



Infrastructure Configuration

- [Infrastructure Provisioning, page 1](#)
- [Infrastructure Provisioning States, page 1](#)
- [Add Device , page 2](#)
- [Infrastructure and User Synchronization, page 3](#)
- [Configuring LDAP Server Synchronization, page 5](#)
- [Deleting Devices Provisioning, page 8](#)
- [Enabling Cisco Jabber Services, page 9](#)

Infrastructure Provisioning

The Infrastructure Configuration page lets you browse the infrastructure configuration settings of a Call Processor and Unified Message Processor. Through this page, you can add, edit, or delete the configuration settings.



Note

The Infrastructure Configuration feature applies to Call Processors that are based on Cisco Unified Communications Manager devices and Unified Message Processors that are based on only Cisco Unity Connection.

Infrastructure Provisioning States

An infrastructure configuration request goes through when you perform infrastructure configuration activities.

Following are the infrastructure configuration process states:

- **Uncommitted Add**—Configuration created locally but does not exist on the device.
- **Add in Progress**—A pending configuration is in progress and being configured through an order. No changes are allowed in this state.
- **Add Failed**—An operation on this object failed.

- **Add Scheduled**—A pending configured object is scheduled in one of the tasks waiting to be executed. No changes are allowed in this state.
- **Uncommitted Update**—An object that exists on the device has been modified locally but has not been submitted to the device.
- **Update in progress**—Modify operation is in progress as part of an order. No changes are allowed in this state.
- **Updated Failed**—Modify operation failed.
- **Update Scheduled**—A pending configuration to change an object on the device is scheduled as part of a task. No changes are allowed in this state.
- **Uncommitted Delete**—An object that exists on the device has been marked for deletion. The request to delete the object has not been made to the device.
- **Delete in progress**—Delete operation is in progress as part of an order. No changes are allowed in this state.
- **Delete Failed**—Delete operation failed.
- **Delete Scheduled**—A pending configuration to delete an object from the device is scheduled as part of a task. No changes are allowed in this state.

Add Device

You must add devices to Prime Collaboration Provisioning to provision services for users.

Note the following points while you are adding a device to Prime Collaboration Provisioning:

- Before you add devices to Prime Collaboration Provisioning, you must ensure that Cisco Unified Communications Manager and Cisco Unity Connection devices are configured correctly.
- There are some significant differences in how a Generic IOS Router is set up in Prime Collaboration Provisioning in comparison to a Cisco Unified Communications Manager or a Cisco Unity device. Most notably, Generic IOS Routers are not synchronized and they are not associated to a Domain or a Service Area.

To add devices to Prime Collaboration Provisioning:

Procedure

-
- Step 1** Choose **Device Setup** .
- Step 2** In the Device Setup page, click **Add** to add devices to Prime Collaboration Provisioning.
- Step 3** In the **Add Device** window, select the required application from the drop-down list and enter the necessary information such as Name, IP address, and so on.
- Note** For the device name, valid values are space, alphanumeric characters (A-Z, a-z, 0-9), underscore (_), hyphen (-), period (.), and at sign (@).
- Step 4** Click **Save**.
Devices are added to Prime Collaboration Provisioning. You will see two status messages appearing at the bottom of the page. One on whether the addition of the device was successful or not, and another on the Test Connection stating whether the connectivity test was successful or not.

Note While adding Cisco Unity Connection 10.0 and above versions, you must configure both Unity Connection administrator and Operating System (OS) administrator credentials.

To view the details of the device, hover over **Quick View**. You can start synchronization, view synchronization logs, test the connectivity of the device, and cross launch Cisco Unified CM Serviceability and Cisco Unity Connection Serviceability from Quick View.

To update or change the device details, click **Edit**.

To import devices from Prime Collaboration Assurance, click **Import**. The Device Setup page lists the devices in Prime Collaboration Assurance (devices that are in managed state only appear in the list). Select the device you want to import and click **Import Selected Devices**.

