

Common Terminologies in Cisco Prime Collaboration Provisioning

• Device—Includes all applications such as Cisco Unified Communications Manager, Cisco Unified Communications Manager Express, Cisco Instant Messaging and Presence (IM&P), and Cisco Unity Connection. Also includes infrastructure components such as ISR Gateway devices, Cisco IOS Router.

• Processor—A proxy for each instance of a device.
  ∗ A Call Processor is a proxy for each instance of Cisco Unified Communications Manager and Cisco Unified Communications Manager Express.
  ∗ A Unified Message Processor is a proxy for each instance of Cisco Unity (not applicable for Cisco Prime Collaboration 11.0 and later versions), Cisco Unity Express, and Cisco Unity Connection.
  ∗ A Unified Presence Processor is a proxy for each instance of IM and Presence.

• Endpoint—Includes all active software and hardware voice, video, and collaboration devices with which the users interact. For example, phones (99xx, 88xx, 79xx, 78xx), tablets, Telepresence devices, Cisco Jabber clients, personal Telepresence units (DX series, EX series, MX series, SX series), mobile devices running Cisco Jabber, and so on.

• User—A person for whom an active IP Telephony service has been enabled. A user in Prime Collaboration Provisioning also represents an entity that can access Prime Collaboration Provisioning to perform various activities.
• Service—Service is the settings and integration needed to perform a series of functions expected by the user. For example, providing an endpoint service implies that the user will be able to perform dial out, ring, allow answering, have speed dials, forward to voicemail, transfer, conference and so on.

• Domains—Domains are groupings of users. One or more system users can be authorized to manage services for users within the Domain. In addition, rules or policies may be set on a Domain; those rules and policies will apply to services for users in that Domain. Common policies can also be applied on operations within a Domain. A domain administrator handles moves, adds, changes, and deletes (MACD) for users in that domain. Advanced Provisioning supports assigning individual administrators to individual groups.

• Service Areas—Service Areas are groupings within a Domain that are used to structure and manage the required IP telephony and messaging services across geographic, organizational, or technological boundaries. The Service Area typically acts as a service offering location, or site, and provides a template mechanism that determines provisioning attribute values used during order processing. A Service Area also handles Cisco Unified CM partitioning and class of service by directing which location, device pool and route partition assignments to use for any user provisioned into that Service Area.

• User roles—User roles provide policy enforcement, controlling which products and services are allowed to be ordered for different types of users such as contractors, executives or sales persons. They are also used in a filtering process that controls what choices are presented to order administrators at order time. The User Role setup also determines what services are ordered and which service templates are applied for a given user type during the Automatic Service Provisioning process. An administrator may create many User Roles to define different levels of services. The default user roles are: Employee, Executive and Room.

• Service Templates—Service Templates are a convenience for administrators setting up devices or ordering services for an end-user. Service Templates allow small or large amounts of settings to be collected into a single template which can be applied to endpoints or services. This saves time over setting many individual attributes and provides accuracy to prevent missed attributes or typos in attribute fields. Service Templates can leverage keywords and keyword truncation to customize line text displayed on endpoints. Service Templates contain provisioning attributes for a service and enables you to configure service attribute settings using provisioning attributes. Provisioning attributes are configuration settings that are applied to a service during activation.

## Change History

### Table 1: Change History

<table>
<thead>
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<th>Version</th>
<th>Date</th>
<th>Updates</th>
<th>Location</th>
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<td></td>
<td></td>
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<td>11.0</td>
<td>July 28, 2015 (First Published)</td>
<td>Initial Version</td>
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Cisco Prime Collaboration Provisioning Install and Upgrade Guide 11.2

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Cisco Prime Collaboration Provisioning Install and Upgrade Guide 11.5
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<td>Supported Upgrade Versions — Cisco Prime Collaboration Provisioning 11.5, on page 40</td>
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<td></td>
<td></td>
<td>Added a section Cisco Prime Collaboration Upgrade Options.</td>
<td>Cisco Prime Collaboration Upgrade Options, on page 53</td>
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<td></td>
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<td>December 16, 2016</td>
<td>Added a note under Upgrade the Cisco Prime Collaboration Provisioning from Small to Medium Deployment Model section of Troubleshooting chapter</td>
<td>Upgrade the Cisco Prime Collaboration Provisioning from Small to Medium Deployment Model, on page 84</td>
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**What's New in Cisco Prime Collaboration Provisioning Install and Upgrade Guide 11.x**

*Table 2: What's New in Cisco Prime Collaboration Provisioning Install and Upgrade Guide*

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<th>Feature Name</th>
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<tr>
<td>Version</td>
<td>Feature Name</td>
<td>Feature Description</td>
<td>Where Documented</td>
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<tr>
<td>11.0</td>
<td>Supported Upgrade Versions</td>
<td>Lists the Cisco Prime Collaboration Provisioning versions that are supported for upgrade.</td>
<td>Supported Upgrade Versions — Cisco Prime Collaboration Provisioning 11.0, on page 35</td>
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<tr>
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<td>General</td>
<td>Features and enhancements after upgrade.</td>
<td>What's New in Cisco Prime Collaboration Provisioning 11.0, on page 59</td>
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Cisco Prime Collaboration Provisioning Install and Upgrade Guide 11.1

| 11.1    | Supported Upgrade Versions | Lists the Cisco Prime Collaboration Provisioning versions that are supported for upgrade. | Supported Upgrade Versions — Cisco Prime Collaboration Provisioning 11.1, on page 37 |
|         | General      | Features and enhancements after upgrade. | What's New in Cisco Prime Collaboration Provisioning 11.1, on page 64 |

Cisco Prime Collaboration Provisioning Install and Upgrade Guide 11.2

| 11.2    | Supported Upgrade Versions | Lists the Cisco Prime Collaboration Provisioning versions that are supported for upgrade. | Supported Upgrade Versions — Cisco Prime Collaboration Provisioning 11.2, on page 39 |
|         | Install Cisco Prime Collaboration Provisioning Software Updates | You can upload, install, and uninstall service packs and software update patches from the provisioning user interface. | Installing Cisco Prime Collaboration Provisioning Software Updates, on page 77 |
|         | General      | Features and enhancements after upgrade. | #unique_20 |

Cisco Prime Collaboration Provisioning Install and Upgrade Guide 11.5
### Cisco Prime Collaboration High Availability

Cisco Prime Collaboration supports high availability (HA) through the VMware vSphere HA feature. You do not need an additional Cisco Prime Collaboration license to configure HA. For details on how to configure the virtualization layer HA for Cisco Prime Collaboration, see the VMware vSphere HA for Cisco Prime Collaboration white paper.

<table>
<thead>
<tr>
<th>Version</th>
<th>Feature Name</th>
<th>Feature Description</th>
<th>Where Documented</th>
</tr>
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<td>Lists the Cisco Prime Collaboration Provisioning versions that are supported for upgrade.</td>
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<tr>
<td></td>
<td>General</td>
<td>Features and enhancements after upgrade.</td>
<td>#unique_14</td>
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</table>
Cisco Prime Collaboration Licensing

Cisco Prime Collaboration is a licensed software product that is secured to the MAC of the virtual machine. The Cisco Prime Collaboration license enables the features for the Cisco Prime Collaboration application that you choose to install. You can order license for the Cisco Prime Collaboration Provisioning. This section contains the following topics:

- Access to the Software Image, PAK, and License File, page 9
- Cisco Prime Collaboration Provisioning Evaluation, page 10
- Cisco Prime Collaboration Provisioning Standard, page 10
- Cisco Prime Collaboration Provisioning Advanced Licensing, page 10

Access to the Software Image, PAK, and License File

The product numbers ordered for Cisco Prime Collaboration Provisioning are: R-xxx and L-xxx. When you order the product numbers for Cisco Prime Collaboration Provisioning, an email is sent to your ship-to email address. This email contains the instructions on how you can access the Cisco eDelivery site so that you can download the software images and license Product Authorization Keys (PAKs). The software image is downloaded and installed on the virtual machine. The license PAK ID from the ESD site allows you to access the Cisco Licensing Site. You can access the Cisco Licensing Site and associate the virtual machine MAC address to a license key or keys that are then installed on the virtual machines. These license keys activate the Cisco Prime Collaboration software to be used in a production environment. These license keys also convert a trial installation into a production environment.

Note

Cisco Prime Collaboration Provisioning requires that you have an individual license file. When the PAK is emailed to you, a license file is created for you to download. After you download the license file, you must register it with the Cisco Prime Collaboration Provisioning server.
Cisco Prime Collaboration Provisioning Evaluation

Cisco Prime Collaboration Provisioning, by default, is installed in the evaluation mode and is valid for 60 days. All the Cisco Prime Collaboration Provisioning advanced licensing features are enabled in this mode. You can do one of the following:

• Directly install Cisco Prime Collaboration in evaluation mode—Go to Try Cisco Prime Collaboration and click Download Now.

• Download the OVA file and follow the installation process—Go to Cisco Prime Collaboration Software and download the OVA file based on the number of endpoints that you want to manage.

After the expiry of the evaluation period for Cisco Prime Collaboration Provisioning, upload the license file to continue accessing the product.

You cannot move from Standard to Advanced Evaluation mode and also, from Standard or Advanced Evaluation mode to Standard mode. However, if you have an Advanced license file, you can move from Standard mode or Advanced Evaluation mode to Advanced mode. For more details, see the Managing Licenses section of the chapter Setting Up the Server in the Cisco Prime Collaboration Provisioning Guide - Standard and Advanced.

Cisco Prime Collaboration Provisioning Standard

Cisco Prime Collaboration Standard includes a subset of the features available in the Standalone Provisioning module. Cisco Prime Collaboration—Standard does not require a license.

For details on the differences between the Standard and Advanced versions of Cisco Prime Collaboration Provisioning, see the Cisco Prime Collaboration - Standard and Advanced Offerings.

Cisco Prime Collaboration Provisioning Advanced Licensing

Provisioning provides features such as delegation to individual domains, template support for configuring infrastructure instances, advanced batch provisioning, and so on.

There are two modes of installation—Standard and Evaluation or Advanced. Cisco Prime Collaboration Provisioning Standard is available with Cisco Unified Communications 10.0 and later (Unified CM and Cisco Unity Connection 10.0 and later versions). Cisco Prime Collaboration Provisioning Advanced is available for all Unified Communications suite 8.0 and later versions. See Deployment Models—Provisioning Standard and Advanced, on page 15 for further details on Provisioning Standard and Advanced licensing features.

Cisco Prime Collaboration Provisioning—Advanced is further categorized as follows:

• Cisco Prime Collaboration Provisioning Image (R-PC-version) license (required to activate in a production network)

• Cisco Prime Collaboration Provisioning Scale (L-PC) license

You can purchase additional licenses based on the phones that you want to manage. For details about the additional licenses and part numbers, see Cisco Prime Collaboration Ordering Guide. You must have the Cisco partner privilege to access the Ordering Guide.
To know the status of your Cisco Prime Collaboration Provisioning license, go to Administration > License Management. To register a new license file, see Log in to Cisco Prime Collaboration Provisioning, on page 29. For more details on Provisioning licensing, see the Cisco Prime Collaboration Provisioning Guide.

**Note**

Scale licenses are cumulative, that is, you can combine licenses to increase the number of endpoints that you want to manage. Until a scale license is installed, some menu items in the user interface are disabled.
New Installation

- Installation Requirements, page 15
- Install Cisco Prime Collaboration Provisioning, page 23
- Get Started after New Installation, page 29
CHAPTER 3

Installation Requirements

- Deployment Models—Provisioning Standard and Advanced, page 15
- Installation Requirements, page 16
- Number of Servers, page 17
- VMware Requirements, page 17
- System Requirements - Server and Client Machine Requirements, page 18

Deployment Models—Provisioning Standard and Advanced

You can install Cisco Prime Collaboration in two modes—Standard and Advanced. However, the installation process for both these modes are the same.

You can download the Cisco Prime Collaboration OVA deployment file based on the number of endpoints that you want to manage.

- Cisco Prime Collaboration Provisioning Standard is a single cluster version with almost all the Cisco Prime Collaboration Provisioning Advanced capabilities except user group delegation capability.

Cisco Prime Collaboration Provisioning Advanced provides features such as delegation to individual domains, advanced batch provisioning and so on. For information on the number of endpoints that you can manage in each deployment model, see System Requirements - Server and Client Machine Requirements. For more details on available features, see the Standard and Advanced Cisco Prime Collaboration Provisioning section of Cisco Prime Collaboration Provisioning Guide - Standard and Advanced.
# Installation Requirements

## Table 3: Installation Requirements

<table>
<thead>
<tr>
<th>Requirements</th>
<th>Description</th>
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</thead>
<tbody>
<tr>
<td>Number of servers</td>
<td>Cisco Prime Collaboration Provisioning applications must be installed on same or different virtual machines based on the mode of deployment. To learn about the installation modes and the required number of servers, see <a href="#">Number of Servers</a>.</td>
</tr>
<tr>
<td>Virtualization Requirements</td>
<td>The Cisco Prime Collaboration Provisioning images are in the OVA file format. To learn more about the VMware environment required, see <a href="#">VMware Requirements</a>.</td>
</tr>
<tr>
<td>System requirements</td>
<td>System requirements vary based on the number of endpoints that you want to manage. See <a href="#">System Requirements - Server and Client Machine Requirements</a>. <strong>Note</strong> For Cisco Prime Collaboration 11.0 and earlier For details on the maximum system capacity, such as, number of access ports, number of device pools, number of voice interfaces, and so on, see <a href="#">System Capacity for Cisco Prime Collaboration</a>. For Cisco Prime Collaboration 11.1 and later For details on the maximum system capacity, such as, number of access ports, number of device pools, number of voice interfaces, and so on, see <a href="#">System Capacity for Cisco Prime Collaboration</a>. For Cisco Prime Collaboration 11.0 system capacity, refer <a href="#">System Capacity for Cisco Prime Collaboration</a>. For Cisco Prime Collaboration 11.1 system capacity, refer <a href="#">System Capacity for Cisco Prime Collaboration</a>.</td>
</tr>
<tr>
<td>Ports requirements</td>
<td>Cisco Prime Collaboration uses several protocols to communicate with other processes and devices. Ensure that the required ports are available for Cisco Prime Collaboration to communicate. For more details, see <a href="#">Required Ports for Prime Collaboration</a>.</td>
</tr>
<tr>
<td>Device configurations (CUCM, Voice, and Video endpoints, and so on)</td>
<td>The endpoints and infrastructure devices require certain configurations for the Cisco Prime Collaboration server to communicate. For more details, see <a href="#">Setting up Devices for Prime Collaboration Provisioning</a>.</td>
</tr>
</tbody>
</table>
Cisco Prime Collaboration images are provided on the eDelivery site and on the Cisco.com support software download site. You must have an order for an eDelivery or ESW contract.

### Download Images

During installation, you must perform the following:

- While installing Cisco Prime Collaboration Provisioning - global admin, root user, and CLI user accounts are created. You must specify the password for these accounts. Specify the passwords for these accounts.
- Specify the virtual machine details.
  
