Managing Domains, Service Areas, User Roles, and Service Templates

This section comprises of the following:

Overview of Domains, Service Areas, User Roles and Service Templates

After adding devices, you must first create domains, and then add Service Areas, User Roles and Service Templates.

To set up user provisioning:

1. Add and configure Domains—Includes adding and configuring domains, which defines the operational capabilities for a group of users.

2. Add and configure Service Areas—Includes configuring Service Areas, that is, selecting route partitions, and device pool; specifying user types that have access to the Service Area; and configuring directory number blocks.

3. Add and configure User Roles—Includes adding User Roles and assigning services that can be provisioned by a specific user role type.

4. Add and configure Service Templates—Includes configuring Provisioning Attributes which are configuration settings applied to a service at the time of activating the service.

In Cisco Prime Collaboration Provisioning 10.0 and above versions, the User Provisioning Setup page (choose Provisioning Setup) is simplified to set up all your user provisioning tasks. A centralized view allows you to manage Domains, Service Areas, User Roles and Service Templates in a single user interface.

Figure 1: Domains, Service Areas, and User Roles
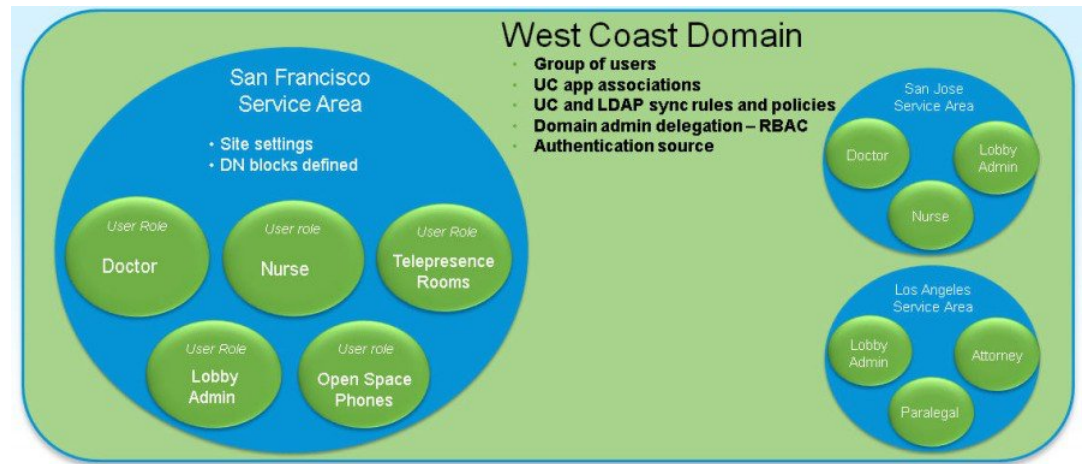
Deployments can be based on the geographical location. In the above example, the voice deployment is planned for cities in the West Coast region. West Coast is the Domain. The domain sync rules, policies and administrator permissions are defined in the West Coast domain. San Jose, Los Angeles, and San Francisco are the Service Areas. Doctor, Nurse and Lobby assistant user roles within these cities must be provisioned with IP Telephony and Messaging Services. These IP telephony and messaging services are defined within the service templates. The Doctor and Nurse user roles are assigned with service templates that allow them to make international calls, whereas the service templates defined for Lobby user role allow local calls only.

In the User Interface (Provisioning Setup), you can see the Domains, Service Areas, User Roles, and Service Templates listed in the left pane. The corresponding tables are listed in the right pane. The Domains table is displayed by default when you enter the Provisioning Setup page. Click **All Domains** to see a list of all the domains. Click the arrow icon to expand. When you expand a Domain, you can see the Services Areas, User Roles and Service Templates of that Domain. Further, when you expand Service Areas and User Roles, you can see multiple service areas, and list of User roles associated to that Domain.

Adding a Domain

Domains are groupings of users. For each grouping, one or more system users can be authorized to manage services for users within that Domain. In addition, rules or policies may be set on a Domain; those rules and policies apply to services for users in that Domain. Common policies can also be applied on operations within a Domain.

A user can manage more than one Domain (if the user is assigned the proper authorization role). All of the user's services are provisioned in the Service Area that you specify while adding the user (to add a user, choose User Provisioning).

After creating a Domain, you can add Service Areas and User roles that have access to your new Domain. You can also create service templates and assign them to a Service Area and User Role. A Service Template can be associated to several such combinations of Service Areas and User Roles.

To create a domain:

Step 1   Choose **Provisioning Setup**.

Step 2   Click **Add**, to add new domains in the **Domains** page.

Step 3 Enter the necessary fields such as Call Processors, Message Processors, synchronization rules, LDAP settings and so on, and click Save. You need to provide a Domain Name for the Name field. Valid values are space, alphanumeric characters (A-Z, a-z, 0-9), and the following special characters: _ - . / : ; = ? @ ^ ' { } [ ] | ~.

You can set the Domain Synchronization rules in the Synchronization Rules pane. Select the Synchronization Rules for Cisco Unified Communications Manager and Unity Connection. Mouse over the (?) icon for details on the specific synchronization rule.

• Perform Domain synchronization after configuring a Domain.

To edit an existing domain, expand the list of Domains in the left pane, and click a particular Domain to edit. You can also click **All Domains** and then select a domain from the table and click **Edit**.

Related Topics

Adding Service Areas, on page 4
Adding User Roles, on page 9
Business Rules for Domain Synchronization
Configuring Business Rules
Overview of Domain Synchronization
Synchronizing an LDAP Server with Provisioning

Deleting a Domain

When a Domain is deleted, Service Areas, users roles, Service Templates, rules, directory number blocks, and user roles are removed. Endpoint, Directory Number, license capabilities, and instances of Unified Presence user settings are moved to Global Resources namespace.

While the Domain deletion is in progress, avoid performing any activities in that Domain until the Domain deletion is complete.

Before you delete a Domain, the system must be in maintenance mode. Also, the following prerequisites must be satisfied for deleting a domain:

• No active released orders, including unrecoverable or recoverable errors.

• No active batch projects.

• No Domain synchronization in progress.

• No Call Processor or Unified Message Processor synchronization in progress.

Step 1 Put Cisco Prime Collaboration Provisioning in maintenance mode (see Maintenance Mode).