You can add Prime License Manager and Deployment Manager from the Infrastructure Setup page. After you add these devices, Prime License Manager and Deployment Manager links are displayed under the Administration menu. Click on the Prime License Manager or Deployment Manager link to cross launch the Prime License Manager or Deployment Manager login page.



Note

You can add only one Prime License Manager and Deployment Manager device to Prime Collaboration Provisioning. If you try to add another Prime License Manager or Deployment Manager device, an error message will be displayed.

Working with Cisco Unity Connection Device

For Cisco Unity Connection clustering and failover support, be aware of the following:

- When adding a Cisco Unity Connection that includes a Cisco Unity Connection cluster server pair, add only the publisher server of the pair.
- If the primary Cisco Unity Connection fails over to a secondary Cisco Unity Connection, you can change the IP address to the secondary device, and Prime Collaboration Provisioning will communicate with the secondary device before failback occurs.

If a network has more than one location, individually add all of the locations for either the Cisco Unity Connection server or Cisco Unity Connection cluster to Prime Collaboration Provisioning.

If Cisco Unity is used in the configuration, configure the Cisco Unified Communications Manager voicemail ports.

Infrastructure and User Synchronization

There are three types of synchronizations in Prime Collaboration Provisioning:

- Infrastructure Synchronization—Discovers all the objects in the device that Prime Collaboration Provisioning uses and that are not specific to individual users. The infrastructure data are the configurations that are required to exist on the device before Prime Collaboration Provisioning can configure user services.
- User Synchronization—Discovers all objects related to individual users.
- Domain Synchronization—Puts existing users discovered during user synchronization into the Domain.

Use the infrastructure synchronization to synchronize the infrastructure data in the devices. The infrastructure synchronization retrieves device information that is used across multiple users.

To synchronize infrastructure configuration products and users:

Procedure

Step 1 Choose **Device Setup**.

Step 2 Hover over Quick View of the device for which you want to run synchronization.

Step 3 Do one of the following:

- To initiate Infrastructure Synchronization, click **Start Infrastructure Synchronization**
- To initiate User Synchronization, click **Start User Synchronization**

The progress of synchronization is displayed in the Quick View under Synchronization Status.

Step 4 Click **View Detailed Logs**.

A synchronization log is created, listing the objects that could not be assigned. It also shows a warning message if an unknown element is received from the device. This log is replaced each time a synchronization occurs.

Note If you see the warning message “Skipped unexpected element,” you can ignore it. The message indicates that Provisioning does not support the item that was sent back from the device.

If the status of an infrastructure or user synchronization does not change for an extended period of time, verify that the Nice service is running in PCP via CLI (logged in as Root user). Run the following command to check if the Nice service is running:

```
ps -aef | grep nice
```

If the Nice service is stopped, restart the service, and then restart the infrastructure or user synchronization.

If you wish to manage the Analog Phones, you have to update the ipt.properties file. In this file, update the dfc.ipt.cisco.callmanager.analog_phone_support to Y and then do the user synchronization. You must restart Provisioning after the user synchronization is completed.

You use the infrastructure synchronization to synchronize the unified messaging infrastructure data in Provisioning with the Unified Message Processor:

- **SubscriberTemplate**—A Subscriber Template in Cisco Unity, Cisco Unity Connection, and the e-mail message processor.
- **UnifiedMessagingFeatureSpecification**—A class of service in Cisco Unity, Cisco Unity Connection, and the e-mail message processor.

You use the user synchronization to synchronize the unified messaging user data in Provisioning with the Unified Message Processor.

- **UMInfo**—A user in Cisco Unity, Cisco Unity Connection, and Cisco Unity Express in conjunction with their user’s voicemail and e-mail information.
- **VoiceMailInfo**—A user in Cisco Unity, Cisco Unity Connection, and Cisco Unity Express in conjunction with UMInfo and EmailInfo.

- **EmailInfo**—A user in Cisco Unity and Cisco Unity Connection in conjunction with VoiceMailInfo and UInfo.



Note IM and Presence 9.0 and higher versions are integrated with Cisco Unified Communications Manager. Due to this, user synchronization will be disabled for IM and Presence 9.0 and higher versions. User information will be directly synchronized from Cisco Unified Communications Manager.