  See Installation Prompts.

### User Accounts and Installation Prompts

**Number of Servers**

The number of virtual machines that are required to install Cisco Prime Collaboration Provisioning depends on the number of phones that you want to manage:

- If you have fewer than or equal to 20,000 phones (small and medium deployment models), you need one virtual machine to install both the database and application. To learn about configuring Cisco Prime Collaboration Provisioning for small and medium deployment models, see Configure the Small and Medium Cisco Prime Collaboration Provisioning OVA.

  - If you have more than 20,000 phones (large and very large deployment models), you need two virtual machines to install the database and application separately. To learn about configuring Cisco Prime Collaboration Provisioning for large and very large deployment models, see Configure the Large and Very Large Cisco Prime Collaboration Provisioning OVA.

Before installing Cisco Prime Collaboration Provisioning, ensure that you know the IP addresses for each of the virtual machines.

### VMware Requirements

Ensure that your VMware environment meets the following requirements:

- OVA file is downloaded and saved to the same machine on which the vSphere Client is installed.

  **Note**
  
  For Cisco Prime Collaboration Provisioning, download an OVA file. Configure the OVA file separately for database and application installation on two different virtual machines if you have more than 20,000 phones.
• VMware ESXi is installed and configured on the ESXi host. See the VMware documentation for information on setting up and configuring your host machine.

The VMware vSphere client is Windows-based. Therefore, download and install the client from a Windows system.

After you install the VMware vSphere Client, you can run it and log in to the virtual host. You can log in to the virtual host using the hostname or IP address of the virtual host, the root login ID, and the password that you configured. You can add the host to a vCenter if you want to manage it through vCenter. See VMware documentation for details.

• VMware ESXi server hostname is configured in the DNS server.

• VMware ESXi server is synchronized with the NTP server.

System Requirements - Server and Client Machine Requirements

Cisco Prime Collaboration runs on any VMware-certified hardware with ESXi 4.1, 5.0, and later installed. Large and very large deployment models require ESXi 5.0 or later.

Note

• We recommend that you install and run Cisco Prime Collaboration on Cisco Unified Computing System (UCS), which is VMware-certified.

• Cisco Prime Collaboration allows you to configure a second NIC (network adapter). To understand how to configure a second NIC, see Configure a second NIC for Cisco Prime Collaboration Provisioning

• Cisco Prime Collaboration runs on Cisco ADE-OS version 2.0.1.043. This operating system is included with the Cisco Prime Collaboration application and is installed when the Cisco Prime Collaboration OVA is deployed.

The OVA defines the configuration of the virtual machine that includes the CPU, memory, disk, and network resources.

Virtual Machine Requirements for Cisco Prime Collaboration Provisioning

This table lists the virtual machine requirements for the Cisco Prime Collaboration Provisioning application, based on the number of endpoints that are managed in Cisco Prime Collaboration.

<table>
<thead>
<tr>
<th>Managed Endpoints</th>
<th>Number of vCPUs</th>
<th>vCPU Reservation</th>
<th>RAM</th>
<th>Memory Reservation</th>
<th>NIC</th>
<th>Disk Space</th>
</tr>
</thead>
<tbody>
<tr>
<td>Up to 3000 endpoints (Small OVA)</td>
<td>1</td>
<td>2 GHz</td>
<td>2 GB</td>
<td>2 GB</td>
<td>1 GB</td>
<td>90 GB</td>
</tr>
<tr>
<td>Up to 20,000 endpoints (Medium OVA)</td>
<td>4</td>
<td>8.8 GHz</td>
<td>8 GB</td>
<td>8 GB</td>
<td>1 GB</td>
<td>120 GB</td>
</tr>
</tbody>
</table>
### System Requirements - Server and Client Machine Requirements

<table>
<thead>
<tr>
<th>Description</th>
<th>CPU</th>
<th>Memory</th>
<th>Storage</th>
<th>Disk Space</th>
<th>RAM</th>
<th>SSD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Up to 80,000 endpoints (Large OVA Application Server)</td>
<td>8</td>
<td>16 GB</td>
<td>16 GB</td>
<td>1 GB</td>
<td>150 GB</td>
<td></td>
</tr>
<tr>
<td>Up to 80,000 endpoints (Large OVA Database Server)</td>
<td>8</td>
<td>16 GB</td>
<td>16 GB</td>
<td>1 GB</td>
<td>150 GB</td>
<td></td>
</tr>
<tr>
<td>Up to 150,000 endpoints (Very Large OVA Application Server)</td>
<td>8</td>
<td>16 GB</td>
<td>16 GB</td>
<td>1 GB</td>
<td>150 GB</td>
<td></td>
</tr>
<tr>
<td>Up to 150,000 endpoints (Very Large OVA Database Server)</td>
<td>8</td>
<td>16 GB</td>
<td>16 GB</td>
<td>1 GB</td>
<td>150 GB</td>
<td></td>
</tr>
</tbody>
</table>

### Client Machine Requirements for Cisco Prime Collaboration Provisioning

<table>
<thead>
<tr>
<th>Attribute</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Display Resolution</td>
<td>1440 x 900</td>
</tr>
<tr>
<td>Attributes</td>
<td>Values</td>
</tr>
<tr>
<td>-----------------</td>
<td>--------</td>
</tr>
<tr>
<td>Supported Browser</td>
<td></td>
</tr>
</tbody>
</table>
The following browsers are supported in Cisco Prime Collaboration Provisioning:

- Mozilla Firefox 31 ESR and later
- Windows Internet Explorer 10 and 11

**Note** Windows Internet Explorer 10 do not support upload or import feature across Cisco Prime Collaboration Provisioning application such as browsing files, click upload, and so on.

Following are few of the Cisco Prime Collaboration Provisioning features that are not supported in Windows Internet Explorer 10:

- Certificate upload
- Endpoint bundle upload
- Language bundle upload
- Patch upload
- Upgrade bundle upload.

- Google Chrome 43 and later

Prime Collaboration provides a self-signed certificate (HTTPS). To allow access of the Prime Collaboration client, ensure that security is set to either medium or low in Internet Explorer and do the following:

- Ensure that you enable cookies in the browser.
- Ensure that you set one of the following locales for Prime Collaboration Provisioning:
  - English (United States) [en-us]
  - Japanese [ja]
  - Korean [ko]
  - Chinese [zh]
  - Chinese-Taiwan [zh-tw]
  - French [fr]
  - German [de]
  - Italian [it]
  - Spanish [es]
### System Requirements - Server and Client Machine Requirements

<table>
<thead>
<tr>
<th>Attributes</th>
<th>Values</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>• Ensure that you disable the popup blocker if you have installed it, as Prime Collaboration uses popup dialog boxes at several instances.</td>
</tr>
</tbody>
</table>

**Environment**

Clients must be able to access Cisco Prime Collaboration:

• From outside a firewall, refer to your firewall documentation for information on how to configure client access.

• Across a Virtual Private Network (VPN), the VPN tunnel must connect the client and a VPN router or similar device. See [Required Ports for Prime Collaboration](#).
CHAPTER 4

Install Cisco Prime Collaboration Provisioning

- Download Cisco Prime Collaboration Provisioning, page 23
- User Accounts, page 24
- Installation Prompts, page 25
- Deploy and Configure Cisco Prime Collaboration Provisioning, page 26

Download Cisco Prime Collaboration Provisioning

Cisco Prime Collaboration images are provided on the eDelivery site and on the Cisco.com support software download site. You must have an order for an eDelivery or ESW contract.

Important

Download the OVA file on a machine where the vSphere client is installed. To ensure that the downloaded OVA file is not corrupt, you must verify if the Message Digest 5 (MD5) Checksum of the OVA file matches with the value in the download site. To view the MD5 Checksum of the OVA file available in Cisco.com support software download site, hover your mouse over the filename.

To install only Cisco Prime Collaboration Provisioning, download the Cisco Prime Collaboration Provisioning OVA file based on the number of endpoints that you want to manage.

You can configure the Cisco Prime Collaboration Provisioning application for the following types of deployment models:

- Cisco Prime Collaboration Provisioning OVA for a small deployment—For up to 3000 phones
- Cisco Prime Collaboration Provisioning OVA for a medium deployment—For up to 20,000 phones
- Cisco Prime Collaboration Provisioning OVA for a large deployment—For up to 80,000 phones
- Cisco Prime Collaboration Provisioning OVA for a very large deployment—For up to 150,000 phones

The OVA file format is cpc-provisioning-<version number>-<build number>-<deployment type>.ova; where, the version number is the Cisco Prime Collaboration release number (11.0 or 11.1) and the deployment type is small, medium, large, or very large.

You must have a valid Cisco.com user account to download the files.
User Accounts

For Cisco Prime Collaboration, specify various passwords at different instances.

- **globaladmin**—Special account, which can be used to access and configure the Cisco Prime Collaboration Provisioning User Interface.

- **globaladmin password**—Password to access Cisco Prime Collaboration Provisioning UI.
  In Cisco Prime Collaboration Provisioning, globaladmin password is used for the postgres administrator (to perform backup and restore operations). This password is also used for logging in to Cisco Prime Collaboration Provisioning.

- **CLI administrator username**—admin by default. However, you can specify the username of your choice.

- **CLI administrator password**—Password for the SSH CLI administrator. This password is used to perform a Cisco Prime Collaboration Provisioning application upgrade. (see the Password Rules for CLI admin section).

  CLI is supported only through SSH; Telnet is not supported. You can log in through SSH using port 22 for Cisco Prime Collaboration Provisioning.

- **For Cisco Prime Collaboration 11.2 and earlier**
  - **Root user**—Superuser who has all privileges in the Linux shell to access the file system.

  - **Root password**—Password for the root user (see the Password Rules for the Root User and Globaladmin section).

Password Rules for the Root User and Globaladmin

For Cisco Prime Collaboration 11.2 and earlier

Follow these guidelines when you are creating password for the root user and globaladmin:

- Must contain at least one—lowercase letter, uppercase letter, number, and special character (exclamation mark[!], at symbol[@], pound sign[#], dollar[$], asterisk[*], comma[,] period[.])

- Cannot repeat a character in the password more than three times.

- Cannot contain non-ASCII characters minus(-), percent(%), plus(+), ampersand(&) or a space.

- Cannot be cisco or ocisc or any variant by changing the capitalization of letters or by substituting 1, exclamation(!), or pipe() for i, 0 for o, dollar($) for s.

- Cannot be the same as the username or the username reversed.

- Must be between 8 and 80 characters.

- Cannot end with: asterisk(*), semicolon(;), or pound sign(#).
Note

• We recommend that you note down the root password, as it cannot be retrieved.

• To change the root password, you must log in as root user and enter the passwd command that prompts you for a new password.

Password Rules for the Globaladmin
For Cisco Prime Collaboration 11.5 and later

Follow these guidelines when you are creating password for the globaladmin:

• Must contain at least one—lowercase letter, uppercase letter, number, and special character (exclamation mark[!], at symbol[@], pound sign[#], dollar[$], asterisk[*], comma[,] period[.])

• Cannot repeat a character in the password more than three times.

• Cannot contain non-ASCII characters minus(-), percent(%), plus(+), ampersand(&) or a space.

• Cannot be cisco or ocsic or any variant by changing the capitalization of letters or by substituting 1, exclamation(!), or pipe(|) for i, 0 for o, dollar($) for s.

• Cannot be the same as the username or the username reversed.

• Must be between 8 and 80 characters.

• Cannot end with: asterisk(*), semicolon(;) or pound sign(#).

Installation Prompts

We recommend that you know the values for the following parameters, before configuring the virtual appliance:

• IP address—IP address of the virtual appliance

• IP default netmask—Default subnet mask for the IP address

• IP default gateway—IP address of the default gateway

• Default DNS domain—Default domain name

• Primary nameserver—Primary name server. You may add the name server. To configure several name servers, enter y.

• Primary NTP server[time.nist.gov]—Primary NTP server. To enter a secondary NTP server, enter y at the next prompt.

Note

To configure a tertiary NTP server, enter y at the next prompt after you specify a secondary NTP server. Cisco Prime Collaboration supports three NTP servers.

Note

• Time zone—Time stamp that is displayed on the user interface is the server time. By default, the configured time zone is UTC. For a list of supported time zones, see Supported Timezones for Prime Collaboration.
• Username—CLI administrator username. The username is admin, by default. However, you can specify the username of your choice.

• Password—CLI administrator password. This password is used to log in to CLI to check the application status and to perform a backup and restore.

• For Cisco Prime Collaboration 11.2 and earlier
  Root password—Password for the root user.
  • global admin password—Password for the global administrator.

---

**Note**

Cisco Unified Communication Manager, Release 10.0 and later are supported in the Standard mode.

---

**Deploy and Configure Cisco Prime Collaboration Provisioning**

You can install the Cisco Prime Collaboration Provisioning application, based on the OVA file that you have downloaded:

• For small and medium deployment models, you need one virtual machine only to install and configure Cisco Prime Collaboration Provisioning. To learn about configuring these deployment models, see Configure the Small and Medium Cisco Prime Collaboration Provisioning OVA, on page 27

• For large and very large deployment models, configure the Cisco Prime Collaboration Provisioning OVA file for database and application on separate virtual machines. To learn about configuring these deployment models, see Configure the Large and Very Large Cisco Prime Collaboration Provisioning OVA, on page 28.

After you deploy the Cisco Prime Collaboration Provisioning OVA file, configure the virtual appliance. Based on the OVA file you have downloaded, you can configure Cisco Prime Collaboration Provisioning virtual appliance as follows:

• Configure the Small and Medium Cisco Prime Collaboration Provisioning OVA, on page 27

• Configure the Large and Very Large Cisco Prime Collaboration Provisioning OVA, on page 28

---

**Deploy Cisco Prime Collaboration Provisioning OVA**

**Before You Begin**

Ensure that requirements listed in Installation Requirements, on page 16 and System Requirements - Server and Client Machine Requirements, on page 18 have been met.
If Cisco Prime Collaboration Provisioning is managing Cisco Unity Connection 10.x and above, you need to install an engineering special in Cisco Unity Connection for successful user synchronization. Contact TAC to obtain the engineering special for the bug (CSCux67499).