Step 2 Choose **Provisioning Setup**.

Step 3 Select the Domain you want to delete, and click **Delete.**

Step 4 Click **OK**.

Refresh the Domain list page to see the status.

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 and provides a template mechanism that determines provisioning attribute values used during order processing.

The Service Area determines the mappings from the business view of the service to the technology delivering those services.

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.

For example, on a Service Area associated to a Cisco Unified Communications Manager, the Service Area defines the device pool, route partition, location, and external phone number mask that the products will use within Cisco Unified Communications Manager.

In this case, when you configure a Service Area, you have a list of route partitions that can be assigned to it based on the selected Call Processor for the Service Area. If the Service Area does not have any associated route partition, then the directory numbers and lines are created in the default route partition in Cisco Unified Communications Manager. Service areas also determine the key voicemail settings and call forwarding behaviors.

Ensure Synchronization is completed for the Cisco Unified CM while creating the Service Area. You can map the call processor objects (such as Route Partition, Device Pool, and Location) to the Service Area only after the synchronization.

For Cisco Unity Connection Unified Message Processors, if you assign a Unified Message Processor to a Service Area, the Subscriber Template (with or without the TTS feature) and Subscriber CoS (with or without the TTS feature) can be configured. These templates can be used for voicemail provisioning of users in the Service Area.

> **Note** For Service Areas with Call Processors based on Cisco Unified Communications Manager Express, only device pools are available for selection. Route partitions are not available.

Adding Service Areas

When configuring a Service Area, you can do the following:

- Map the Service Area to the corresponding Call Processor objects by specifying its Call Processors and related objects (for a Cisco Unified Communications Manager, some examples are route partition, and device pool), Unified Message Processor, and Unified Presence Processor.

    If you have added a Call Processor in the domain through the Getting Started wizard, the fields like Calling Search Spaces (CSS), Region, Location, and device pool are automatically configured.

- Specify the user types for the Service Area (only users within a Service Area can order products from it).

    The Employee user role is the default based on the Domain rule DefaultUserType.

- Create directory number blocks for the Service Area users.

- Unified Presence Processor settings will list the Presence processor if the selected Call Processor has associated Presence processors.

Note   After a Service Area is assigned to a Domain, it cannot be moved to a different Domain. Further, after a Call Processor, Unified Message Processor, or Unified Presence Processor is assigned to a Service Area, it cannot be changed.

To add a Service Area:

Step 1   Choose **Provisioning Setup**.

Step 2   In the **All Domains** pane, expand a specific domain, and click **Service Areas**.

Step 3   Select the Domain for which you want to create a Service Area.

Step 4   Click **Add**.

Step 5   In the **Service Area Configuration** page, enter the necessary fields and click **Save**. The table below describes the necessary fields.

To edit an existing Service Area, expand the list of Service Areas in the left pane, and click a particular Service Area to edit. You can also select a Service Area from the table and click **Edit**.

You can select a Service Area from the table and click **Copy** to take a copy of existing service area information.

Table 1: Service Area Configuration Fields

Field	Description
Common Device Config	Configuration of common device settings for the Service Area. The following settings are controlled by Common Device Configuration: • Softkey Template • User Hold MOH Audio Source • Network Hold MOH Audio Source • User Locale • MLPP Indication • MLPP Preemption • MLPP Domain **Note** This field appears only if you select Cisco Unified Communications Manager 6.0.

Field	Description
Location	Location to be assigned to a device. When adding a service area, this field is optional provided you have added one of the call processors associated with the domain through the Getting Started wizard.
Partition	Route partition for the Service Area. This is the same as a partition in Cisco Unified Communications Manager.
Device Pool	Device pool for the Service Area.
Voice Gateway References	Voice gateway references for the Service Area.
Exchange Server	To configure an external Exchange Server for IMAP in Cisco Unity Connection, on the Cisco Unity Connection system, go to **System Settings > External Services > Add New**, and fill in the required fields.
Subscriber Template	Subscriber Template to be used to enable unified messaging for a user in the Unified Message Processor.
Directory Number Blocks	Directory number block assigned for that Service Area.

- Common Device Config, Location, and Partition fields apply only to Cisco Unified Communications Manager.

- Subscriber CoS with TTS Enabled, and Subscriber CoS without TTS Enabled fields apply only to Unity and Unity Connection.

Related Topics

Deleting a Service Area

Before a Service Area can be deleted, the following conditions must be met:

- The system must be in maintenance mode.

- No active released orders, including unrecoverable or recoverable errors.

- No active batch projects.

- No Domain synchronizations in progress.

- No Processor synchronizations in progress.

If these conditions are not met, a message appears on the page when you attempt to delete a Service Area, telling you the operation will not start.

While the Service Area deletion is in progress, avoid performing any activities until the deletion of that Service Area is complete.

Step 1   Put Cisco Prime Collaboration Provisioning in maintenance mode (see Maintenance Mode).

Step 2   Choose **Provisioning Setup**

Step 3   Expand Domain, and click **Service Areas**.

Step 4   Select the required Service Area, and click **Delete**.

Step 5   In the confirmation dialog box, click OK to delete the service area.

Directory Number Blocks

Numbers within a directory number block are relative to the Cisco Unified Communications Manager on which they are being created. Cisco Prime Collaboration Provisioning handles directory numbers the same way as they are handled by Cisco Unified Communications Manager.

While creating an order for a service, if you are selecting a Service Area that does not have a directory number block, you can use only the chosen line number.

You can set up individual directory numbers using the Directory Number Inventory component. For more information, see Managing Directory Number.

The table below describes the fields for creating a block of directory numbers.

Table 2: Directory Number Blocks Field Descriptions

Field	Description
Prefix	Directory number prefix.
First Number	Starting number for the block of directory numbers.
Last Number	Last directory number in the block.
Minimum Length	The minimum number of digits that a directory number can contain before the prefix is added. Used by the system to pad numbers with zeros.
Block Size	This field is populated after you save the Service Area page.

E.164 Support

If you are using Cisco Unified Communications Manager version 7.x or later, you can configure the international escape character, +, in Provisioning to allow your phone users to place calls without having to remember and enter the international direct dialing prefix/international escape code that is associated with the called party. Depending on the phone model, for example, dual-mode phones, your phone users can dial + on the keypad of the phone. In other cases, the phone user can return calls by accessing the call log directory entries that contain +.

