



## Native Phone Migration Using IVR

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- [Phone Replacement or Migration Using Self-Provisioning Overview, on page 1](#)
- [Phone Migration Prerequisites, on page 1](#)
- [Phone Migration Task Flow Using Self-Provisioning IVR, on page 2](#)
- [Phone Migration Tasks, on page 6](#)
- [Migrate Phones using Cisco Unified CM Administration Interface, on page 8](#)
- [Phones Using Shared Lines, on page 9](#)

## Phone Replacement or Migration Using Self-Provisioning Overview

Use the Self-provisioning IVR service in Unified Communications Manager to directly migrate or replace a faulty desk phone or old phones for which support has ended without the need to contact the administrator. This feature makes it simple to replace phones while minimizing costs at the same time.

Migration using self-provisioning in Unified Communications Manager minimizes the initial configuration requirement while migrating the existing phone settings to the new phone. You can choose to delete or retain the old phones in Unified Communications Manager when provisioning a phone for migration or replacement.



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**Note** Using Self-provisioning IVR, you can migrate or replace the phone under the primary extension of the authenticated user.

Phone users authenticate to the IVR using their user PIN. Administrators can authenticate using a specified authentication code.

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You can also migrate phones using the Cisco Unified Communications Manager Administrative Interface. See [Migrate Phones using Cisco Unified CM Administration Interface, on page 8](#).

## Phone Migration Prerequisites

Before your end users can use self-provisioning for migration or replacement purpose, the following should be configured:

- Enable Auto-registration.

- End users must have a primary extension. Ensure that the primary DN is always Line1 on the phone or device.
- End users must be associated to a user profile or feature group template that includes a universal line template, universal device template and which has Self-Provisioning enabled.
- Ensure that the right “CTI Route Point” and “Application User” configurations are selected.
- Enable Self-Provisioning IVR service.

For more information on self-provisioning, see the ‘Configure Self-Provisioning’ section in the *System Configuration Guide for Cisco Unified Communications Manager*.

## Phone Migration Task Flow Using Self-Provisioning IVR

Use the following task flow to guide you through the phone migration procedures.

After you complete this workflow, you can configure Self-Provisioning IVR service, migrate old or faulty Cisco IP Phones, and track the migrated phones list.

### Procedure

	Command or Action	Purpose
<b>Step 1</b>	<a href="#">Activate Services for Self-Provisioning, on page 3</a>	Activate the <b>Self-Provisioning IVR</b> and <b>CTI Manager</b> services in Cisco Unified Serviceability.
<b>Step 2</b>	<a href="#">Enable Autoregistration for Self-Provisioning, on page 3</a>	Enable autoregistration parameter for self-provisioning.
<b>Step 3</b>	<a href="#">Configure CTI Route Point, on page 3</a>	Configure a CTI route point to handle the self-provisioning IVR service.
<b>Step 4</b>	<a href="#">Assign a Directory Number to the CTI Route Point, on page 4</a>	Configure the extension that users dial in order to access the self-provisioning IVR and associate that extension to the CTI route point.
<b>Step 5</b>	<a href="#">Configure Application User for Self-Provisioning, on page 4</a>	Configure an application user for the self-provisioning IVR. Associate the CTI route point to the application user.
<b>Step 6</b>	<a href="#">Configure the System for Self-Provisioning, on page 5</a>	Configure Self-Provisioning system settings.
<b>Step 7</b>	<a href="#">Enable Self-Provisioning in a User Profile, on page 6</a>	Enables the users to Self-Provision phones in the user profile to which they are assigned.
<b>Step 8</b>	Migrate phones using any of these procedures: <ul style="list-style-type: none"> <li>• <a href="#">Migrate Phones Using Self-Provisioning IVR (Administrator), on page 7</a></li> <li>• <a href="#">Migrate Phones Using Self-Provisioning IVR (Phone Users), on page 7</a></li> </ul>	Choose the migration procedure that applies for you. The Self-Provisioning IVR can be used by either administrators or phone users to migrate phones.