<table>
<thead>
<tr>
<th>Step 1</th>
<th>Launch VMware vSphere Client and select <strong>File &gt; Deploy OVF Template</strong>.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Step 2</td>
<td>In the <strong>Deploy OVF Template</strong> window, click <strong>Deploy from file</strong>.</td>
</tr>
<tr>
<td>Step 3</td>
<td>Click <strong>Browse</strong> and navigate to the location where you have saved the Cisco Prime Collaboration Provisioning OVA file. Click <strong>Next</strong>.</td>
</tr>
<tr>
<td>Step 4</td>
<td>In the <strong>OVF Template Details</strong> window, verify the details about the OVA file, including the product name, version, and the size, and then click <strong>Next</strong>. Ensure that the Publisher field in the OVF Template Details window displays Cisco Systems, Inc with a green check mark next to it.</td>
</tr>
<tr>
<td>Step 5</td>
<td>Click <strong>Accept</strong> to accept the end-user license agreement. Click <strong>Next</strong>.</td>
</tr>
<tr>
<td>Step 6</td>
<td>In the <strong>Name and Location</strong> window, specify a name and location for the template that you are deploying. The name must be unique within the inventory folder and can contain up to 80 characters. Click <strong>Next</strong>.</td>
</tr>
<tr>
<td>Step 7</td>
<td>In the <strong>Disk Format</strong> window, select <strong>Thick provisioned format</strong> to store on the virtual disks, and then click <strong>Next</strong>.</td>
</tr>
<tr>
<td>Step 8</td>
<td>Verify the options in the <strong>Ready to Complete</strong> window, and then click <strong>Finish</strong> to start the deployment. The deployment takes about 30 minutes to complete. Check the progress bar in the <strong>Deploying Virtual Appliance</strong> window to monitor the task status.</td>
</tr>
<tr>
<td>Step 9</td>
<td>Click <strong>Close</strong>. The virtual appliance that you deployed appears in the left pane of the vSphere Client, under the host.</td>
</tr>
</tbody>
</table>

**Configure the Small and Medium Cisco Prime Collaboration Provisioning OVA**

<table>
<thead>
<tr>
<th>Step 1</th>
<th>Turn on the virtual machine by right-clicking the virtual appliance and choosing <strong>Power &gt; Power On</strong>.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Step 2</td>
<td>In the virtual appliance console, enter <strong>setup</strong> at the localhost login prompt.</td>
</tr>
<tr>
<td>Step 3</td>
<td>Enter the required parameters at the console prompts. After entering each parameter, press enter to bring up the next parameter. (see <strong>Installation Prompts, on page 25</strong>.) For the Installation Mode prompt, enter 1 to select Standard Cisco Prime Collaboration Provisioning, or enter 2 to select Advanced Cisco Prime Collaboration Provisioning (with a 60-day evaluation of advanced features). The default value is 1.</td>
</tr>
<tr>
<td>Note</td>
<td>Time zone—When you are prompted to enter a time zone for the Cisco Prime Collaboration Provisioning server, specify the default time zone (UTC). Ensure that you specify the same time zone in the server and in the Cisco Prime Collaboration Provisioning user interface. You can use SSH (root login) to change the time zone after you install the Cisco Prime Collaboration Provisioning server. For details see the Configuring Prime Collaboration Provisioning Server Time Zone section in <strong>Cisco Prime Collaboration Provisioning Guide</strong>. For a list of supported time zones, see <strong>Supported Timezones for Prime Collaboration</strong>.</td>
</tr>
<tr>
<td>Step 4</td>
<td>After you finish the installation (when you see the login prompt in console), wait approximately 10 minutes for the Cisco Prime Collaboration Provisioning processes to be listed on the console and then log in to the Cisco Prime Collaboration Provisioning user interface.</td>
</tr>
</tbody>
</table>
Configure the Large and Very Large Cisco Prime Collaboration Provisioning OVA

Step 1 Turn on the virtual machine by right-clicking the virtual appliance and choosing Power > Power On.

Step 2 In the virtual appliance console, enter setup at the localhost login prompt.

Step 3 Enter the required parameters at the console prompts. After entering each parameter, press enter to bring up the next parameter. The virtual machine reboots.

Note Time zone—When you are prompted to enter a time zone for the Cisco Prime Collaboration Provisioning server, specify the default time zone (UTC).

You can use SSH to change the time zone after you install the Cisco Prime Collaboration Provisioning server; the timestamp that is displayed on the UI is the server time. For details on changing the time zone, see Configuring Prime Collaboration Provisioning Server Time Zone section in Cisco Prime Collaboration Provisioning Guide.

For a list of supported time zones, see Supported Timezones for Prime Collaboration.

Step 4 If you have downloaded a large or a very large deployment model (more than 20,000 phones), you are prompted to enter the type of server to be configured.

Configure the database server before you configure the application server.

Configure the database server as follows:

a) Choose option 1 to configure the current server as a database server.
b) Enter the IP address of the application server that is to be deployed next. The virtual machine reboots.

Configure the application server as follows:

a) Deploy the application server. See Deploy Cisco Prime Collaboration Provisioning OVA, on page 26.
b) Configure the application server, following Steps 1 to 3.
c) Choose option 2 to configure the current server as an application server.
d) When you are prompted, enter the IP address of the database server that you have already configured. The virtual machine reboots.

Step 5 After you finish the installation (when you see the login prompt in the console), wait approximately 10 minutes for the Cisco Prime Collaboration Provisioning processes to be listed on the console, and then log in to the Cisco Prime Collaboration Provisioning UI.

Note Your account will be locked upon 3 consecutive unsuccessful login attempts. For root user, the account is automatically unlocked after 10 minutes and for other user accounts after 12 hours.

Step 6 Log in to Cisco Prime Collaboration Provisioning server to verify the installation. See Verify the Cisco Prime Collaboration Provisioning Installation (for Advanced or Standard Mode), on page 83.
Get Started after New Installation

- Log in to Cisco Prime Collaboration Provisioning, page 29
- Get Started with Cisco Prime Collaboration Provisioning, page 30

Log in to Cisco Prime Collaboration Provisioning

You can invoke Cisco Prime Collaboration using the client browser.

Step 1
Open a browser session from your machine. See System Requirements - Server and Client Machine Requirements, on page 18 for information about supported browsers.
For a standalone mode, specify the IP address of the Cisco Prime Collaboration Provisioning application.

Step 2
Enter https://IP Address

Note
- You can use either the IP address or the hostname of the Cisco Prime Collaboration Provisioning server. We recommend that you use the hostname if you have configured it in DNS.
- CLI is supported only through SSH; Telnet is not supported. The port used for Cisco Prime Collaboration Provisioning is 22.

Based on the browser you are using, you see one of the following:

- In Windows Internet Explorer, the Certificate Error: Navigation Blocked window.
- In Mozilla Firefox, the Untrusted Connection window.
- In Google Chrome, the Privacy Error: Connection is not private window.

These windows appear because Cisco Prime Collaboration uses a self-signed certificate.

Step 3
Remove the SSL certificate warning.
The Cisco Prime Collaboration login page appears.

Step 4
In the Cisco Prime Collaboration login page, you must log in for the first time as a global administrator, using the same credentials that you have specified during the installation.

Note
Your account will be locked upon 3 consecutive unsuccessful login attempts. For root user, the account is automatically unlocked after 10 minutes and for other user accounts after 12 hours.
The dashboard data is populated only after you perform tasks listed in the following table.

## Get Started with Cisco Prime Collaboration Provisioning

After you install Cisco Prime Collaboration Provisioning, perform the tasks listed in the following table:

<table>
<thead>
<tr>
<th>Step</th>
<th>Task and Description</th>
<th>Navigation in Cisco Prime Collaboration Provisioning Application</th>
<th>Section or chapter to be referred in the Cisco Prime Collaboration Provisioning Guide - Standard and Advanced, 11.x</th>
</tr>
</thead>
<tbody>
<tr>
<td>Step 1</td>
<td><em>(Optional if you are evaluating the product)</em> Register a new license file.</td>
<td>Administration &gt; License Management</td>
<td>Setting Up the Server</td>
</tr>
<tr>
<td></td>
<td><strong>Administration &gt; License Management</strong></td>
<td><strong>We recommend that you add a license file through the user interface.</strong></td>
<td><strong>Note</strong></td>
</tr>
<tr>
<td></td>
<td><strong>In case of a evaluation license expiry, you can register the new license file, as follows:</strong></td>
<td><strong>1 Log in as root through SFTP.</strong></td>
<td><strong>If the license status is not refreshed after a few minutes, manually refresh the License Management window to view the updated license status.</strong></td>
</tr>
<tr>
<td></td>
<td>2 Copy the license file to the opt/cupm/license directory on the Provisioning server.</td>
<td><strong>The system validates the license file and updates the license. The updated licensing information appears on the License Status Information window (Administration &gt; License Management).</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Note</strong></td>
<td><strong>If the license status is not refreshed after a few minutes, manually refresh the License Management window to view the updated license status.</strong></td>
<td></td>
</tr>
<tr>
<td>Step 2</td>
<td>Add, configure, and synchronize call processors and message processors.</td>
<td>Infrastructure Setup &gt; Getting Started Wizard</td>
<td>Managing Devices</td>
</tr>
<tr>
<td></td>
<td><strong>Infrastructure Setup &gt; Infrastructure Configuration</strong></td>
<td><strong>Infrastructure Setup &gt; Infrastructure Configuration</strong></td>
<td></td>
</tr>
<tr>
<td>Task and Description</td>
<td>Navigation in Cisco Prime Collaboration Provisioning Application</td>
<td>Section or chapter to be referred in the Cisco Prime Collaboration Provisioning Guide - Standard and Advanced, 11.x</td>
<td></td>
</tr>
<tr>
<td>----------------------</td>
<td>---------------------------------------------------------------</td>
<td>--------------------------------------------------------------------------------------------------</td>
<td></td>
</tr>
<tr>
<td>Step 3</td>
<td>Set up domain deployment:</td>
<td>Managing Domains and Service Areas Synchronizing Processors, Users, and Domains Managing Users</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Create domains and assign call and message processors</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Create service areas</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Configure rules</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Synchronize domain</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Step 4</td>
<td>Create and deploy templates to configure Cisco Unified</td>
<td>Configuring Templates in Provisioning</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Communication Manager or infrastructure configuration.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Step 5</td>
<td>Assign user roles to a service area.</td>
<td>Managing Users</td>
<td></td>
</tr>
<tr>
<td>Step 6</td>
<td>Add a new user.</td>
<td>Managing Users</td>
<td></td>
</tr>
<tr>
<td>Step 7</td>
<td>Provision user services.</td>
<td>Managing Orders</td>
<td></td>
</tr>
</tbody>
</table>
PART II

Upgrade to Cisco Prime Collaboration Provisioning

• Plan for Cisco Prime Collaboration Provisioning Upgrade, page 35
• Backup and Restore Cisco Prime Collaboration Provisioning, page 43
• Upgrade Cisco Prime Collaboration Provisioning, page 53
• Changes After Upgrade, page 59
Plan for Cisco Prime Collaboration Provisioning Upgrade

Before you upgrade Cisco Prime Collaboration Provisioning, you must know the supported upgrade versions and virtual machine requirements for Cisco Prime Collaboration Provisioning. For details on virtual machine requirements for Cisco Prime Collaboration, see Virtual Machine Requirements for Cisco Prime Collaboration Provisioning.

• Supported Upgrade Versions — Cisco Prime Collaboration Provisioning 11.0, page 35
• Supported Upgrade Versions — Cisco Prime Collaboration Provisioning 11.1, page 37
• Supported Upgrade Versions — Cisco Prime Collaboration Provisioning 11.2, page 39
• Supported Upgrade Versions — Cisco Prime Collaboration Provisioning 11.5, page 40
• Migration from Cisco Unified Communications Management Suite, page 41
• Feature Support After Upgrade—Cisco Prime Collaboration Provisioning, page 42

Supported Upgrade Versions — Cisco Prime Collaboration Provisioning 11.0

To upgrade from Cisco Prime Collaboration 9.x and 10.x to Cisco Prime Collaboration 11.0, you must first upgrade to any of the supported upgrade versions in the following table, and then upgrade to Cisco Prime Collaboration 11.0. You must also purchase an upgrade license or order one through Product Upgrade Tools (PUT) because the existing licenses of Cisco Prime Collaboration 9.x or 10.x, do not work with Cisco Prime Collaboration 11.0.
<table>
<thead>
<tr>
<th><strong>Cisco Prime Collaboration Versions</strong></th>
<th><strong>Deployment Mode</strong></th>
<th><strong>After the upgrade to Cisco Prime Collaboration</strong></th>
<th><strong>License Requirements</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>10.5.1</td>
<td>Standard—Cisco Prime Collaboration Provisioning</td>
<td>Standard—Cisco Prime Collaboration Provisioning Cisco Prime Collaboration Provisioning 10.5.1 standard, upon upgrade, goes to 11.0 standard.</td>
<td>Not Applicable To move to the advanced mode, you are required to purchase the advanced license.</td>
</tr>
<tr>
<td>Licence—Cisco Prime Collaboration Provisioning</td>
<td>Licence—Cisco Prime Collaboration Provisioning</td>
<td>Licence—Cisco Prime Collaboration Provisioning</td>
<td>The Cisco Prime Collaboration 10.5.1 license files cannot be used with Cisco Prime Collaboration 11.0. If you are in the evaluation mode, you are required to purchase the advanced license file in order to move to the advanced mode.</td>
</tr>
<tr>
<td>10.6</td>
<td>Standard—Cisco Prime Collaboration Provisioning</td>
<td>Standard—Cisco Prime Collaboration Provisioning Cisco Prime Collaboration Provisioning 10.6 standard, upon upgrade, goes to 11.0 standard.</td>
<td>Not Applicable To move to the advanced mode, you are required to purchase the advanced license.</td>
</tr>
<tr>
<td>Licence—Cisco Prime Collaboration Provisioning</td>
<td>Licence—Cisco Prime Collaboration Provisioning</td>
<td>Licence—Cisco Prime Collaboration Provisioning</td>
<td>The Cisco Prime Collaboration 10.6 license files cannot be used with Cisco Prime Collaboration 11.0. If you are in the evaluation mode, you are required to purchase the advanced license file in order to move to the advanced mode.</td>
</tr>
</tbody>
</table>
Supported Upgrade Versions — Cisco Prime Collaboration Provisioning 11.1

To upgrade from Cisco Prime Collaboration 9.x, 10.x, and 11.0 to Cisco Prime Collaboration 11.1, you must first upgrade to any of the supported upgrade versions in the following table, and then upgrade to Cisco Prime Collaboration 11.1. You must also purchase an upgrade license or order one through Product Upgrade Tools (PUT) because the existing licenses of Cisco Prime Collaboration 9.x or 10.x, do not work with Cisco Prime Collaboration 11.1.

Note: The Cisco Prime Collaboration 11.0 license files can be used with Cisco Prime Collaboration 11.1.