The international escape character, +, signifies the international access code in a complete E.164 number format. For example, NANP numbers have an E.164 global format in the format +1 214 555 1234. The + is

a leading character that gets replaced by service providers in different countries with the international access code to achieve global dial plans.

You can enter + or \+ to indicate the international escape character.

Remember the following while using E.164 format directory numbers:

- For directory numbers, you can configure the international escape character at the beginning of the number (prefix) only (for example, \+5678, +0034).

- To configure the international escape character for supported patterns, you can enter \+ or + in the pattern or directory number field.

- You can assign the E.164 format directory numbers to the ordered lines by using the Chosen Line option.

- E.164 support is not available for Cisco Unified Communications Manager Express.

- Unity Connection 9.0 and above versions support E.164 format Directory Number, so the original directory number (along with the + symbol) will be displayed in the extension number field.

- While ordering bundled products like Enhanced Phone Service, Unified Messaging Service, Messaging Service, and so on, if you select Auto-assigned Line type option, the Alternate Extension field will not be auto populated for voicemail product while creating the order. Alternate extension will be added at the back end at the available position and will be displayed when the order is completed.

  If you select Choose Line type option, Alternate extension will be auto populated at the available index (for example, 1, 2, 3, and so on) in the Voicemail Advanced Order Configuration page.

- Meet-Me patterns, Call Park patterns (and related call park features; for example, Directed Call Park), and Call Pickup patterns do not support the international escape character (+). Therefore, you cannot enter \+ in the pattern fields that are configured for these features in the Infrastructure Configuration page.

Provisioning supports "+" character in the Directory Number fields for the following:

- Directory Number (DN) Block (under Service Area)

- EM Access Line and RDP Line products

- Provisioning Attributes

  - Speed Dial

  - Busy Lamp field

  - Call Forward

- Infrastructure products

  - Distribution List

  - Basic Call Queuing

Adding a Directory Number Block

To add a new directory number block:

Step 1   Choose **Provisioning Setup**.

Step 2   Expand Domain and Service Area in the left selector pane, and select the required Service Area.

Step 3   In the Directory Number Block(s) field, click the **Add Row**.

Step 4   Complete the fields as required and click **Save**.

> **Note**   The Minimum Length field indicates the minimum number of digits that a directory number can contain before the prefix is added. This is used by the system to pad numbers with zeros. For example, if prefix = 408, first number = 0, last number = 100, and minimum length = 4, then the range of the directory number block will be 4080000 through 4080100.

To Edit, select the Directory Number Block, and click **Edit**. Make the necessary changes and click **Save**. To discard the changes, click **Cancel**.

To delete a Directory Number Block, click **Delete**.

Adding User Roles

Cisco Prime Collaboration Provisioning is a user-centric provisioning product and requires human users and open space locations to be defined with a userID. This method provides a convenient way to identify users, and devices in shared spaces. User roles can be used for several purposes. 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—Default role that is assigned to new users.

> **Note**   The default role is configured in the Domain Rules.

Configure the Employee user role to match the typical setup of employees in your organization. If you do not configure the employee user role to meet your needs, you may not see all the desired options during the service ordering process.

- Executive—An additional role with more service settings.

- Room—The role labeled Room is provided as a general role for shared spaces, lobby phones and other open area endpoint devices.

Note
- From Prime Collaboration 11.0 and later versions, pseudo role is represented as a Room role. While upgrading Prime Collaboration from 10.x to 11.0, the pseudo role is retained.
- Changing the role of the user from User to Open Space or Open Space to User is allowed.
- Changing the role of the user from pseudo to non-pseudo or non-pseudo to pseudo is not allowed.

The following table shows the user account creation status on Cisco Unified CM based on the role.

Role	Pseudo	Non-Pseudo
User	User account is not created on Cisco Unified CM	User account is created on Cisco Unified CM
Open Space	User account is not created on Cisco Unified CM	User account is created on Cisco Unified CM

When a user is added, the administrator specifies the role of the user. When an Open Space role is added, the administrator specifies the room role.

A pseudo user can have one or more endpoints that are associated with it. For example, conference rooms can be pseudo users with one or more endpoints, whereas a building can be a pseudo user with hundreds of endpoints that are associated with it.

These user roles exist in each Domain in Cisco Prime Collaboration Provisioning. Each set of user roles maybe customized in each Domain by adding, removing, or changing these predefined user roles.

To add a user role:

Step 1 Choose **Provisioning Setup**.

Step 2 In the **All Domains** pane, expand a specific domain and click **User Roles**.

Step 3 In the User Roles for a specific domain page, click **Add**.

Step 4 In the **User Role Configuration** page, enter the required details for user role name, type, domain, lines, services, service bundles, and check the check box below the **Room Role** to designate the user as a Pseudo user, and click **Save.**

Note For the user role name, valid values are alphanumeric (a-z, A-Z, 0-9), period (.), hyphen (-), at sign (@), and underscore (_), but it cannot include quotes ("), angle brackets (< >), backslash (\), ampersand (&), and percent (%) .

Step 5 (Optional) Enable Automatic Service Provisioning, to provision services along with the user role creation.

When you are adding users, you can choose to Auto-Provision Parameters based on the user role. Auto-Provisioning automatically provisions services you chose for the user role that is assigned to the user.

If Automatic Service Provisioning is not enabled, the user role is created without any provisioned services. You can manually provision services for the user (choose **User Provisioning**).

Step 6 (Optional) The Service Template Assignment table lists the templates available for auto-provisioning and quick service provisioning. The default templates that are used for auto-provisioning are marked as yes in the **Default** column. To edit a template, you can either select the suitable row and edit the fields or click the suitable radio button and then the Edit

icon. You can choose a different Service, Service Area, Endpoint Model, and Template from the respective columns and save them.

(For Cisco Prime Collaboration Release 11.1 and later) You must select Endpoint from the service drop-down list to enable the Endpoint Model column for quick service provisioning. Based on the Endpoint Model you choose, the Template drop-down list displays the templates.