For IM and Presence, use the Infrastructure synchronization to synchronize the User Settings Infrastructure data with Provisioning.



Note After upgrading your Cisco Unified Communications Manager, you must perform User Synchronization manually to synchronize change notification settings.

Configuring LDAP Server Synchronization

Perform the following steps to configure LDAP Server Synchronization from Prime Collaboration Provisioning:

Procedure

- Step 1** Choose **Provisioning Setup**.
- Step 2** In the Domains pane, select a Domain and click **Edit**.
- Step 3** In the **Domain Configuration** page, select the Directory Source you have configured on the **Device Setup** page.
- Step 4** In the settings pane, you configure the information Prime Collaboration Provisioning gets from the servers. These settings are used to synchronize and authenticate the users from the Directory/ACS server to Prime Collaboration.
- Step 5** For all the changes on the LDAP server to be synchronized to Prime Collaboration Provisioning, select the following:
 - **Mode**—Authentication and Synchronization
 - **Update existing user details**—All fields
 - **Action when LDAP users deleted**—Delete user only
 - **User Search base**—Enter a user search base:
 - Unlike Cisco Unified CM, Prime Collaboration Provisioning supports only one user search base for a domain. However, you can create multiple domains for multiple user search.
 - When adding an LDAP user in Cisco Unified CM through Provisioning UI, the user search base in Provisioning domain and CUCM must be the same.
 - **Filter query for synchronization**—Synchronize all users. To do this, click the **Edit** icon under Domain LDAP Filters sub-pane and choose the necessary detail. Click **Save**

Step 6 Click **Save**.

Scheduling and Performing LDAP Synchronization To schedule synchronization, set the **Synchronization Interval** and **Synchronization Start Date** in the LDAP Settings pane.

After saving the Domain Configuration page, select the Domain and hover over Quick view. Select **Start LDAP Synchronization**.

After an LDAP synchronization, a report is created. The report lists the operations that could not be performed during synchronization. Operation failure can be due to incorrect data entered into the LDAP server or incorrect user settings.

You cannot delete an LDAP server which is associated to a Domain. Remove the LDAP server from the Domain to delete it.

The following table provides details about the LDAP Configuration fields.

Table 1: LDAP Settings Fields

Field	Description
Mode	<ul style="list-style-type: none"> • Authentication Only—The LDAP server is used only for user authentication. • Authentication and Synchronization—The LDAP server is used both to provide user authentication and to obtain user information.
Update Existing User Details	<ul style="list-style-type: none"> • All fields—If any user information is changed in the LDAP server, the same information is updated in Provisioning. • Do not update—User information in Provisioning is not updated when there are changes to the user information in the LDAP server.
Action for stale LDAP users	<p>Note A stale LDAP user is a user account that no longer matches the user search base and/or the Domain LDAP filters.</p> <ul style="list-style-type: none"> • Do not make changes in Provisioning—The corresponding user in Prime Collaboration Provisioning is not deleted. • Delete user, but keep services in Provisioning and CUCM—The corresponding user is deleted in Prime Collaboration Provisioning and Cisco Unified Communications Manager. • Delete user and all services from Provisioning and CUCM—The corresponding users and their services are deleted in the device and in Prime Collaboration Provisioning. The user will be deleted in Prime Collaboration Provisioning and Cisco Unified Communications Manager, if the user is not an LDAP user in Cisco Unified Communications Manager. The user will not be deleted in Cisco Unified Communications Manager, if the user is an LDAP user in Cisco Unified Communications Manager.