<table>
<thead>
<tr>
<th>Cisco Prime Collaboration Versions</th>
<th>Deployment Mode</th>
<th>After the upgrade to Cisco Prime Collaboration</th>
<th>License Requirements</th>
</tr>
</thead>
</table>
To move to the advanced mode, you are required to purchase the advanced license. |
<p>| Licensed—Cisco Prime Collaboration Provisioning | Licensed—Cisco Prime Collaboration Provisioning | The Cisco Prime Collaboration 10.5.1 license files cannot be used with Cisco Prime Collaboration 11.1. If you are in the evaluation mode, you are required to purchase the advanced license file in order to move to the advanced mode. |</p>
<table>
<thead>
<tr>
<th>Cisco Prime Collaboration Versions</th>
<th>Deployment Mode</th>
<th>After the upgrade to Cisco Prime Collaboration</th>
<th>License Requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td>10.6</td>
<td>Standard—Cisco Prime Collaboration Provisioning</td>
<td>Standard—Cisco Prime Collaboration Provisioning Cisco Prime Collaboration Provisioning 10.6 standard, upon upgrade, goes to 11.1 standard.</td>
<td>Not Applicable To move to the advanced mode, you are required to purchase the advanced license.</td>
</tr>
<tr>
<td>Licensed—Cisco Prime Collaboration Provisioning</td>
<td>Licensed—Cisco Prime Collaboration Provisioning</td>
<td>The Cisco Prime Collaboration 10.6 license files cannot be used with Cisco Prime Collaboration 11.1. If you are in the evaluation mode, you are required to purchase the advanced license file in order to move to the advanced mode.</td>
<td></td>
</tr>
<tr>
<td>11.0</td>
<td>Standard—Cisco Prime Collaboration Provisioning</td>
<td>Standard—Cisco Prime Collaboration Provisioning Cisco Prime Collaboration Provisioning 11.0 standard, upon upgrade, goes to 11.1 standard.</td>
<td>Not Applicable To move to the advanced mode, you are required to purchase the advanced license.</td>
</tr>
<tr>
<td>Licensed—Cisco Prime Collaboration Provisioning</td>
<td>Licensed—Cisco Prime Collaboration Provisioning</td>
<td>The Cisco Prime Collaboration 11.0 license files can be used with Cisco Prime Collaboration 11.1. If you are in the evaluation mode, you are required to purchase the advanced license file in order to move to the advanced mode.</td>
<td></td>
</tr>
</tbody>
</table>
Supported Upgrade Versions — Cisco Prime Collaboration Provisioning 11.2

To upgrade from Cisco Prime Collaboration 9.x, 10.x, and 11.x to Cisco Prime Collaboration 11.2, you must first upgrade to any of the supported upgrade versions in the following table, and then upgrade to Cisco Prime Collaboration 11.2. You must also purchase an upgrade license or order one through Product Upgrade Tools (PUT) because the existing licenses of Cisco Prime Collaboration 9.x or 10.x, do not work with Cisco Prime Collaboration 11.2.

<table>
<thead>
<tr>
<th>Cisco Prime Collaboration Versions</th>
<th>Deployment Mode</th>
<th>After the upgrade to Cisco Prime Collaboration</th>
<th>License Requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>To move to the advanced mode, you are required to purchase the advanced license.</td>
</tr>
<tr>
<td>Licensed—Cisco Prime Collaboration Provisioning</td>
<td>Licensed—Cisco Prime Collaboration Provisioning</td>
<td>The Cisco Prime Collaboration 11.0 license files can be used with Cisco Prime Collaboration 11.2. If you are in the evaluation mode, you are required to purchase the advanced license file in order to move to the advanced mode.</td>
<td></td>
</tr>
<tr>
<td>Cisco Prime Collaboration Versions</td>
<td>Deployment Mode</td>
<td>After the upgrade to Cisco Prime Collaboration</td>
<td>License Requirements</td>
</tr>
<tr>
<td>-----------------------------------</td>
<td>-----------------</td>
<td>-----------------------------------------------</td>
<td>----------------------</td>
</tr>
<tr>
<td>11.1</td>
<td>Standard—Cisco Prime Collaboration Provisioning</td>
<td>Standard—Cisco Prime Collaboration Provisioning Cisco Prime Collaboration Provisioning 11.1 standard, upon upgrade, goes to 11.2 standard.</td>
<td>Not Applicable To move to the advanced mode, you are required to purchase the advanced license.</td>
</tr>
<tr>
<td>Licensed—Cisco Prime Collaboration Provisioning</td>
<td>Licensed—Cisco Prime Collaboration Provisioning</td>
<td>The Cisco Prime Collaboration 11.0 license files can be used with Cisco Prime Collaboration 11.2. If you are in the evaluation mode, you are required to purchase the advanced license file in order to move to the advanced mode.</td>
<td></td>
</tr>
</tbody>
</table>

Supported Upgrade Versions — Cisco Prime Collaboration Provisioning 11.5

For Cisco Prime Collaboration Release 11.5 and later

To upgrade from Cisco Prime Collaboration 9.x, 10.x, and 11.0 to Cisco Prime Collaboration 11.5, you must first upgrade to any of the supported upgrade versions in the following table, and then upgrade to Cisco Prime Collaboration 11.5. You must also purchase an upgrade license or order one through Product Upgrade Tools (PUT) because the existing licenses of Cisco Prime Collaboration 9.x or 10.x, do not work with Cisco Prime Collaboration 11.5.
<table>
<thead>
<tr>
<th>Cisco Prime Collaboration Versions</th>
<th>Deployment Mode</th>
<th>After the upgrade to Cisco Prime Collaboration</th>
<th>License Requirements</th>
</tr>
</thead>
</table>
To move to the advanced mode, you are required to purchase the advanced license. |
|                                   | Licensed—Cisco Prime Collaboration Provisioning | Licensed—Cisco Prime Collaboration Provisioning | The Cisco Prime Collaboration 11.1 license files can be used with Cisco Prime Collaboration 11.5.  
If you are in the evaluation mode, you are required to purchase the advanced license file in order to move to the advanced mode. |
To move to the advanced mode, you are required to purchase the advanced license. |
|                                   | Licensed—Cisco Prime Collaboration Provisioning | Licensed—Cisco Prime Collaboration Provisioning | The Cisco Prime Collaboration 11.2 license files can be used with Cisco Prime Collaboration 11.5.  
If you are in the evaluation mode, you are required to purchase the advanced license file in order to move to the advanced mode. |

**Migration from Cisco Unified Communications Management Suite**

*For Cisco Prime Collaboration 11.0 and earlier*
The data migration from Cisco Unified Communications Management Suite to Cisco Prime Collaboration 11.0 is not supported directly. If you want the data to be migrated to Cisco Prime Collaboration, see the "Migrating from Cisco Unified Communications Management Suite" chapter in Cisco Prime Collaboration Upgrade and Migration Guide.

After migration, upgrade to any of the supported upgrade versions and then to Cisco Prime Collaboration 11.0.

**Migration from Cisco Unified Communications Management Suite**

**For Cisco Prime Collaboration 11.1 and later**

The data migration from Cisco Unified Communications Management Suite to Cisco Prime Collaboration 11.x is not supported directly. If you want the data to be migrated to Cisco Prime Collaboration, see the "Migrating from Cisco Unified Communications Management Suite" chapter in Cisco Prime Collaboration Upgrade and Migration Guide.

After migration, upgrade to any of the supported upgrade versions and then to Cisco Prime Collaboration 11.x.

**Feature Support After Upgrade—Cisco Prime Collaboration Provisioning**

**For Cisco Prime Collaboration 11.0 and earlier**

*Note*

When you upgrade from Evaluation mode, Standard mode, Advanced mode, and Cisco Prime Collaboration 10.x and 11.0, all the settings that you had set up in Cisco Prime Collaboration Provisioning are kept intact. You need not re-create them in Cisco Prime Collaboration 11.0. See the Cisco Prime Collaboration Provisioning Guide for information about features available in Standard and Advanced mode. For feature changes after upgrade, see Changes After Upgrade, on page 59.

**For Cisco Prime Collaboration 11.1 and later**

*Note*

When you upgrade from Evaluation mode, Standard mode, Advanced mode, and Cisco Prime Collaboration 10.x and 11.0, all the settings that you had set up in Cisco Prime Collaboration Provisioning are kept intact. You need not re-create them in Cisco Prime Collaboration 11.x. See the Cisco Prime Collaboration Provisioning Guide for information about features available in Standard and Advanced mode. For feature changes after upgrade, see Changes After Upgrade, on page 59.
CHAPTER 7

Backup and Restore Cisco Prime Collaboration Provisioning

- Perform Backup and Restore, page 43
- Back Up the Single-Machine Provisioning Database, page 44
- Restore the Single-Machine Provisioning Database, page 45
- Back Up Provisioning for a Distributed Database, page 47
- Restore Provisioning for a Distributed Database, page 48
- Schedule Backup Using the Provisioning User Interface, page 51

Perform Backup and Restore

Cisco Prime Collaboration Provisioning allows you to backup your data and restore it. You can schedule periodic backups using the Provisioning UI (Schedule Backup Using the Provisioning User Interface, on page 51).

There are two backup and restore scenarios; select the set of procedures that matches your scenario:

- Backup and restore on a single machine, with the same installation or a new installation. For this scenario, see Schedule Backup Using the Provisioning User Interface, on page 51 and Restore the Single-Machine Provisioning Database, on page 45.

- Backup and restore for a distributed database scenario, for the same installation, a new installation with the same IP address, or a new installation with a new IP address. For this scenario, see Schedule Backup Using the Provisioning User Interface, on page 51 and Restore Provisioning for a Distributed Database, on page 48.

Note
When backing up files, you should place the files on a different file server. Also, you should burn the backup data onto a CD.
Cisco Prime Collaboration Provisioning allows you to back up system data and restore it on a different system in the event of total system failure. To restore the backup from another system, the following prerequisites must be met:

- Ensure that the application server to which data is restored has the same MAC address as that of the system that was backed up (the IP address and the hostname can be different).
- If you are unable to assign the MAC address of the original system (the one that was backed up) to another system, contact Cisco TAC for information on a new license file (for a new MAC address).
- The procedure to backup and restore data on a different system is the same as the procedure to backup and restore data on the same system.

**Back Up the Single-Machine Provisioning Database**

This procedure requires that you have administrator level access to the Provisioning database (the PostgreSQL database).

**Step 1**
Login as root using SSH with port 22

**Step 2**
Navigate to the `/opt/cupm` folder and enter the following command:
```
./cupm-app-service.sh stop
```

**Step 3**
Stop Apache, JBoss, and NICE Services using the following commands:
```
ps -aef | grep startcupm
ps -aef | grep nice
kill -9 <startcupm process ID>
kil -9 <nice process ID>
```

**Step 4**
Go to the directory using the command:
```
cd /opt/postgres/pghome/bin
```

**Step 5**
Run the following command:
```
./pg_dumpall -o -Upmadmin > /<backup_directory_name>/<backup_file_name>
```
where,
- `pmadmin`—postgres user id
- `backup_directory_name`—Name of the directory where you want to place the backup file
- `backup_file_name`—Backup will be created with this file name.

**Step 6**
In a backup folder, make copies of the following files and directories:
- `/opt/cupm/sep/dfc.properties`
- `/opt/cupm/sep/ipt.properties`
- `/opt/cupm/sep/dfc.keystore`
- `/opt/cupm/jboss/server/cupm/conf/login-config.xml`
- `/opt/cupm/jboss/server/cupm/deploy/dfc-ds.xml`
Step 7  Start Apache, JBoss, and NICE Services using the following commands:

   cd /opt/cupm
   ./cupm-app-service.sh start

Restore the Single-Machine Provisioning Database

Before You Begin

If you are restoring to a new installation, have the system with the new installation up and running before beginning this procedure. This procedure requires that you have administrator level access to the Provisioning database (the PostgreSQL database).

If you are restoring the database on a new system, you must verifying that the following ports are not being used by another application:

   • dfc.jboss.port=46008
   • dfc.postgres.port=5432
   • dfc.nice.rmi.registry.internal.port=46001
   • dfc.webport=80

If a port is being used by another application, you must change the port number to a vacant port. These settings are defined in the /opt/cupm/sep/dfc.properties file. If you accepted the default location during installation, the installation directory is /opt/cupm.

Step 1  Login as root using SSH with port 22.

Step 2  Navigate to the /opt/cupm folder and enter the following command to stop the application services like Apache, JBoss and NICE:

   ./cupm-app-service.sh stop

Step 3  Ensure whether the application services are stopped by using the following command:

   ps -aef | grep startcupm
   ps -aef | grep nice
   kill -9 <startcupm process-id>
   kill -9 <nice process-id>

   a) To check whether the nice process is still holding on the postgres connection, enter the following command:

           ps -aef

   b) Look for the process: /opt/cupm/jvm/bin/java -server -classpath

       /opt/cupm/sep/lib/dom.jar:/opt/cupm/sep/lib/jxbapi.jar:/opt/cupm/sep/lib/jaxb-impl.jar

       If the process is running then enter the following command:

               kill -9 <Process-Id found earlier>
Step 4  If you are restoring to the same installation, then proceed to the next step, if you are restoring to a new installation, paste the backed-up file (bak) into /mnt folder

Step 5  Go to the directory using the command:
```
cd /opt/postgres/pghome/bin
```

Step 6  Run the following command to restore the database:
```
./CUPM-restore.sh <username> <password> /mnt/<backup_file_name>
```
where, username is the username of the PostgreSQL administrator. The default administrator username is pmadmin; the password is same as you entered for globaladmin.

If you are getting the following error:
"dropdb: database removal failed: ERROR: database "cupm" is being accessed by other users"

Do the following:

a)  Check whether the nice process is still holding on the postgres connection by using the following command:
```
ps -aef
```

b)  Look for the process: /opt/cupm/jvm/bin/java -server -classpath
```
/opt/cupm/sep/lib/dom.jar:/opt/cupm/sep/lib/jaxbapi.jar:/opt/cupm/sep/lib/jaxb-impl.jar
```
If the process is running then enter the following command:
```
kill -9 <Process-Id found earlier>
```

c)  Run the restore command again (.CUPM-restore.sh <username> <password> /mnt/<backup_file_name>).

Step 7  If you are restoring to the same installation, proceed to the next step. If you are restoring to a new installation, copy back the following backed-up files:

- /opt/cupm/sep/dfc.properties
- /opt/cupm/sep/ipt.properties
- /opt/cupm/sep/dfc.keystore
- /opt/cupm/jboss/server/cupm/conf/login-config.xml
- /opt/cupm/jboss/server/cupm/deploy/dfc-ds.xml

**Note**  To restore the random key, refer Restoring Random Key, on page 47.

Step 8  Start Apache, JBoss, and NICE Services using the following commands:
```
cd /opt/cupm
./cupm-app-service.sh start
```
Restoring Random Key

The backup compressed file created by Backup Management (Administration > Backup Management) includes a copy of random key file.

**Step 1**
Copy the backed up directory to the application server. Navigate to `/opt/cupm/sep/ipt/`.

**Step 2**
Create a directory `.system` (if it does not exist) using the `mkdir` command, else move to step 3.

**Step 3**
Navigate to `/opt/cupm/sep/ipt/.system`.

**Step 4**
Copy the following from backed up directory:

```bash
cp <BACK UP DIR>/pcprandom.key .pcprandom.key
cp .pcprandom.key .pcprandom.key.bkp
touch .pcprandomconfigured
```

Back Up Provisioning for a Distributed Database

This procedure requires that you have administrator level access to the Provisioning database (the PostgreSQL database).