(For Cisco Prime Collaboration Release 11.2 and later) You must select Extension Mobility Access from the service drop-down list to enable the Endpoint Model column, which gets populated with the endpoints supported for EM Access. You are recommended to associate Service Area with the Service Template. While ordering EM Access, Service Template drop-down is populated with the templates based on the endpoints selected on the User Role page and Universal Phone. On selection of an endpoint model, Service Template drop-down is populated with Universal Phone templates and the templates that are created for the selected phone model.

The following types of service templates can be created for endpoint models:

- A template that is specific to the endpoint model.

- A template that is applicable to series of the endpoint model.

- A universal template that is applicable to all the endpoint models.

For example:

- If you choose Cisco 7861, Template column displays all the three templates.

- If you choose Common 78xx, Template column displays only the series and universal endpoint templates.

- If you choose a Universal Endpoint, Template column displays only the universal endpoint templates.

- While provisioning Cisco 7861, if the model-specific default template is not available, and 78xx and universal templates are selected as default, the 78xx template is applied.

- If both Cisco 7861 model specific and 78xx templates are not available, and universal template is selected as default, the universal template is applied.

- If the universal template is also not available, the default template is applied.

Note You can assign only one service template per endpoint model. Choose a different combination of service area and endpoint model to assign a new service template for both auto-provisioning and quick service provisioning.

Step 7 Click **Save** to continue.

- To change a user role configuration, select a user role, click **Edit** in the User Role for a specific domain, and save the modifications.

- To delete a user role, select a user role, click **Delete** in the User Role for a specific domain, and click **OK**.

- The user role quick view displays the domain, number of endpoints, services, and service bundles selected for that user role.

  It also displays whether auto-provisioning is enabled or disabled. If enabled, the user role quick view lists the endpoints, services, and service bundles that are selected for auto-provisioning. The service template quick view also displays whether auto-provisioning is used for a particular service area and user role combination.

Troubleshooting

Issue: You cannot create new Users or Open Space if you add a user with open space role or adding an open space with user roles. Similarly, you cannot create new Users or Open Space if you add a user with both pseudo and non-pseudo roles or add an open space with pseudo and non-pseudo roles. **Recommended Action:** Use appropriate roles for **SubscriberType** column in the batch file.

Issue: You cannot create an Open Space without any role specified in batch. **Recommended Action:**Select an available Open-space role. If no Open-space roles are available, create an Open-space role, then select the role to create a Room.

Related Topics

Associating User Roles with Services

A user whose role is associated with specific endpoints can order them. You can create orders for endpoints and services, individual services, or you can order bundled services. See Table 1.

Step 1 Choose **Provisioning Setup**.

Step 2 In the **All Domains** pane, expand a specific domain, click **User Roles**.

Step 3 In the User Roles for the selected domain pane, click **Add.**

Step 4 Specify a name for the user role and associate it with the necessary Endpoints, Lines, Services and Service Bundles. You can check or uncheck as many Endpoints, Services and Service Bundles as needed.

Note To modify the user role configuration, select **User Roles**. In User Roles for a specific domain, select a user role and click **Edit.**

Step 5 Click **Save**.

Automatic Service Provisioning

The Automatic Service Provisioning (ASP) feature enables you to automatically provision services for new users at user add time. Automatic Service Provisioning is generally driven by LDAP import, CSV/batch import or new user add function in the user interface. Automatic Service Provisioning is supported for Unified Communications applications 10.x and above.

Figure 2: Automatic Service Provisioning
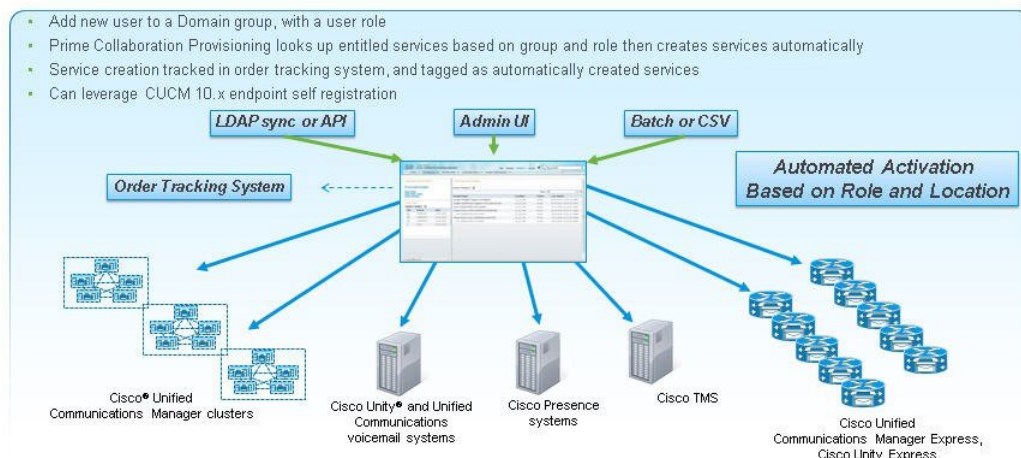
Automatic Service Provisioning allows to create many services for a user automatically when that user is created. For example , using ASP, you can have Cisco Prime Collaboration Provisioning automatically add a phone, line, voicemail, IM&P, EM, SNR, Jabber for iPhone, and Jabber for desktop simultaneously.

The list of services can be different by creating different roles with different sets of services. For example, two user roles called "Director" and "Director-Full Features" can be created with matching manual order-time services but different settings in the Automatic Service Provisioning section of the user roles. The first role may just have phone, line and voicemail turned on for ASP. The second role may have phone, line, voicemail, IM&P, EM, SNR, Jabber for iPhone and Jabber for desktop turned on for ASP.

While enabling Automatic Service Provisioning for a user role, you must select the service area (to be used for auto-provisioning) and the services that can be automatically provisioned for the users who are assigned to this user role. For information on adding a user role, see Adding User Roles, on page 9.

You can enable Automatic Service Provisioning for the following services:

- Endpoint

- Line

- Single Number Reach (Enable Mobility, Remote Destination Profile, and Remote Destination Profile Line)

- IM & Presence

- Voicemail

- Extension Mobility Access

- Extension Mobility Line

- Cisco Jabber

While enabling Automatic Service Provisioning for Endpoint service, you have the following options:

- Default Endpoint—If you select this option, you must select the endpoint model that will be auto-provisioned for the user by default.