Field	Description
User Search Base	<p>The user search base of a domain. Provisioning searches for users under the base under Active Directory. For example, CN=Users, DC=Cisco, DC=com.</p> <p>This search base is used only for LDAP synchronization.</p> <p>If using Microsoft Active Directory server, you can use the command <code>dsquery user</code> to list the complete user search base.</p> <p>Note Prime Collaboration Provisioning supports only one user search base per domain.</p>
Field Mapping	<p>Lists which user fields in Cisco Unified Communications Manager correspond to certain LDAP user fields. The only fields you can configure in Prime Collaboration Provisioning are the following:</p> <ul style="list-style-type: none"> • Contact phone number—Select either telephone number or ipPhone. • Contact email—Select either mail or sAMAccountName. • User ID—User ID can be mapped to the following fields in LDAP server: <ul style="list-style-type: none"> ◦ employeeNumber ◦ mail ◦ sAMAccountName ◦ telephoneNumber ◦ userPrincipalName • Directory URI—Select mail, msRTCSIP-primaryuseraddress, or none.
Filter Query for Synchronization	<ul style="list-style-type: none"> • Synchronize all users—All users are synchronized. • Simple query—You can configure a query by using a combination of the following fields: <ul style="list-style-type: none"> ◦ User ID ◦ Department ◦ Contact phone number ◦ Contact email ◦ You can use an asterisk (*) for a partial string search. <p>Advanced query—You can enter any LDAP query; for example: <code>(&(sAMAccountName=johndoe)(department=Cisco*)(mail=john@cisco.com)).</code></p>

**Note**

Using "IN" filter in Automatic Service Provisioning, you can configure multiple queries. For example:

- To fetch multiple Directory Numbers, separate the search string using semi-colon. For example: 4930;5930.
- To fetch multiple combinations of Directory Numbers, separate the search string using an asterisk and semi-colon. For example: 40105*;40116*;40127*;
- For contact phone numbers, you can use:
 - '+' symbol in search criteria such as +44*
 - '/+' symbol in search criteria such as /+44*
- For contact phone numbers, using "IN" filter with multiple values in search criteria with comma as delimiter, you can use '/' symbol such as /+44*, /+55*, /+33*.
- Similarly, using "IN" filter you can synchronize multiple users from LDAP server with comma as delimiter. For example: User1, User2, User3.
- Wildcard character (*) is allowed in the filter, it can be used either in beginning or in the end of the field.

Likewise, you can use '=' and '!=' operators to configure queries. For example, if you provide a single userID:

- The '=' operator synchronizes only that user from LDAP server.
- The '!=' operator does not synchronize that user alone from LDAP server. All other users are synchronized.

Using * with userID such as User123* fetches all the users whose id starts with User123.

Deleting Devices Provisioning

To completely remove a device from Prime Collaboration Provisioning, you must delete it through the Infrastructure Setup page. Note the following points when you are deleting a device:

- No active released orders, including unrecoverable or recoverable errors.
- No active batch projects.
- No synchronizations in progress.

If these conditions are not met, a message appears on the page when you attempt to delete a device. Avoid performing any activities until the deletion is complete.

- Before deleting a AAA server, ensure that it is not assigned to a Domain.
- There must not be any pending orders on the device.
- Before deleting a device, ensure that you perform a domain synchronization to avoid any stale entries into the system.

To delete devices:

Procedure

- Step 1** Put Prime Collaboration Provisioning in maintenance mode.
 - Step 2** Choose **Device Setup**.
 - Step 3** In the **Device Setup** page, select the device you want to delete and click **Delete**.
 - Step 4** In the **Confirmation** dialog box, click **OK** to confirm deletion.
-

Enabling Cisco Jabber Services

You can enable Cisco Jabber services for devices in Prime Collaboration Provisioning. Cisco Jabber services allow you to interact with instant messaging and presence.



Note Cisco Jabber service is available for Cisco Unified Communications Manager 9.1.1 and above version, and Cisco Unified Presence only.

To enable Cisco Jabber service for a call processor:

Procedure

- Step 1** Choose **Device Setup**.
 - Step 2** Hover over Quick View of the device and click the UC Services tab and click **Enable**
 - Step 3** Enter the SIP Profile, Service Profile, Softkey template fields and Service Parameter information, and click **Apply**. You can click **View Order** to see the order details in the User Record page. The date when the Jabber Service is enabled is displayed.
- Note** Once you enable Cisco Jabber service for a call processor, you cannot edit or disable it.
-