**Step 1**
Login as root using SSH with port 22.

**Step 2**
Navigate to the `/opt/cupm` folder in the application server and enter the following command:

```bash
./cupm-app-service.sh stop
```

**Step 3**
In the Prime Collaboration Provisioning application server, stop Apache, JBoss and NICE Services using the following commands:

```bash
ps -aef | grep startcupm
ps -aef | grep nice
kill -9 <startcupm process id>
kll -9 <nice process id>
```

**Step 4**
In the database server, go to the directory:

```bash
cd /opt/postgres/pghome/bin
```

**Step 5**
Run the following command:

```bash
./pg_dumpall -o -Upmadmin >/opt/<backup_file_name>
```

where,

- `pmadmin`—postgres user id
- `backup_directory_name`—Name of the directory where you want to place the backup file
- `backup_file_name`—Backup will be created with this file name.

**Step 6**
In a backup folder, make copies of the following files and directories from the application server:

- `/opt/cupm/sep/dfc.properties`
Step 7  In the Prime Collaboration Provisioning application server, start Apache, JBoss, and NICE Services using the following commands:

```bash
cd /opt/cupm
./cupm-app-service.sh start
```

---

### Restore Provisioning for a Distributed Database

If you are restoring to a new installation, either with the same or a new IP address, the system with the new installation must be up and running before beginning this procedure.

This procedure requires that you have administrator level access to the Provisioning database (the PostgreSQL database).

If you are restoring the database on a new system, you must verify that the following ports are not being used by another application:

- `dfc.jboss.port=46008`
- `dfc.postgres.port=5432`
- `dfc.nice.rmi.registry.internal.port=46001`
- `dfc.webport=80`

If a port is being used by another application, you must change the port number to a vacant port. These settings are defined in the `/sep/dfc.properties` file. (If you accepted the default location during installation, the installation directory is `/opt/cupm`.)

Also, you will need to change the system name in one of the following settings:

- `dfc.postgres.host=<system name>` (If the database is on one system.)
- `dfc.postgres.hostlist=<system names>` (If the database is on multiple systems.)

### Restoring Database in the Database Server

To stop services on the application server, perform Steps 1—3:
SUMMARY STEPS

1. Login to application server as root using SSH with port 22.
2. Navigate to the /opt/cupm folder in the application server and enter the following command:
3. In the Prime Collaboration Provisioning application server, stop Apache, JBoss, and NICE Provisioning Services using the following command:
4. If you are restoring to the same installation, then proceed to the next step. If you are restoring to a new installation, paste the backed-up file (bak) into /<backup_folder> in the database server.
5. Go to the following directory in the database server:
6. Run the following commands:
7. If you are restoring to the same installation, proceed to the next step. If you are restoring to a new installation, run the following commands in the database server:
8. Restart database services by using the following commands:

DETAILED STEPS

Step 1

Login to application server as root using SSH with port 22.

Note: Your account will be locked upon 3 consecutive unsuccessful login attempts. For root user, the account is automatically unlocked after 10 minutes and for other user accounts after 12 hours.

Step 2

Navigate to the /opt/cupm folder in the application server and enter the following command:

./cupm-app-service.sh stop

Step 3

In the Prime Collaboration Provisioning application server, stop Apache, JBoss, and NICE Provisioning Services using the following command:

ps -aef | grep startcupm
ps -aef | grep nice
kill -9 <startcupm process id>
kill -9 <nice process id>

a) To check whether the nice process is still holding on the postgres connection, enter the following command:

ps -aef

b) Look for the process: /opt/cupm/jvm/bin/java -server -classpath
/opt/cupm/sep/lib/dom.jar:/opt/cupm/sep/lib/jaxbapi.jar:/opt/cupm/sep/lib/jxb-impl.jar
If the process is running then enter the following command:

kill -9 <Process-Id found earlier>

To restore database in the database server, perform the following steps:

Step 4

If you are restoring to the same installation, then proceed to the next step. If you are restoring to a new installation, paste the backed-up file (bak) into /<backup_folder> in the database server.

Step 5

Go to the following directory in the database server:

cd /opt/postgres/pghome/bin

Step 6

Run the following commands:

• To delete the CUPM database and user account:

  ./CUPM-restore.sh <username> '<new-db-password>' <backup-foldername>/<backup_file_name>

• To restore the database contents:

  ./CUPM-restore.sh <username> '<old-db-password>' <backup-foldername>/<backup_file_name>
where, username is the username of the PostgreSQL administrator; new-db-password is the password provided for 
globaladmin account when setting up the new server; old-db-password is the password set for globaladmin account on 
the backed up database.

**Note**  Ensure the password does not contain any special characters and is enclosed within single quotes for command 
`/CUPM-restore.sh` to work.

**Step 7**  If you are restoring to the same installation, proceed to the next step. If you are restoring to a new installation, run the 
following commands in the database server:
The password is same as you entered for globaladmin. You must provide the globaladmin password from the backup 
server if authentication fails.

```bash
cd /opt/postgres/pghome/bin
./psql -Upmadmin -d cupm
select * from nicesyseng;
```

In the console output, check if there are any entries that contain your old IP address (in the host column). If there are 
any entries, delete them by executing the following command:

```bash
delete from nicesyseng where host='<old_IP_address>'; 
```

**Step 8**  Restart database services by using the following commands:

```bash
cd /opt/cupm
./cupm-db-service.sh stop
./cupm-db-service.sh start 
```

---

**Restoring Random Key in the Application Server**

**Note**  Restoring random key is required to be done only in the application server.

---

**Step 1**  Copy the backed up directory to the application server. Navigate to `/opt/cupm/sep/ipt/`.
**Step 2**  Create a directory `.system` (if it does not exist) using the `mkdir` command, else move to step 3.
**Step 3**  Navigate to `/opt/cupm/sep/ipt/.system`.
**Step 4**  Copy the following from backed up directory:
```
cp <BACK UP DIR>/pcprandom.key .pcprandom.key
cp .pcprandom.key .pcprandom.key.bkp
touch .pcprandomconfigured
```
Restoring Database in the Application Server

**Step 1**  
If you are restoring to the same installation, proceed to the next step. If you are restoring to a new installation, copy back the following backed-up files:

- /opt/cupm/sep/dfc.properties
- /opt/cupm/sep/ipt.properties
- /opt/cupm/sep/dfc.keystore
- /opt/cupm/jboss/server/cupm/conf/login-config.xml
- /opt/cupm/jboss/server/cupm/deploy/dfc-ds.xml

**Step 2**  
Update the IP address of the database server (postgres host) in opt/cupm/sep/dfc.properties.

**Step 3**  
Update the IP address of database server (postgres host) in opt/cupm/jboss/server/cupm/deploy/dfc-ds.xml.

**Step 4**  
Start Apache, JBoss, and NICE Services using the following commands:

```
cd /opt/cupm
./cupm-app-service.sh start
```

Schedule Backup Using the Provisioning User Interface

You can create periodic backups of Provisioning database using the Provisioning User Interface. You must be logged in as an administrator to perform backup. To create a backup of the Provisioning database:

**Step 1**  
Choose Administration > Backup Management.

**Step 2**  
In the Backup Management page, click New.

**Step 3**  
Enter a backup title in the Create New Backup page.

**Step 4**  
From the Backup Connection drop-down list, select SFTP, FTP, or Local to save your backup files.

a) If you select SFTP or FTP, provide the following details:

- IP address of the server where the backup files need to be saved.
- Path to the backup location and port details (for SFTP only).

**Note**  
The backup location is relative to the specified SSH user home directory. The relative path must contain directory details (for example DIRNAME or DIRNAME 1 / DIRNAME 2), to avoid backup in root directory.

- Username and password information. Testing the SFTP or FTP password is optional.

b) If you select Local, the backup files are saved to the CUPM local directory.

**Step 5**  
For a local backup, select the number of backup files you want to save on your local machine from the Backup History drop-down list.
The default value is 2. By default, you can save two recent backup files. You can save up to 9 recent backup files.

**Step 6**
Enter the scheduling details to schedule a backup. The time displayed is the server browser time. The default recurrence type for a new backup job is None. After a backup job is created with default settings, the backup will start immediately.

**Step 7**
Enter email address to receive status notification for the scheduled backup. You can enter multiple email addresses separated with a comma.

**Step 8**
Click Save. The scheduled backup appears in the Backups table on the Backup Management page.

**Step 9**
Click Run Now, to run a backup immediately.

Prime Collaboration Provisioning enters maintenance mode before backup starts. A notification will be displayed for all logged-in users stating that the users will be logged out of Prime Collaboration Provisioning 10 minutes before the scheduled backup starts. Users must save their work and log out before the backup starts, else they will be logged out automatically, and will not be able to access Prime Collaboration Provisioning.

The backup table provides information on the status and history of each backup job. The Next Run Time option provides details on the next periodic schedule.

The Last Run Status column shows the status of the last run backup job. The status of a backup job can be Scheduled, In Progress, Success or Failed.

When a backup job reaches the scheduled time, the last run status changes to Scheduled. After entering into maintenance mode, that is after 10 minutes, the status will change from Scheduled to In Progress.

After the backup job is complete, the status is either Success or Failure.

To know about the history of any backup job, click Run History Count, and open the dialog box. You can view the start time, end time, status and file size of the backup. You can delete the run history logs. The backed up files are not deleted when the backup logs are deleted.

**Managing Backup Jobs**

With the scheduled jobs, you can:

- **Edit and Delete:** The Edit and Delete options are disabled during Scheduled and In Progress states. You cannot edit or delete a backup job when the backup is in Scheduled or In Progress state. You can edit only one backup job at a time.

- **Cancel:** You can cancel a running backup job which is in Scheduled or In Progress state only.
Upgrade Cisco Prime Collaboration Provisioning

Cisco Prime Collaboration Upgrade Options

For Cisco Prime Collaboration Release 11.5 and later
The following table lists the supported options to upgrade to Cisco Prime Collaboration 11.5.

<table>
<thead>
<tr>
<th>If your current version is:</th>
<th>Upgrade using:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cisco Prime Collaboration 11.2</td>
<td>• (Recommended) User interface, refer Upgrade Cisco Prime Collaboration from the Provisioning User Interface, on page 53</td>
</tr>
<tr>
<td></td>
<td>• Or, CLI, refer Upgrade Cisco Prime Collaboration Provisioning Using CLI, on page 55</td>
</tr>
<tr>
<td>Cisco Prime Collaboration 11.1</td>
<td>CLI, refer Upgrade Cisco Prime Collaboration Provisioning Using CLI, on page 55</td>
</tr>
</tbody>
</table>

Upgrade Cisco Prime Collaboration from the Provisioning User Interface

For Cisco Prime Collaboration Release 11.5 and later
If you are upgrading from Cisco Prime Collaboration 11.1 to 11.5, follow the steps in Upgrade Cisco Prime Collaboration Provisioning Using CLI, on page 55.

You can upload the application bundle and upgrade Cisco Prime Collaboration from the provisioning user interface. Using this feature, you can view the software update history which includes information such as the name of the installation file, description, type of software update, and the status of installation.

Alternately, you can also upgrade to Cisco Prime Collaboration 11.5 through CLI, see Upgrade Cisco Prime Collaboration Provisioning Using CLI, on page 55.

Before You Begin

- You must have administrator privilege to perform this task.
- We recommend that you make a full backup of your database server and application server. If you do not make a backup, you cannot bring back your old system intact if the upgrade fails, since a rollback is not possible.
- For upgrading Cisco Prime Collaboration Provisioning in distributed environment, refer Upgrade Cisco Prime Collaboration Provisioning in Distributed Environment, on page 57.
- Ensure that the following prerequisites are satisfied before you begin the upgrade process:
  - No order is in released state.
  - No device synchronization is in progress state.
  - No active batch projects.
  - No wizard is in active state.
- If Cisco Prime Collaboration Provisioning is managing Cisco Unity Connection 10.x and above, you need to install an engineering special in Cisco Unity Connection for successful user synchronization. Contact TAC to obtain the engineering special for the bug (CSCux67499).

Step 1
Download the application bundle.

Step 2
Log in to Prime Collaboration Provisioning as a user with Administrator privileges.

Step 3
Choose Administration > Updates.

Step 4
Click Browse and navigate to the location where you have saved the application bundle.
Note The file must be in .tar.gz format.

Step 5
Click Upload.
The updated file is listed in the updates table with the status Ready to Install.

Step 6
Select the required entry from the table.

Step 7
Click Install Now.
Note When upgrading from 11.2 to 11.5, ignore the confirmation popup message "Prime Collaboration Provisioning 11.2.0-523 will now be installed. All services are restarted during this time." and click Yes to continue upgrading to 11.5.
Step 8  Once the validation is successful, you are redirected to a page with the message **Upgrade in progress** displaying the status of the upgrade. Click **View Debug Logs** to view the detailed upgrade log. After successful installation, you will be redirected to the provisioning login page.

**What to Do Next**

After upgrading Cisco Prime Collaboration Provisioning, perform the following post upgrade tasks:

- For Cisco Prime Collaboration Provisioning 11.0 and later, the vCPU reservations are increased. Thus when you are upgrading to Prime Collaboration Provisioning 11.0 and later, power off the instances of application and database server. Manually increase the vCPU reservation and power on the instances of application and database server. For more details on vCPU reservation, see Virtual Machine Requirements for Cisco Prime Collaboration Provisioning, on page 18.

- If a session is already open in the browser, clear the browser cache and refresh the browser before you start using the upgraded application.

- It is recommended that you perform the following synchronization:
  - Domain synchronization
  - Infrastructure synchronization
  - Subscriber or User synchronization

**Upgrade Cisco Prime Collaboration Provisioning Using CLI**

**Prerequisites**

- We recommend that you make a full backup of your database server and application server. If you do not make a backup, you cannot bring back your old system intact if the upgrade fails, since a rollback is not possible.

- For upgrading Cisco Prime Collaboration Provisioning in distributed environment, refer Upgrade Cisco Prime Collaboration Provisioning in Distributed Environment, on page 57.

- Ensure that the following prerequisites are satisfied before you begin the upgrade process:
  - No order is in released state.
  - No device synchronization is in progress state.
  - No active batch projects.
  - No wizard is in active state.
• If Cisco Prime Collaboration Provisioning is managing Cisco Unity Connection 10.x and above, install an engineering special in Cisco Unity Connection for successful user synchronization. Contact TAC to obtain the engineering special for the bug (CSCux67499).

---

**Step 1**

Download the application bundle. You can place the application bundle either on an FTP server or the local disk folder in the Cisco Prime Collaboration server. If you intend to place the application bundle in the local disk directory, log in as root and SFTP the application bundle to the /localdisk directory.

**Note** Use port 22 when you do SFTP to the Cisco Prime Collaboration server.

**Step 2**

Verify whether the Message Digest 5 (MD5) checksum of the application bundle matches with the value in the download site. To view the MD5 checksum of the application bundle available in Cisco.com site, hover your mouse on the filename.