• Self-Provisioned Endpoint—If you select this option, the users will be able to provision their endpoints without contacting the administrator. The user can add the endpoint by plugging it into the network and following a few prompts to identify the user.

You can also specify the maximum number of endpoints that the user can self-provision.

If you have enabled self-provisioning for a user, a Line without endpoint will be automatically created for the user. The self-provisioned endpoints can be added to this Line later.

If you have enabled auto-provisioning for Single Number Reach service, the user must go to the Self-Care portal of Cisco Unified Communications Manager to activate Single Number Reach. For information about the Self-Provisioning feature available in Cisco Unified Communications Manager, see Cisco Unified Communications Manager Administration Guide.

Note the following points while you are enabling Automatic Service Provisioning for a user role or user:

• Automatic Service Provisioning is applicable only for new users (added through Provisioning user interface, batch provisioning, Add User NBAPI, or synchronized from LDAP server). For the existing users, Automatic Service Provisioning cannot be initiated.

• Automatic Service Provisioning is not supported for users who are added to Cisco Prime Collaboration Provisioning through domain synchronization and Cisco Unified CM Change Notification.

• While creating user role, if you are selecting more than one Line service for Automatic Service Provisioning, the directory number which is used for provisioning the Line will be shared among the Line services.

• User roles for LDAP synchronized users will be mapped based on the domain filters.

• While creating a new user, you can choose multiple user roles for the user, but you can select only one default user role for auto-provisioning.

• While enabling Automatic Service Provisioning for new users, you must also specify the default service area to be used for auto-provisioning.

• If you are selecting Auto-assigned Line as line type for auto-provisioning, the service area that you have selected should have Directory Number blocks configured and Directory Numbers available for provisioning. If Directory Number blocks are not available in the service area, Auto-assigned line type option will not be displayed in the Add User page, when you select that service area for auto provisioning.

• If you are choosing the line type as Chosen Line, you must also provide the Directory Number, otherwise user details will not be saved for auto provisioning (a validation message will be displayed when you click Save and Continue).

• Extension Mobility line can be auto-provisioned only for users having Extension Mobility Access.

• Cisco Prime Collaboration Provisioning assigns dummy MAC address for phones that are automatically provisioned.

• You cannot provision SNR and EM Access/EM Access Bundle if the user id contains UTF characters. For RDP Name, the following characters are supported: A-Z, a-z, 0-9, hyphen (-), period (.) and underscore (_). For EM Access Name, the following characters are supported: A-Z, a-z, 0-9, and the special characters period(.), comma(,), - , _ ,! , @ , # , $, (,) , * , ^ , ; , : , + , = , ~ , ` , ? , / , ' , [,] , { , }

• While enabling Automatic Service Provisioning for a user role, if you have selected Jabber service, users that are assigned to this user role will be automatically provisioned with Jabber and associated Line service. If you have selected both Endpoint service and Jabber for a user role, Cisco Prime Collaboration

Provisioning will automatically provision 2 lines with shared DN while auto-provisioning Endpoint and Jabber service.

- The user has to update the Unity Connection Web password using the Provisioning Self-Care portal or Manage PIN/Password option to configure the Voicemail/Visual Voicemail features in the Jabber client.

Quick Service Provisioning

For Cisco Prime Collaboration Release 11.1 and later

The Quick Service Provisioning feature offers an easy and quick way to provision initial or additional services for a user already defined in Cisco Prime Collaboration Provisioning, without using the ordering wizard that involves multiple steps to order a service. A new dialog box called **Provision Services** is included on the User Provisioning page to perform quick service provisioning for existing users. The quick service provisioning for an existing user can be enabled either through

- the user record page (see the procedure below)

- or the user provisioning page (select user and click **Provision Services** to proceed with the process).

In addition, a new button called **Custom Services Wizard** in the user record page enables the users to provision the services in the usual way.

To enable quick service provisioning through the user record page:

Before you begin

Before you enable quick service provisioning, note the following:

- While quick provisioning a custom group under an end user profile using the default service template, **Standard CCM Admin Users** and **Standard CTI Enable** groups are provisioned automatically even if they are not part of the default service template.

- You must select a service area. You must add a service area to the domain or you must associate the user role with the service area to proceed with Quick Service Provisioning.

- The user role associated with the user is displayed in the **Apply Service Template based on** drop-down. In the user role page, the service template associated with a Service Area is set as a default template. This template is applied during quick service provisioning if the user role is chosen in **Apply Service Template based on** drop down.

- If you do not choose any service template as **Default**, then a built-in template is applied during quick service provisioning. Built-in template is a default template which has only basic configuration.

- Based on the user role, only the service template is applied and the services under **Unified Communication Services** area are enabled.

- To apply a user service template for **User Services**:

   - You must select **User Services** under Services section in the User Role configuration page.

   - You must create a user service template and mark it as default in Service Template Assignment table.

   - For new and existing users: Select IM & Presence in the quick service provisioning dialog box.

- If IM and Presence is already enabled for a user, the service is greyed-out in the quick service provisioning dialog box and you cannot apply the template.

- You must select the Line Type when you select or check any one of the following services: Line, Single Number Reach, EM service, and Cisco Jabber.

- You must specify a Directory Number when you select Chosen Line from the Line Type drop-down list.

- You must select the Line Type if you choose to provision EM Service, both EM Access and EM Line.

- You must select any of the UC services, else you cannot quick provision services.

- You cannot enable EM Access service if Cisco Unified CM does not have EM service name and URL configured in the device setup.

- You must check whether Directory Number blocks are configured in the selected Service Area or the "Auto- Assigned" option is selected for the user role, if Auto-Assigned Line is not shown in the Line Type drop down.

- You must enable either Single Number Reach Service under bundle services or Enable Mobility, Remote Destination Profile, and Remote Destination Profile Line in the user role policy to enable Single Number Reach.

- You cannot provision SNR and EM Access/EM Access bundle if the user id contains UTF characters. For RDP Name, the following characters are supported: A-Z, a-z, 0-9, hyphen (-), period (.) and underscore (_). For EM Access Name, the following characters are supported: A-Z, a-z, 0-9, and the special characters period(.), comma(,), - , _ ,! , @ , # , $, (,) , * , ^ , ; , : , + , = , ~ , ` , ? , / , ' , [,] , { , }.