**Step 3**

Log in to the Cisco Prime Collaboration server as the administrator, through the VM console using the vSphere Client. It is recommended that you perform the upgrade using a console connection in order to prevent losing the active SSH session while upgrade is in progress.

**Note** In a distributed environment, log in to the database server for the database server upgrade. For the application server upgrade, log in to the application server.

**Step 4**

Create a repository.

```
admin# configure terminal
admin(config)# repository <repository name>
```

**Step 5**

• If the application bundle is available in an FTP server, enter:

```
admin(config-Repository)# url ftp://111.222.333.444 (for example)
admin(config-Repository)# user admin password plain cisco (for example)
```

• If you have placed the application bundle at /localdisk directory of the Cisco Prime Collaboration server, enter:

```
admin(config-Repository)# url disk
admin(config-Repository)# exit
admin(config)# exit
```

**Step 6**

Enter the following command:

```
admin# application upgrade <application bundle name> <repository name>
```

The application bundle name, for example, is PCProvisioning-appbundle-11.5-XXX.x86_64.tar.gz

The upgrade process takes approximately 40 to 60 minutes. During the upgrade, messages appear on the admin console indicating the progress of the upgrade. Wait for the Cisco Prime Collaboration Provisioning upgrade complete message before proceeding with the next step.

**Step 7**

Power off and power on the VMware instance.

**Note** This step is not applicable for upgrade in a distributed environment.

If a session is already open in the browser, clear the browser cache and refresh the browser before you start using the upgraded application.
**What to Do Next**

After upgrading Cisco Prime Collaboration Provisioning, perform the following post upgrade tasks:

- For Cisco Prime Collaboration Provisioning 11.0 and later, the vCPU reservations are increased. Thus when you are upgrading to Prime Collaboration Provisioning 11.0 and later, power off the instances of application and database server. Manually increase the vCPU reservation and power on the instances of application and database server. For more details on vCPU reservation, see Virtual Machine Requirements for Cisco Prime Collaboration Provisioning, on page 18.

- It is recommended that you perform the following synchronization:
  - Domain synchronization
  - Infrastructure synchronization
  - Subscriber or User synchronization

---

**Upgrade Cisco Prime Collaboration Provisioning in Distributed Environment**

To upgrade Cisco Prime Collaboration Provisioning in distributed environment:

<table>
<thead>
<tr>
<th>Step</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Step 1</td>
<td>Upgrade the database server. For upgrade steps, refer Upgrade Cisco Prime Collaboration Provisioning Using CLI, on page 55.</td>
</tr>
<tr>
<td>Step 2</td>
<td>Upgrade the application server, refer Cisco Prime Collaboration Upgrade Options, on page 53.</td>
</tr>
<tr>
<td>Step 3</td>
<td>Reboot the database server.</td>
</tr>
</tbody>
</table>
| Step 4 | Reboot the application server.  
**Note** Before rebooting the application server ensure that the database server reboot is complete. |

---

**Troubleshooting Cisco Prime Collaboration Provisioning Upgrade**

- **Issue:** Upgrade sequence completes in few seconds with a message, Domain/Device/Ldap sync in progress, could not do the upgrade.  
**Recommended Action:**
  - Make sure that the prerequisites are satisfied and continue with the upgrade process.  
  - Clear the in-progress activities listed in the message.

- **Issue:** After Upgrading, the provisioning UI still shows the older Mega-menu.  
**Recommended Action:** Perform one of the following actions:
  - Reboot the VMware Instance.  
  - For distributed environment, database server should be restarted first followed by the application server.
• Clear the browser cache.
• Open the provisioning application in a new browser.

• **Issue:** If you upload a new production license file when the standard license file is already present, the authorization role does not list individual domains because of the presence of the standard license file.

  **Recommended Action:**
  
  • Delete the standard license file from /opt/cupm folder.

• **Issue:** During distributed environment upgrade from 11.2 to 11.5, if the database server upgrade is successful and application server upgrade from user interface fails.

  **Recommended Action:**
  
  • Revert the snapshot of the application server and database server.
  • You can then restart the upgrade process for the database server(from CLI) and application server from the user interface.
Changes After Upgrade

This section provides information about the navigation changes, enhancements, and limitations after you upgrade Cisco Prime Collaboration Provisioning. For information about logging in to Cisco Prime Collaboration Provisioning after upgrade, see Log in to Cisco Prime Collaboration Provisioning, on page 29.

- What's New in Cisco Prime Collaboration Provisioning 11.x, page 59

What's New in Cisco Prime Collaboration Provisioning 11.x

What's New in Cisco Prime Collaboration Provisioning 11.0

Cisco Prime Collaboration Provisioning 11.0 supports the following new features:

New User Interface

Cisco Prime Collaboration Provisioning has a new interface to give you a better user experience and includes the following:

- Left pane—Displays vertical expandable navigation menus, Index tab, and Search Menu field.
- Right pane—Familiar interface layout as used in the previous revisions.
- Pin and Toggle Navigation icons at the top to switch between panes.
- Gear icon (at the top of the right pane) that allows you to logout, change password, view Help file, and view information about Prime Collaboration Provisioning.

Batch Management - Enhancements

You can improve administrator productivity with batch scheduling on an improved user interface, enabling users with administrative privileges to add, list, and manage the batch projects. In addition, users can download, add, edit, and delete sample batch action files through the user interface. The Batch Action Help link displays a table of all the services along with the attributes and descriptions for different services.
Common Template
You can use the common template for several endpoint models or lines. This reduces the number of templates to manage and choose from at order time. A common template groups a set of attributes that are in common across the endpoint family. Common templates include Family Endpoint Template, Universal Endpoint Template, and Universal Line Template. Family templates support common settings across a family of endpoints. Universal endpoint templates provide an intersection of the attributes across all endpoint types. Universal line templates provide an intersection of the attributes across all line types.

Managing Endpoints
You can add or update endpoints by uploading the endpoint files (zip file containing a list of supported endpoints). You can upload new and existing endpoints through the user interface. The Endpoint Bundles pane displays a table with the list of endpoints that are available in the system and its supported Cisco Unified Communications Manager versions. These details about endpoints are automatically updated in the table based on the endpoints added to Cisco Prime Collaboration Provisioning.

Infrastructure Object Enhancements
The following are supported through Batch Provisioning:

• Feature Group template
• SoftKey template
• IVR (Interactive Voice Response)
• IVR Service Parameters
• CTI Route Point Line (Change)

Conference Now and Emergency Location (ELIN) Group are supported through batch provisioning and UI.

Conference Now Service
Using conference now service you can set up an IVR guided conference call and allow users to participate in the conference call. It enhances the existing Meet Me experience by providing an IVR guided process to make instant audio conference. Conference Now service is available only for Cisco Unified Communications Manager 11.x and later versions. You can add, change, or cancel this infrastructure object using Cisco Prime Collaboration Provisioning.

Emergency Location Service
Emergency location service is used to determine the caller's location when an emergency call is placed and return the call. It is designed for very small customer environments of about 100 emergency numbers. Emergency Location service is available only for Cisco Unified Communications Manager 11.x and later versions. You can add, change, or cancel this infrastructure object using Cisco Prime Collaboration Provisioning.

Stop Order
Cisco Prime Collaboration Provisioning provides you the option to stop an order using the UI and clean out unrecoverable orders.
Keyword Support Enhancement
Cisco Prime Collaboration Provisioning provides you an option to add keywords to the provisioning attributes. These keywords are automatically replaced on screen with the actual values during ordering time immediately after moving to the next field.

Open Space User Role
The feature offers an easier and more intuitive way to add conference rooms, TelePresence rooms or manage open-space endpoints. In addition, the feature provides an easy understanding in dealing with endpoints that belong to rooms and locations.

User Services Enhancements
User Services is now an orderable service with this release and it is also added by default when you create an order for a service.

Unified Communications Device Support
The following versions of the Unified Communications devices are newly supported:

- Cisco Unified Communications Manager 11.0
- Cisco Unity Connection 11.0
- Cisco IM and Presence 11.0
- Cisco Unified Communications Manager Express 11.0
- Cisco Unity Express 11.0

General
- Other Enhancements:
  - Domain synchronization continues if there is an error
  - Login user id can be configured as case-insensitive also

- The following features/devices are not supported in this release:
  - Phone Button template
  - Inventory Browser
  - Time Zone Offset Settings
  - Cisco Unified Communications Manager 8.x, Cisco Unified Communications Manager Express 8.x, Cisco Unified Presence 8.x, Cisco Unity Connection 8.x and Cisco Unity device are not supported from this release onwards.
  - Convergence of the Cisco Prime Collaboration Assurance and Cisco Prime Collaboration Provisioning applications from the 11.0 release and later.
Navigation Changes in Cisco Prime Collaboration Provisioning User Interface

In Cisco Prime Collaboration Provisioning User Interface, the left pane displays Navigation tab, Index tab and Search Menu field. Double-click the pin icon at the top to hide the left pane or click the Toggle Navigation icon to view the left pane as appropriate.

Use the below table to navigate through the Cisco Prime Collaboration Provisioning User Interface after upgrade:

Table 4: User Interface Navigation in Cisco Prime Collaboration Provisioning

<table>
<thead>
<tr>
<th>Before Upgrade to New UI</th>
<th>After Upgrade to New UI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Home</td>
<td>Home &gt; Dashboard</td>
</tr>
<tr>
<td>Design &gt; Infrastructure Setup</td>
<td>Device Setup</td>
</tr>
<tr>
<td>Design &gt; User Provisioning Setup</td>
<td>Provisioning Setup</td>
</tr>
<tr>
<td>Deploy &gt; User Provisioning</td>
<td>User Provisioning</td>
</tr>
<tr>
<td>Deploy &gt; Batch Provisioning</td>
<td>Advanced Provisioning &gt; Batch Provisioning</td>
</tr>
<tr>
<td>Deploy &gt; Provisioning Inventory</td>
<td>Advanced Provisioning</td>
</tr>
<tr>
<td>• Manage Endpoints</td>
<td>• Manage Endpoints</td>
</tr>
<tr>
<td>• Manage Directory Numbers</td>
<td>• Manage Directory Numbers</td>
</tr>
<tr>
<td>• Inventory Browser</td>
<td>• Inventory Search</td>
</tr>
<tr>
<td>• Inventory Search</td>
<td></td>
</tr>
<tr>
<td>Deploy &gt; Unified Communication Services</td>
<td>Advanced Provisioning &gt; Unified Communication Services</td>
</tr>
<tr>
<td>Design &gt; Getting Started Wizard</td>
<td>Infrastructure Setup &gt; Getting Started Wizard</td>
</tr>
<tr>
<td>Deploy &gt; Infrastructure Configuration</td>
<td>Infrastructure Setup &gt; Infrastructure Configuration</td>
</tr>
<tr>
<td>Administration &gt; Users and Device Access</td>
<td>Infrastructure Setup &gt; Infrastructure Configuration Permissions</td>
</tr>
<tr>
<td>Management &gt; Infrastructure Configuration</td>
<td>Infrastructure Setup &gt; Infrastructure Configuration Permissions</td>
</tr>
<tr>
<td>Administration &gt; System Configuration &gt; Phone</td>
<td>Infrastructure Setup &gt; Configuration Templates</td>
</tr>
<tr>
<td>Button Templates</td>
<td></td>
</tr>
<tr>
<td>NA</td>
<td></td>
</tr>
<tr>
<td>Before Upgrade to New UI</td>
<td>After Upgrade to New UI</td>
</tr>
<tr>
<td>-------------------------</td>
<td>------------------------</td>
</tr>
<tr>
<td>Deploy &gt; Activities</td>
<td>Activities</td>
</tr>
<tr>
<td>• My Activities</td>
<td>• Provisioning History</td>
</tr>
<tr>
<td>• All Activities</td>
<td>• My Activities</td>
</tr>
<tr>
<td>• Activities for Group</td>
<td>• All Activities</td>
</tr>
<tr>
<td>• Activities for User</td>
<td>• Activities for Group</td>
</tr>
<tr>
<td></td>
<td>• Activities for User</td>
</tr>
<tr>
<td>Reports &gt; Communications Manager Reporting</td>
<td>Reports</td>
</tr>
<tr>
<td>Reports &gt; Interactive Reports</td>
<td>• Communications Manager Reporting</td>
</tr>
<tr>
<td>• Service Area</td>
<td>• Service Area</td>
</tr>
<tr>
<td>• Resource Configuration</td>
<td>• Resource Configuration</td>
</tr>
<tr>
<td>• Service Configuration</td>
<td>• Service Configuration</td>
</tr>
<tr>
<td>• Endpoint Inventory</td>
<td>• Endpoint Inventory</td>
</tr>
<tr>
<td>• Directory Number Inventory</td>
<td>• Directory Number Inventory</td>
</tr>
<tr>
<td>• Directory Number Block</td>
<td>• Directory Number Block</td>
</tr>
<tr>
<td>• Audit Trail</td>
<td>• Audit Trail</td>
</tr>
<tr>
<td>• Endpoint/Line Mismatch</td>
<td>• Endpoint/Line Mismatch</td>
</tr>
<tr>
<td>Administration &gt; System Maintenance</td>
<td>Administration</td>
</tr>
<tr>
<td>• Settings</td>
<td>• Settings</td>
</tr>
<tr>
<td>• Data Maintenance</td>
<td>• Data Maintenance</td>
</tr>
<tr>
<td>• Logging and ShowTech Files</td>
<td>• Logging and ShowTech Files</td>
</tr>
<tr>
<td>• Updates</td>
<td>• Updates</td>
</tr>
<tr>
<td>• Maintenance Mode</td>
<td>• Maintenance Mode</td>
</tr>
<tr>
<td>Administration &gt; System Maintenance &gt; Provisioning Setup &gt; Backup Management</td>
<td>Administration &gt; Backup Management</td>
</tr>
<tr>
<td>Administration &gt; System Configuration</td>
<td>Administration</td>
</tr>
<tr>
<td>• License Management</td>
<td>• License Management</td>
</tr>
<tr>
<td>• Single Sign-on</td>
<td>• Single Sign-On</td>
</tr>
<tr>
<td>• Rules</td>
<td>• Rules</td>
</tr>
</tbody>
</table>
What's New in Cisco Prime Collaboration Provisioning 11.1

Cisco Prime Collaboration Provisioning 11.1 supports the following new features:

Quick Service Provisioning for Existing Users

Provisions initial or additional services for a user already defined in Prime Collaboration Provisioning, without using the ordering wizard that involves multiple steps to order a service. An Add-on Service (if applicable) for quick provisioning in the Service Details pane on the User Provisioning page.

Service Template Assignment Enhancement

In the User Role setup page, Service Template Assignment table is added with a new Endpoint Model column. The new column enables different phone models to be defined with their default templates, so that the quick provisioning function can use this setup to automatically choose the template.