- You must select any one of the following services to provision a voicemail:

  - Line

  - Single Number Reach

  - EM service

  - Cisco Jabber

- You must enter the MAC Address or the suitable Device Name based on the selected phone type. Dummy MAC Address of the endpoint is provisioned if no value is specified in the MAC Address field.

Step 1 Choose **User Provisioning**.

Step 2 Click a specific user. In the user record page:

- Click **Custom Services Wizard** and proceed with the steps to provision the services in the legacy way.

Or

- Click **Provision Services** and select the Service Area.

Based on the Service Area and the associated user role that is displayed, services in the dialog box are enabled.

a) Check the relevant check boxes next to each service to proceed with quick provisioning.

b) Click **Provision Services** in the dialog box to complete the service provisioning and to go back to the user record page. See Accessing User Records for a User for details on Add-on Service.

Creating 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. Service Templates save time over setting many individual attributes and provide accuracy to prevent missed attributes or typos in attribute fields. Service Templates contain provisioning attributes for a service and enable you to configure service attribute settings using provisioning attributes. Provisioning attributes are configuration settings that are applied to a service during activation.

Figure 3: Service Templates
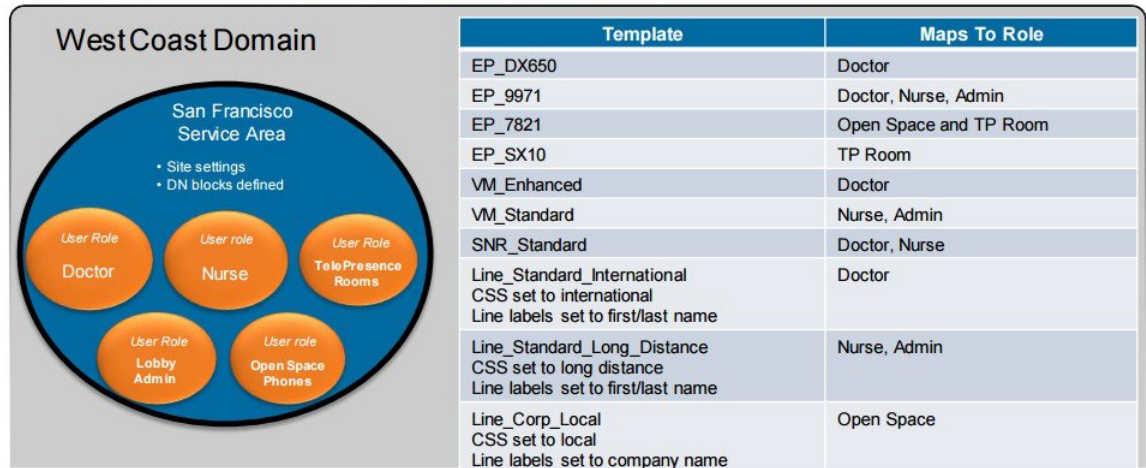
While ordering, Cisco Prime Collaboration Provisioning considers the configured provisioning attributes in addition to the Service Area settings to determine the final product configuration for provisioning.

Note You must complete the infrastructure synchronization before creating Service Areas and service templates.

Note The service areas and user roles must be defined before creating Service Templates. Service Templates require selecting service areas and user roles as part of the service template creation process. Associations can be added or deleted but the Service Templates will not be available for use if the associations are not present. You must assign the Service Templates to a service area and user role combination for the templates to be visible in the Add Order and Change Order wizards.

Templates only relate to a single domain. A domain may have one or more clusters associated.

You must have administration privileges to configure the content of the provisioning attributes .

Not all attributes are applicable for all Endpoint types or for all Cisco Unified Communications Manager versions. Depending on your Provisioning setup, all attributes may not be available to you.

To create a Service Template:

Step 1   Choose **Provisioning Setup**.

Step 2   In the All Domains pane, expand a Domain and click **Service Templates**.

Step 3   Click **Add** in the Service Template pane and enter the Template Name and select the Processor.

Step 4   Select a Service and enter the necessary provisioning attributes for the service. All default provisioning attributes are populated by default.

Step 5   When you choose Endpoint from the Service drop-down list, an additional drop-down field, namely Endpoint Model is displayed. Select the Endpoint Model based on the service you have selected.

You can use a common template that can be applied to several endpoint models or lines, thus reducing the need to create each template for each endpoint model or line. A common template groups a set of attributes that is common across the endpoint family. Common templates are described in the following table.

Table 3: Common Template Description

Common Template	Description

Family Endpoint Template	• Many family types: Jabber Phones, DX Phones, 69xx, 78xx, 88xx, and 89xx.
	
	 • Superset of one endpoint family.
	
	 • Apply only to endpoints belonging to the family.
	
	 • Cover all the attributes for the endpoint in the family (superset) including:
	
	     • Common Attributes - Example: Calling Search Space and Common Phone Profile.
	
	     • Model-Specific Attributes - Example: iPhone Country Code.
	
	 • For each attribute, only the common values (intersection) across those models which contain this attribute in the family is available.
	
	 • Some Family Endpoint Template such as Common 69xx and 89xx supports **SIP** and **SCCP** protocols and **Either (determined by Endpoint)** protocol.
	
	 • The **Either (determined by Endpoint)** protocol lists all the attributes available in the family regardless of the protocol.
	
	 • You can further reduce the template creation by choosing **Either (determined by Endpoint)** to serve both the SIP and SCCP protocols as it covers all the attributes, thus leaving protocol selection during ordering.

Common Template	Description
Universal Endpoint Template	• Only one type: Universal Endpoint. • Subset of all endpoint attributes. • Apply to all endpoint types. • Only contain common attributes - Example: Calling Search Space and Common Phone Profile. • Target for provisioning endpoints with a common set of attributes. • The attribute set is similar as the Universal Device Template in Cisco Unified CM. • For each attribute, only the common values across all those models which contain this attribute is available. • Supports **SIP**, **SCCP**, **Either (determined by Endpoint)** protocols. • The **Either (determined by Endpoint)** lists all the Universal Phone attributes available regardless of the protocol. • You can further reduce the template creation by choosing **Either (determined by Endpoint)** to serve both the SIP and SCCP protocols as it covers all the attributes, thus leaving protocol selection during ordering.
Universal Line Template	• Only one type: Universal Line. • Subset of Line, EM Line, and RDP Line attributes. • Apply to Line, EM Line, and RDP Line. • Only contain common attributes. • Target for provisioning Line, EM Line, and RDP Line with a common set of attributes. • The attribute set is similar as the Universal Line Template in Cisco Unified CM. • For each attribute, only the common values across Line, EM Line, and RDP Line which contain this attribute is available.

The following table provides details of the common template and its supported models.

Table 4: Common Template Details and Supported Models

Common Template	Supported Endpoint Models/Lines
Common Jabber	**a.** Android **b.** iPhone **c.** Tablet **d.** Desktop
Common DX	**a.** Cisco DX650 **b.** Cisco DX70 **c.** Cisco DX80
Common 69xx	**a.** Cisco 6901 **b.** Cisco 6911 **c.** Cisco 6921 **d.** Cisco 6941 **e.** Cisco 6945 **f.** Cisco 6961
Common 78xx	**a.** Cisco 7811 **b.** Cisco 7821 **c.** Cisco 7841 **d.** Cisco 7861
Common 88xx	**a.** Cisco 8811 **b.** Cisco 8831 **c.** Cisco 8841 **d.** Cisco 8845 **e.** Cisco 8851 **f.** Cisco 8851NR **g.** Cisco 8861 **h.** Cisco 8865

Common Template	Supported Endpoint Models/Lines
Common 89*xx*	a. Cisco 8941
	b. Cisco 8945
	c. Cisco 8961
Universal Endpoint	All Models. Example: Android, DX 80 and other phones.
Universal Line	Line, EM Line and RDP Line

The common templates are supported for batch and API.

You can add, update, delete and copy the Family Endpoint, Universal Endpoint and Universal Line templates. In addition, you can apply a Family Endpoint, Universal Endpoint and Universal Line templates to update and provision an endpoint/line as appropriate.

As a result, one common template can be used to multiple endpoints/lines, thereby optimizing the service template creation process.

Note   For endpoints, Common Templates feature is supported on Cisco Unified CM 10.*x* and above only.

If you encounter discrepancy on supported endpoint models between Cisco Prime Collaboration Provisioning and Cisco Unified CM, install Cisco Options Package (COP)-file on Cisco Unified CM to get all those missing endpoint models into Cisco Unified CM. Refer Manage Device Firmware section in Administration Guide for Cisco Unified Communications Manager, Release 11.0(1) for the procedure.

Step 6   To add a Service Area and User Role to the Service Template, Click **Add Row**. Select a Service Area and User Role, and click **Save**. To edit, click **Edit** and change the assignment.

You can edit or delete the templates you have created. To copy the service template to a different domain with a new name, click **Copy**.

Note

- While configuring the service templates for Remote Destination Profile, if you select a User Locale that is not available in the device, the order may fail.

- If Line, EM Line, and RDP Line service templates are created and assigned for auto provisioning at the same time (line is shared), then the values displayed in Line Description, Alerting Name, and ASCII Alerting Name depend on the line template only.

Note   To set a created Service Template as a default one, you need to explicitly go under the UserRole and select the Service Template and mark it as 'Yes' under Service Template Assignment.

While creating a new order, you can choose the Service Template you have created from the Service Template drop-down list.

The service template quick view displays the template's association with service area and user role. It displays whether the service template chosen is used for auto-provisioning for a particular user role or not.

Troubleshooting

- If you cannot find the attribute to set in the Universal Phone Template, you are recommended to use Family Endpoint Template if available or try to use its own Template.

- If you cannot find the attribute to set in the Universal Line Template, you are recommended to use its own Line, EM Line or RDP Line Template.

- If you cannot find the attribute to set in the Common Template, you are recommended to use its own Template. If the attribute is not a required attribute in template, but a required attribute in model, the default value in model is set during ordering.

Related Topics

Overview of Authorization Roles

Provisioning Attribute Description in Batch Help

Ordering Service for a User

Adding Keywords for Service Templates

Cisco Prime Collaboration Provisioning provides an option to add keywords to the provisioning attributes at the time of creating Service templates or when ordering a service. You can add multiple keywords and can also specify the length of each keyword.

These keywords are automatically replaced on screen with the actual values immediately after moving to the next field. When replacing the keyword, the characters will be limited to the limit defined. For example, ${COMPANY}(3) – Cisco will be limited to "Cis".

Note The following exceptions are applicable to the keyword replacement:

- The keyword EXTENSION is replaced only at the backend.

- If you do not provide any values for the Domain Rule attributes, the values are taken from the domain rules and are displayed only in the summary page.

The following keywords are supported for Service templates:

- FIRSTNAME

- LASTNAME

- USERID

- EXTENSION

- COMPANY

- MIDNAME

- DEPT

- EMAIL

- EMPID

- MANAGER

- COUNTRY

- TITLE

- CITY

- STATE

- ZIP

- CORPEMAIL: Used while ordering a phone, line, and voicemail. If you have more than one voicemail account, this keyword will be mapped to the first voicemail account corporate email and upon deleting the first corporate email, it will fall back to the second one.

To edit the keywords, click **Edit Keyword List**. In the Keyword List page, you can change the keywords and its values. You can check the Remove check box to remove a keyword from the list. To remove the entire keyword List, click the **Remove Keyword List** icon.

The following table lists the Provisioning attributes that support new keywords for each service type:

Table 5: Keyword Support for Provisioning Attributes

Endpoint Type	Provisioning Attributes	Domain Rule
Endpoint\Extension Mobility Access\Remote Destination Profile	Device Description	DescriptionString
Line\ Extension Mobility Line\ Remote Destination Profile Line	• Line Description • Alerting Name • ASCII Alerting Name • Display (Internal Caller ID) • ASCII Display (Internal Caller ID) • ASCII Line Text Label • Line Text Label (this attribute is applicable for Line and Extension Mobility Line only.) • External Phone Number Mask	LineDisplayString

Endpoint Type	Provisioning Attributes	Domain Rule
Voice Mail	• Voicemail Alias • Voicemail Display Name • Initials • Title • Employee ID • Voicemail Corporate Email Address • City • State • Postal Code • Department • Manager • Billing ID	-
User Service	Self-Provisioning User ID	-

Troubleshooting

Issue: If keywords are not getting transformed to the values during ordering, the keyword may have an incorrect format. **Recommended Action:** Correct any typographical error or check for appropriate usage of keywords.