Batch Provisioning Support Enhancement

The existing Batch Provisioning feature now supports the following new attributes:

- Geolocation—Specifies geographic locations that you use to associate Cisco Unified CM devices for features such as logical partitioning.
- Geolocation Filter—Allows selection of specific fields from geolocation fields to create an identifier from the selected fields.
- Run On All Active Unified CM Nodes—Allows outbound calls to originate from the Cisco Unified CM on which the incoming call is received. Supported on Cisco Unified CM 9.x and above versions.
- Incoming Called Party Unknown Use Device Pool CSS—Allows to use the calling search space for the Unknown Number field that is configured in the device pool, which is applied to the device. Supported on Cisco Unified CM 10.x and above versions.
New Attribute Support in Hunt Pilot

The following attributes are supported in Hunt Pilot through Batch Provisioning and the user interface through Infrastructure Configuration and Configuration template:

- Alerting Name
- ASCII Alerting Name
- Maximum Hunt Timer
- Do Not Forward Unanswered Calls
- Use Forward Settings of Line Group Member
- Forward Unanswered Calls to
  - Destination
  - Calling Search Space

Service URL on Endpoint Support

This feature, fully managed from this release, is merged with Subscribe Service attribute. It enables an administrator to specify Service URLs (SURLs) in the endpoint/UDP templates so that standardized services (such as weather reports or stock information) appear on the endpoints of the user. Service URLs are available while ordering endpoints and EM Access, and creating service template. You can add, change, or remove SURL for endpoints and EM Access. SURL is supported through Batch Provisioning and user interface. You must run subscriber synchronization to get all the existing SURL. You have the option to add SURL to the subscribed service. For Cisco Unified CM 9.x, Index, Label, and ASCII Label attributes are supported for SURL. For Cisco Unified CM 10.x and above, only Index and Label attributes are supported for SURL.

SMTP Notification Setting on Cisco Unity Connections

You can provision SMTP Notification device settings for users in Cisco Unity Connection through batch. This feature allows users in Cisco Unity Connection to add, modify, or remove SMTP Notification device.

Connect Inbound Call before Playing Queuing Announcement

You have the option to enable this check box if you want Cisco Unified CM to send the carrier a CONNECT message before playing the hunt group announcements. You should enable this feature if the carrier trunk does not support in-band call status updates or if external callers report that they are unable to hear hunt group announcements.

The Connect Inbound Call before Playing Queuing Announcement feature supports the following infrastructure products through batch provisioning's add and change functionality:

- SIP Profile
- H323 Gateway

Process Management

Using process management you can restart services such as Apache, WildFly, PostgreSQL, and NICE from the user interface. You also have option to reboot linux server and restart Cisco Prime Collaboration Provisioning application. You can also know when and who restarted the service from the restart history table.
Scheduled Synchronization

The Scheduled Synchronization command-line script utility is now migrated to user interface. Using schedule synchronization, you can schedule periodic processor and domain synchronization. In addition, you can edit and delete existing synchronization jobs and view details such as the job status, synchronization status, and so on. After upgrade, all cron jobs (scheduled for synchronization) are migrated as synchronization jobs to the Schedule Synchronization page.

SSL Certificate Enhancements

In Cisco Prime Collaboration Provisioning, you can generate, download, and view the certificates through the user interface. You can also upload provisioning and LDAP certificates.

Monitoring the NICE Server

A NICE Restart check box is provided under Administration > System Notification Settings for email notification about NICE restart. You can also verify NICE status through Administration > Process Management.

General

- The Versions drop-down field is no longer displayed in the user interface when Cisco Unified Communications Manager Express and Cisco Unity Express are chosen during the process of adding a device.
- The following timer attributes are supported through Prime Collaboration Provisioning user interface:
  - Reorder Delay (0-30s)
  - RTP Packet Time (10-160ms)

Known Issue

When you are upgrading from Prime Collaboration Provisioning 10.6 to Prime Collaboration Provisioning 11.1 or above, CA-signed certificates are removed and self-signed certificates are created. The existing CA-signed certificate is backed up in

/opt/Temp/cupm11.1-*/httpd

You have to manually configure the CA-signed certificates using the following procedure:

1. Navigate to
   /opt/Temp/cupm11.1-*/httpd
2. Copy both certificate and key file to
   /opt/cupm/httpd
3. Navigate to
   /opt/cupm/httpd/conf/
4. Configure the certificate details in ssl.conf.

What's New in Cisco Prime Collaboration Provisioning 11.2

Cisco Prime Collaboration Provisioning 11.2 supports the following new features:
Provisioning SMTP Notification Devices

- Enables provisioning of SMTP Notification devices and add/change/delete notification settings from Prime Collaboration Provisioning itself through batch, and the user interface.
- Notification settings configured in the user templates are applied to a user by default when a voicemail is created. Default notification settings can only be modified and cannot be deleted.
- SMTP Notification Devices can be provisioned to new voicemail users or existing users.
- Prime Collaboration Provisioning supports SMTP Notification Device provisioning from Cisco Unity Connection 10.x and later.

Keyword Support for Voicemail Notification

- Provides keyword support for text fields available in voicemail notification settings.
- Enables you to set keywords in the service template for notification settings to provide a consistent text message format.
- You need not change each voicemail notification settings with its user-related information.
- Keywords are supported for the following attributes:
  - Display Name
  - To
  - From
  - Message Header
  - Message Body
  - Message Footer

Service Template Attribute Support Enhancement for EM Access

- The existing Service Template feature now supports the following attributes for Extension Mobility Access:
  - Endpoint Model
  - Protocol
  - Phone Button Template
- You can add or change the service template for EM Access through batch, and the user interface.
- You can customize the service template for EM Access in Getting Started Wizard.
- Supported from Cisco Unified CM 9.x and later.

Transformation Template Enhancement

You can:
- Include transformation templates that perform transformation masking on a directory number for keyword supported attributes.
• Provision services with attribute values containing leading sequence and trailing sequence of the respective keyword value.

A help text shows examples of valid transformation templates that can be specified in the attribute value.

**Write Primary DN to LDAP**

• Write the Primary DN chosen from Cisco Prime Collaboration Provisioning back to the LDAP server.
• Reduces the manual update of the AD fields and masking of DNs.
• A new Write Back Settings sub-pane under **Provisioning Setup** user interface enables you to write Primary DN to LDAP. This sub-pane consists of LDAP Attribute and Mask fields.
• Gets triggered at the ordering and domain level.
• Write primary DN when the user extension is set while ordering through the user interface and batch.

**Advanced Query Functionality for Automatic Service Provisioning**

• Filter out LDAP users based on advanced query functionality.
• A new "Advanced Query" drop-down in the Service Area LDAP filter dialog and the User Role LDAP filter dialog under Provisioning Setup.
• You can use the advanced query functionality in Automatic Service Provisioning to choose the Service Area to provision the user services in and also for the User Role so that users coming in can be assigned to a particular user role.
• Prime Collaboration Provisioning can support the common LDAP attributes in Service Area LDAP filter and User Role LDAP filter by extending the filters to accept advanced queries.

**Support Serviceability Settings on Cisco Unified CM through batch**

• Expands ability of Prime Collaboration Provisioning to batch provision all of Cisco Unified CM's serviceability settings.
• Enables an administrator to activate or deactivate the serviceability setting through the change functionality of batch for Cisco Unified CM 10.5.1 and later.
• Not supported through the configuration templates and the user interface.

**Support Service Activation on IM&P through batch**

• Expands ability of Prime Collaboration Provisioning to batch provision IM&P's Service Activation settings.
• Enables an administrator to activate or deactivate the serviceability settings for the following services through the change functionality of batch for Cisco Unified CM 10.5.1 and later:
  • Cisco AXL Web Service
  • Cisco SIP Proxy
  • Cisco Presence Engine
  • Cisco XCP Authentication Service
• Cisco XCP Connection Manager
• Cisco XCP Test Conference Manager

• Not supported through the configuration templates and the user interface.

Support for Cisco Unified CM Service Parameters through batch
• Supports additional parameters of Cisco Unified CM through batch provisioning.
• The following service parameters are supported through the change functionality of batch provisioning:
  • Call Diagnostics Enabled
  • CDR Enabled Flag
  • Maximum MeetMe Conference Unicast
  • Join Across Line Policy
  • Default Interregion Max Audio Bit Rate
  • Default Intraregion Max Video Call Bit Rate (Includes Audio)
  • Default Interregion Max Video Call Bit Rate (Includes Audio)
  • Automated Alternate Routing Enable
  • Matching Caller ID with Remote Destination
  • Number of Digits for Caller ID Partial Match

• Not supported through the configuration templates, infrastructure configuration, infrastructure configuration permissions, and the user interface.
• Supported for Cisco Unified CM 10.5.1 and later.

Support for Enterprise Phone Configuration through batch
• Supports Enterprise Phone Configuration through the change functionality of batch.
• Configures parameters which apply to all phones that support the following:
  • Cisco camera
  • RTCP

• Supported for Cisco Unified CM 10.5.1 and later.
• Not supported through the configuration templates and the user interface.

Support for Enterprise Parameters through batch
• Provides default settings that apply to all devices and services in the same cluster. When you install a new Cisco Unified CM, it uses the enterprise parameters to set the initial values of its device defaults.
• You cannot add or delete enterprise parameters, but you can only update existing enterprise parameters or synchronize enterprise parameters.
• The following enterprise parameters are supported through the change functionality of batch provisioning:
  • Cluster ID
  • URI Lookup Policy
  • Self Care Portal Default Server
  • Show Ring Settings
  • Show Line Label Settings
  • Show Call Forwarding
  • Directory URI Alias Partition
  • Organization Top Level Domain
  • Cluster Fully Qualified Domain Name
  • Auto Registration Phone Protocol
  • BLF For Call Lists

• Not supported through the configuration templates and the user interface.

**BLF SD and BLF Directed Call Park - New Support**

• Support Busy Lamp Field (BLF) Directed Call Park set-only attribute as fully managed attribute.
• Support BLF Speed Dial (SD) attribute for EM Access.
• Support BLF Directed Call Park attribute for EM Access and endpoints.
• Show all four associations (SD, SURL, BLF SD, BLF DCP) in the Prime Collaboration user interface for both endpoint and EM Access.

**Increase Infrastructure Object Support**

Infrastructure object configuration from the provisioning user interface and batch provisioning is provided for the following objects:

• Called Party Transformation Pattern
• Calling Party Transformation Pattern
• Feature Group Template
• Intercom Calling Search Space
• Intercom Route Partition
• Intercom Translation Pattern
• Recording Profile
• SIP Realm
Support of Microsoft Office 365 Server

Support of Microsoft Office 365 Server to enable Unified Messaging Service (UMS) to the user. This feature also enables creation of mail box in Microsoft Office 365 Exchange Server from Cisco Prime Collaboration Provisioning. UMS integrates voice messaging with email account, letting you store voice messages in your mailbox along with your email.

General

- Two types of LDAP servers are supported from this release:
  - Oracle Directory Server
  - OpenLDAP

What's New in Cisco Prime Collaboration Provisioning 11.5

Cisco Prime Collaboration Provisioning 11.5 supports the following new features:

Access Control Group

You, as an administrator, can:

- Convert the existing authorization roles to new Access Control Groups with required granular controls and assign the existing users to groups.
- Grant access to each operation that the user can perform on a page.
- Create access control groups to grant privileges to users to access specific pages and perform specific operations on them.
- Assign and restrict system access to user by providing granular access.

All authorization roles including ordering, shipping, and maintenance are converted to access control groups if you are upgrading to Cisco Prime Collaboration Provisioning 11.5 and later. Existing users with authorization roles can still log in to Cisco Prime Collaboration Provisioning and can access the features and functions as before.

Audit Trail Enhancement

The existing audit trail feature is enhanced for the following modules:

- Login Management
- User Management
- Pin or Password Management
- Access Control Group
- Self Care
- Synchronization
- System Settings
The users can generate Audit Trail report that contains events about every PIN or Password change, PIN or Password reset, PIN or Password change on next login, unlock voice mail of a user in a Unity or Unity Connection device, login management, user management, pin or password management, and changes in access control group, user roles, self-care, system settings and synchronization.

The existing audit trail feature is also enhanced for reports that are augmented with filters.

You can export audit data in .tsv format.

If you are upgrading to Cisco Prime Collaboration Provisioning 11.5, existing audit trail data is migrated into new audit trail table.

### Delete Services of a User when Deleting User

When you, as an administrator, delete a user or multiple users from Cisco Prime Collaboration Provisioning and Cisco Unified CM, all related services of the user(s) are deleted from Cisco Prime Collaboration Provisioning and Cisco Unified CM.

- Supported through user interface, and batch.
- Maximum of 500 users can be deleted with or without services.
- User cannot be deleted if either of this process is in progress: LDAP synchronization, Infrastructure synchronization, User synchronization, Domain synchronization, Device user synchronization, domain deletion, device deletion, bulk move, move specific user or the current user being deleted, and the user is already deleted but page is not refreshed.
- Existing batch file for 'DeleteUser' is used for both delete user with no services(existing functionality) and with services.

### Synchronizing Inactive (Disabled) Users

You, as an administrator, can synchronize inactive users, and auto-provision services.

- Supported through user interface, and batch.
- A new check-box called **Sync Inactive (Disabled) Users** is added under **LDAP Sync Policy Settings** in the Cisco Prime Collaboration Provisioning user interface.
- Applicable only for Microsoft Active Directory server or Microsoft ADAM or Lightweight Directory Services.

### Infrastructure Object Enhancements

Full support is provided through Infrastructure Configuration user interface and batch for the following infrastructure objects:

- Voice Mail Profile
- Partition
- Directed Call Park
- Local Route Group
- Feature Control Policy
- Application User
• Common Device Configuration
• Translation Pattern
• Route Pattern
• BLF Presence Group
• Conference Bridge
• Hunt List
• Intercom Directory Number
• Softkey Template
• Common Phone Profile
• SRST

Supports add, change, and cancel operations through infrastructure configuration user interface and batch provisioning.

Support from Cisco Unified CM 10.x and later, except Local Route Group. Local Route Group is supported from Cisco Unified CM 11.5 and later.

**Support Reset, Restart, and Apply Config on Infrastructure Objects**

• Supports operations such as Reset, Restart, and Apply Config on the following Infrastructure Objects, as applicable, from Cisco Prime Collaboration Provisioning:
  • Common Device Configuration
  • Common Phone Profile
  • Conference Bridge
  • Directed Call Park
  • Hunt List
  • Intercom Directory Number
  • Intercom Route Partition
  • Partition
  • Region
  • SIP Trunk Security Profile
  • Softkey Template
  • SRST
  • Unified Call Manager
  • Voice Mail Profile

Supports operations such as Reset, and Apply Config on the following Infrastructure Objects: VG202, VG204, VG224, VG310, VG320, and VG350.
Support from Infrastructure Configuration edit page in the user interface, and batch through change batch and separate batch actions.

Infrastructure Configuration List page and Infrastructure Configuration Edit page displays three new text buttons as follows:

- **Reset**—Drops any calls in progress and reinitializes the configuration loaded by Cisco Unified CM.
- **Restart**—Tries to preserve any calls in progress and reinitializes the configuration loaded by Cisco Unified CM.
- **Apply Config**—Applies any outstanding configuration settings on the associated registered devices. You can also reset only the settings that changed since the last reset.