Issue: Auto Assigned Line EXTENSION Keyword is not getting transformed to the value during ordering. **Recommended Action:** Proceed ordering with EXTENSION keyword as it is.

Using System Default Values

In the Add Order wizard, Change Order wizard, and Template Settings page, "Use System Default" is displayed in the drop-down lists for non-mandatory attributes. System default values will be provisioned for these attributes, if you are not selecting any option from the drop-down list and Use System Default is a valid value in the device. If a default value is already set for a non-mandatory attribute, the specified value will be displayed for that attribute, and Use System Default will be displayed as one of the options in the drop-down list.

Use System Default will not be displayed in a drop-down list, if the word "default" is included in the options available in the drop-down list (for example, Use Default Language, Use Phone Default, Use Default System Policy, Default, and so on).

Note   Use System Default will not be displayed for the Protocol field.

Note   All the attributes are non-mandatory while saving the configuration in the Add Order wizard, Change Order wizard, and Template Settings page. However, some of them become mandatory attributes during Provisioning. If these attributes are set to Use System Default, the Cisco Prime Collaboration Provisioning uses the first value from the drop-down for provisioning.

For mandatory attributes, if a default value is already set, the specified default value will be displayed. If a default value is not set, then the first option in the drop-down list will be displayed, before you select a value from the drop-down list. If a drop-down list is empty and a default value is not set for that attribute, then "Make a Selection" will be displayed. Make a Selection will be displayed for the following provisioning fields:

- Selected Endpoint

- Selected Line

- Line Type

- Endpoint Type

- EM Phone Type

Use System Default or Make a Selection will not be displayed for Voicemail and Unified Messaging products.

"Not Selected" will be displayed for the Service Template field, if you are not selecting any value from the drop-down list.

For Cisco Unified Communications Manager 9.0 and below, you must select the Use System Default option for Softkey Template attribute, while creating Extension Mobility Access service template for Cisco 8961, 9951, and 9971 IP phones.

While ordering Extension Mobility Access for iPhones, order may fail if you use the default values for the following attributes:

- DND Option
- DND Incoming Call Alert (Set-only Attribute)
- MLPP Indication

For ordering Extension Mobility Access for iPhones, it is recommended that you create a service template with the following values for these attributes and apply the template while creating an order:

- DND Option—Call Reject
- DND Incoming Call Alert—Disable
- MLPP Indication—Off

Phone Provisioning Attributes Limitations

Any change order via batch using CUPM_BLANK keyword (see Keyword Usage in Batch Action Files) will not have any effect for Phone provisioning attributes that have override common settings check box in Cisco Unified Communications Manager user interface. This occurs because the Cisco Unified Communications Manager does not return default values to Provisioning for these attributes when provisioning a phone. This applies to the following provisioning attributes:

- Join And Direct Transfer Policy

- Phone On Time

- Phone Off Time

- Phone Off Idle Timeout

- Enable Audible Alert

- EnergyWise Domain

- EnergyWise Endpoint Security Secret

- Allow EnergyWise Overrides

- Automatic Port Synchronization

- Display Idle Timeout

- Display On When Incoming Call

Configuring a Transformation Template for Provisioning Attributes

For Line Text Label and ASCII Line Text Label attributes, you can enter a transformation template in the provisioning attribute field to manipulate the digits of the directory number displayed on the phone. The digit transformation of the masking of the directory number allows you to choose what to display.

The template allows you to delete, insert, reorder, or change any digits of the directory number by embedding transformation masks inside the text string of the provisioning attribute.

A transformation template contains one or more transformation masks.

In the transformation mask, the following characters are allowed:

- W or w—Allows the directory number digits to appear in the same position, starting from the left.

- X or x—Allows the directory number digits to appear in the same position, starting from the right.

- . (period)—Ignores the digits in the directory number at the same position.

- Any number—Appears as itself in the output.

- % (percent)—Delimiter.

- \ (backward slash)—Delimiter (escape character).

If any other characters are used in a mask, the mask is not recognized as a mask and the characters are treated as normal text.

(For Cisco Prime Collaboration Release 11.2 and later) You can:

- 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.

Note The keyword supported attributes accept an additional keyword to fetch the trailing sequence of characters from the specified keyword and set it as the value for the attribute. To fetch the trailing sequence of characters, the leading character count is specified as zero.

- Hovering over the information icon next to the keyword supported attributes displays a help text. The help text shows examples of valid transformation templates that can be specified in the attribute value. When you place your cursor in the keyword supported attribute field, the user-entered pattern appears and when the cursor goes away from the keyword supported attribute field, the actual value appears.

When configuring the template, remember the following:

- If a transformation mask contains both a W and an X, it is not recognized as a valid mask and is treated as normal text. But if the template contains multiple masks, you can use a W and an X in different masks inside the same template.

- Any delimiter character without a prefixed escape character (\) is treated as a normal character when it is not recognized as a valid delimiter as part of a transformation mask. The escape character can be used only in places where you need to separate the normal context from the transformation mask.

- The template is limited to 60 characters.

The table lists examples of transformation templates. The directory number used in the examples is 1234567891.

Table 6: Transformation Template Examples

Template	Results
%XXX%	891
%WWW%	123
%XXX.......%	123
%XXXX%	7891
%......WWWW%	7891
%...WWW%	456
%XXX….%	456
%9XXX0000%	94560000
%..9WWW0000%	94560000
%55585XX000%	5558567000
%55585WW000%	5558567000
%WWXX%	%WWXX%
(%WWW%) %...WWW%-%XXXX%	(123) 456-7891
John Smith x%XXXXX%	John Smith x67891
%John Smith\%x%XXXXX%	%John Smith%x67891
%WWW% Engineering	123 Engineering

Template	Results
(For Cisco Prime Collaboration Release 11.2 and later)	**(For Cisco Prime Collaboration Release 11.2 and later)**
${FIRSTNAME}(3)(3)	FIRAME
Example: John Smith	Example: Johith
${FIRSTNAME}(0)(3)	FIRAME
Example: John Smith	Example: ith
${EXTENSION}(3)_%XXX%	123_891