Support from Cisco Unified CM 10.x and later.

**Federal Information Processing Standard (FIPS) Compliance**

Cisco Prime Collaboration provisioning supports the Federal Information Processing Standards (FIPS). FIPS is a set of U.S. government computer-security standards. By default, FIPS is disabled in Cisco Prime Collaboration Provisioning. Users with administrator privileges are authorized to configure FIPS in Cisco Prime Collaboration Provisioning server. Once the changes are updated, the system restarts automatically. A new check box is added to enable or disable FIPS under Administration > Settings, in the Federal Information Processing Standard (FIPS) area.

**Support upgrade from Cisco Prime Collaboration Provisioning User Interface**

You can upload the application bundle and upgrade Cisco Prime Collaboration from the provisioning user interface. Using this feature, you can also view the software update history which includes information such as the name of the installation file, description, type of software update, and the status of installation under Administration > Updates, in the Application Software Updates area.

**General**

- A new drop-down for Exchange Server type is added under Exchange Server Information section in Getting Started Wizard to include Office 365 support.
- Under the Activities menu, My Activities, All Activities, Activities for Group, Activities for User are consolidated into a single option called Activities. If you have access to the Activities page, you can perform all of the workflow activities.
- You can view and download Application and NICE logs from Administration > Logging and ShowTech > Browse Logs.
- Cisco Prime Collaboration supports digitally signed software to customers. During the OVA deployment, check for the publisher information to display Cisco Systems, Inc in order to ensure the software authenticity.
- Your account is locked upon 3 consecutive unsuccessful login attempts. For root user, the account is automatically unlocked after 10 minutes and for other user accounts after 12 hours.
Install Cisco Prime Collaboration Provisioning Software Updates

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CHAPTER 10

Install Cisco Prime Collaboration Provisioning Software Updates

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Installing Cisco Prime Collaboration Provisioning Software Updates

For Cisco Prime Collaboration Release 11.2 and later

You can upload and install service packs and software update patches from the provisioning user interface. Using this feature, you can view the software update history which includes information such as the type of software update, description, and when the software update was installed. You can also view the readme documents related to the software updates by clicking the document icon against the description of the respective software update file.

To upload and install software updates:

Before You Begin

You must have administrator privilege to perform this task.

---

Step 1
Choose Administration > Updates.

Step 2
Click Browse and navigate to the location where you have saved the software update file.

Note
The file must be in .tar.gz format.

Step 3
Click Upload.

The updated file will be listed in the updates table with the status Ready to install.

Step 4
Click the required element from the table.

Step 5
Click Install Now.

You will be redirected to a static page with the message Restart is in progress. After successful installation, you will be redirected to the provisioning login page.
You can also uninstall the software updates. To uninstall software update, select the required update file from the table and click **Uninstall**. When you click **Uninstall**, software update is uninstalled and rolled back to the previous state.
PART IV

Uninstall Cisco Prime Collaboration Provisioning

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Uninstall Cisco Prime Collaboration Provisioning

To uninstall Cisco Prime Collaboration Provisioning applications:

- Log in to the vSphere Client and connect to the ESXi server that is running the virtual appliance that you want to uninstall.
- Right-click the application and choose **Power > Shut Down Guest** (or choose **Power Off**).
- Right-click the application and in the **Confirm Delete** window, choose **Delete from disk**.

---

**Step 1**
Log in to the vSphere Client and connect to the ESXi server that is running the virtual appliance that you want to uninstall.

**Step 2**
Right-click the application and choose **Power > Shut Down Guest** (or choose **Power Off**).

**Step 3**
Right-click the application and in the **Confirm Delete** window, choose **Delete from disk**.
Troubleshooting

- Verify the Cisco Prime Collaboration Provisioning Installation (for Advanced or Standard Mode), page 83
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- Upgrade the Cisco Prime Collaboration Provisioning Server from the Small or Medium to Large Deployment Model, page 85
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Verify the Cisco Prime Collaboration Provisioning Installation (for Advanced or Standard Mode)

You can verify that Cisco Prime Collaboration Provisioning has been properly installed as follows:

1. In a browser, specify the IP address of the server on which Cisco Prime Collaboration Provisioning (standard or advanced) has been installed. The login page is displayed. Log in with global administrator credentials.
2. Log in to the Provisioning server using the SSH service and with the CLI administrator that you created during OVA configuration. By default, this username is admin.
3. Display the processes that are running.
   
   ```
   show application status cpcm
   bash : no job control in this shell httpd denotes httpd service
   nice.sh denotes Nice service
   startcupm.sh denotes Jboss service
   postmaster/su denotes Postgres service
   ```
The parameters in the COMMAND column are the processes that are running on the Cisco Prime Collaboration Provisioning server (standard or advanced). If you do not see the processes running, enter the following commands to restart the Cisco Prime Collaboration Provisioning services:

```
admin#application stop cpcm
admin#application start cpcm
```

The above commands take one or two minutes to stop or start the Cisco Prime Collaboration Provisioning services.

You can verify if the installation is complete and successful, by checking if the JBoss service is running. In the SSH terminal, run the following command as a root user to know if the JBoss service is running:

```
ps - aef|grep startcupm
```

You can also check at what time the JBoss service was started, in the following location (in the last line of the log file):

```
/opt/cupm/sep/logs/jboss.log
```

If the JBoss service is running, see Get Started after New Installation, to get started with the Cisco Prime Collaboration Provisioning application.

### Upgrade the Cisco Prime Collaboration Provisioning from Small to Medium Deployment Model

After you manually upgrade the system requirements (vRAM, vCPU, vDISK, and so on), you must run the following scripts as a root user:

1. Execute the `memorymodel.sh` file under `/opt/cupm`:
   ```
   ./memorymodel.sh medium "-Xms512m -Xmx1024m -XX:MaxPermSize=256m -server" "-Xms512m -Xmx1024m -XX:MaxPermSize=256m" simple all
   ```

2. Execute `cpcmdiskutil.sh` under `/opt/cupm`:
   ```
   ./cpcmdiskutil.sh /dev/sda
   ```

3. Restart the server (VMware instance).

**Note**

If you want to support endpoint count as per the upgraded deployment model in Cisco Prime Collaboration Provisioning, you must add a scale license.
Upgrade the Cisco Prime Collaboration Provisioning Server from the Small or Medium to Large Deployment Model

1. Back up the database from the Cisco Prime Collaboration Provisioning application by following the procedures provided in Cisco Prime Collaboration Provisioning Guide.

2. Deploy a large OVA as a database server (server1) by following the procedure in the Deploy and Configure Cisco Prime Collaboration Provisioning. Ensure that the globaladmin password is the same as the password that you provided during the deployment.

3. Deploy a large OVA as an application server (server2) by following the procedure in the Deploy and Configure Cisco Prime Collaboration Provisioning. Ensure that the globaladmin password is the same as the password that you provided during the deployment.
   a. Copy the licenses from the old server to the new server2.
   b. If you use the MAC address of the existing Cisco Prime Collaboration Provisioning server, then update the MAC address using the VMware client for this VMware instance.
   c. If you use a new MAC address for server2, you must rehost then the licenses in the /opt/cupm/license directory to match the new server2 VM.

4. Stop provisioning services in the application server (server2).
   a. Go to the /opt/cupm folder.
      Execute /cupm-app-service.sh stop
   b. Ensure that Apache, JBoss, and NICE services are stopped.
      ps -aef | grep startupm
      ps -aef | grep nice
   c. Stop any running process.
      kill -9 startupm process id
      kill -9 nice process id
   d. Check whether the nice process is still holding on the postgres connection.
      ps -aef
   e. Look for the process:
      /opt/cupm/jvm/bin/java -server -classpath /opt/cupm/sep/lib/dom.jar
   f. Stop any running nice process.
      kill -9 Process-Id found earlier
   g. Wait a minute to make the resources, such as ports, to become free.

5. Restore the database in the database server (server1) using the backed-up database file taken from Step 1. For details, see the section Restoring Database in the database server section in the Cisco Prime Collaboration Provisioning Guide.

6. Stop and then start the provisioning services in the database server (server1).
   a. cd /opt/cupm folder.
./cupm-db-service.sh stop
b Wait 30 seconds before starting the database services
c Start the database services.
cd /opt/cupm
./cupm-db-service.sh start

7 Copy the following files from the original Cisco Prime Collaboration Provisioning server to the newly deployed application server (server2)
a /opt/cupm/sep/dfc.properties
b /opt/cupm/sep/dfc.keystore
c /opt/cupm/jboss/server/cupm/conf/login-config.xml

8 Change the directory to /opt/cupm/sep and edit the dfc.properties file using the vi editor
a cd /opt/cupm/sep
b vi dfc.properties
c Change the property dfc.memory.model=medium to dfc.memory.model=large
d Change the property dfc.postgres.host=localhost to dfc.postgres.host=IP of server Database
e Save changes and exit the editor

9 Start application services in the application server (server2).
a Change directory to /opt/cupm to start the application services
b cd /opt/cupm
   ./cupm-app-service.sh start
   The system is now ready to be used.

Downgrade Cisco Prime Collaboration Provisioning Deployment Model

Cisco Prime Collaboration does not support the downgrade of the deployment model; that is, you cannot downgrade from the Cisco Prime Collaboration large deployment model to small deployment model.

Configure a second NIC for Cisco Prime Collaboration Provisioning

You can add a second Network Interface Card (NIC) to the Cisco Prime Collaboration Provisioning as follows:
• Use vSphere Client (Edit virtual machine settings option) to add a second virtual network adapter to the virtual machine.

• Log in to the Cisco Prime Collaboration administrator CLI to configure the IP address for the second interface.

• Configure the IP route gateways for the two interfaces (with the same CLI access).

Log in as administrator and execute the following CLI commands:

admin# configure
admin (config)# interface GigabitEthernet 1 (Note that the first interface is GigabitEthernet 0)
admin (config-GigabitEthernet)# ip address <ip address> <net mask>
admin (config-GigabitEthernet)# exit

Configure the IP routes to the two different gateways:

admin (config)# ip route <network addr> <net mask> <route-specific gateway1>
admin (config)# ip route <network addr> <net mask> <route-specific gateway2> ……

Change the default route (0.0.0.0 0.0.0.0) to the appropriate gateway if needed.

Change the IP Address on the Provisioning Server (Single Setup)

The following procedure is applicable for Cisco Prime Collaboration Provisioning 10.0 and later releases.

1. Log in to the server as admin through SSH and enter:
   admin# conf t
   admin(config)# interface GigabitEthernet 0
   admin(config-GigabitEthernet)# ip address <ip address> <subnet mask>

2. Enter y when the following message is displayed: Changing the IP may result in undesired side effects on any installed applications. Are you sure you want to proceed? [y/n] y

3. Log in as admin with the new IP address and enter:
   admin(config)# ip default-gateway <a.b.c.d>
   admin(config)# ip domain-name <new_domain>
   admin(config)# ip name-server <a.b.c.d>
   admin(config)# hostname <new_name>
   admin(config)# exit
   admin# write memory

4. Log in as root with the new IP address.

5. Update the Nice system record in postgres:
   • Log in to postgres.
   • Goto cd /opt/postgres/pghome/bin
   • Enter ./psql -Upmadmin -d cupm
When prompted, enter the global admin password

Enter Select * from nicesyseng;

In the console output, check if any entries contain your old IP address (in the host column). If there are any entries, delete them by executing the following query: 
```
delete from nicesyseng where host='<old_ip_address>';```

Exit the postgres by entering 'q

6 Reboot the server.

---

### Change the IP Address on the Provisioning Server (for a Distributed Setup)

The following procedure is applicable for Cisco Prime Collaboration Provisioning 10.0 and 10.5.

1. Stop the application services.
   Execute `./cupm-full-service.sh stop`

2. Log in to the database server as admin through SSH and enter:
   ```
   admin# conft
   admin(config)# interface GigabitEthernet 0
   admin(config-GigabitEthernet)# ip address <ipaddress> <subnet mask>
   ```

3. Enter y when the following message is displayed: Changing the IP may result in undesired side effects on any installed applications. Are you sure you want to proceed? [y/n] y

4. Log in to the database server as admin with the new IP address and enter:
   ```
   admin(config)# ip default-gateway <a.b.c.d>
   admin(config)# ip domain-name <new_domain>
   admin(config)# ip name-server <a.b.c.d>
   admin(config)# hostname <new_name>
   admin(config)# exit
   ```
   admin# write memory

5. Log in to the database server as root with the new IP address.

6. Update the Nice system record in postgres:
   ```
   Log in to postgres.
   Enter cd /opt/postgres/pghome/bin
   Enter ./psql -Upmaadmin -d cupm
   When prompted, enter the global admin password
   Enter Select * from nicesyseng;
   Check if any entries contain your old IP address (in the host column). If there are any entries, delete them by executing the following query: delete from nicesyseng where host='<old_ip_address>'; 
   Exit the postgres by typing 'q`
7 In the `/opt/postgres/pghome/data/pg_hba.conf` file, replace the line: `host all all <ip>/32 trust` with `host all all <changed app-server ip>/32 trust`.

8 Log in to the application server as administrator through SSH and enter:
   `admin# conf t`
   `admin(config)# interface GigabitEthernet 0`
   `admin(config-GigabitEthernet)# ip address <ipaddress> <subnet mask>`

9 Enter `y` when the following message is displayed: `Changing the IP may result in undesired side effects on any installed applications. Are you sure you want to proceed? [y/n] y`

10 Log in to the application server as administrator with the new IP address and enter:
   `admin(config)# ip default-gateway <a.b.c.d>`
   `admin(config)# ip domain-name <new_domain>`
   `admin(config)# ip name-server <a.b.c.d>`
   `admin(config)# hostname <new_name>`
   `admin(config)# exit`
   `admin# write memory`

11 Log in to the application server as root with the new IP address.

12 Update the following line in the `/opt/cupm/sep/dfc.properties` file:
   `dfc.postgres.host=<database-server-new-ip-address>`

13 Update the following line in the `/opt/cupm/jboss/server/cupm/deploy/dfc-ds.xml` file:
   `<connection-url>jdbc:postgresql://<database-server-new-ip-address>:5432/cupm</connection-url>`

14 Reboot the database server first and then reboot the application server.

---

**Generate CSR**

**Step 1**  
Log in to CLI as root.

**Step 2**  
Go to `cd /opt/cupm/httpd/bin`

**Step 3**  
To generate the CSR, enter:
`./openssl req -new -key <keyName>.key -out <csrName>.csr`

**Step 4**  
Enter the appropriate details when prompted, such as:
- Country Name: `<Country>`
- State/Prov: `<State>`
- Locality: `<Locality>`
- Organization name: `<Org>`
- Organizational unit name: `<unit>`
- Common name: `<hostname>.<companyname>.com`

**Step 5**  
The generated CSR is available in the location `/opt/cupm/httpd`. 