	Command or Action	Purpose
Step 9	<a href="#">View Phone Migration Report, on page 8</a>	Following the migration, view a report that shows Cisco IP Phones that are migrated.

## Activate Services for Self-Provisioning

Use this procedure to activate the services that support the Self-Provisioning feature. Ensure that both the Self-Provisioning IVR and Cisco CTI Manager services are running.

### Procedure

- Step 1** From Cisco Unified Serviceability, choose **Tools > Service Activation**.
- Step 2** From the **Server** drop-down list, select the publisher node and click **Go**.
- Step 3** Under **CM Services**, check **Cisco CTI Manager**.
- Step 4** Under **CTI Services**, check **Self Provisioning IVR**.
- Step 5** Click **Save**.

## Enable Autoregistration for Self-Provisioning

Use this procedure for self-provisioning, you must configure the auto-registration parameters on the publisher.

### Procedure

- Step 1** In Cisco Unified CM Administration, choose **System > Cisco Unified CM**.
- Step 2** Click on the publisher node.
- Step 3** Select the **Universal Device Template** that you want to be applied to provisioned phones.
- Step 4** Select the **Universal Line Template** that you want to be applied to the phone lines for provisioned phones.
- Step 5** Use the **Starting Directory Number** and **Ending Directory Number** fields to enter a range of directory numbers to apply to provisioned phones.
- Step 6** Uncheck the **Auto-registration Disabled on the Cisco Unified Communications Manager** check box.
- Step 7** Confirm the ports that will be used for SIP registrations. In most cases, there is no need to change the ports from their default settings.
- Step 8** Click **Save**.

## Configure CTI Route Point

Use this procedure to configure a CTI Route Point for the Self-Provisioning IVR.

### Procedure

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- Step 1** From Cisco Unified CM Administration, choose, **Device > CTI Route Points**.
- Step 2** Complete either of the following steps:
- a) Click **Find** and select an existing CTI route point.
  - b) Click **Add New** to create a new CTI route point.
- Step 3** In the **Device Name** field, enter a unique name to identify the route point.
- Step 4** From the **Device Pool** drop-down list, select the device pool that specifies the properties for this device.
- Step 5** From the **Location** drop-down list, select the appropriate location for this CTI route point.
- Step 6** From the **Use Trusted Relay Point** drop-down list, enable or disable whether Unified Communications Manager inserts a trusted relay point (TRP) device with this media endpoint. The default setting is to use the Common Device Configuration setting that is associated to this device.
- Step 7** Complete the remaining fields in the **CTI Route Point Configuration** window. For more information on the fields and their settings, see the online help.
- Step 8** Click **Save**.
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## Assign a Directory Number to the CTI Route Point

Use this procedure to set up the extension that users will dial in to access the self-provisioning IVR. You must associate this extension to the CTI route point that you want to use for self-provisioning.

### Procedure

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- Step 1** From Cisco Unified CM Administration, choose **Device > CTI Route Point**.
- Step 2** Click **Find** and select the CTI route point that you set up for self-provisioning.
- Step 3** Under **Association** click **Line [1] - Add a new DN**.  
The **Directory Number Configuration** window displays.
- Step 4** In the **Directory Number** field, enter the extension that you want users to dial to access the Self-Provisioning IVR service.
- Step 5** Click **Save**.
- Step 6** Complete the remaining fields in the **Directory Number Configuration** window. For more information with the fields and their settings, see the online help.
- Step 7** Click **Save**.
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## Configure Application User for Self-Provisioning

You must set up an application user for the self-provisioning IVR and associate the CTI route point that you created to the application user.

### Procedure

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- Step 1** From Cisco Unified CM Administration, choose **User > Application User**.
- Step 2** Perform either of the following steps:
- To select an existing application user, click **Find** and select the application user.
  - To create a new application user, click **Add New**.
- Step 3** In the **User ID** text box, enter a unique ID for the application user.
- Step 4** Select a **BLF Presence Group** for the application user.
- Step 5** Associate the CTI route point that you created to the application user by performing the following steps:
- If the CTI route point that you created does not appear in the **Available Devices** list box, click **Find More Route Points**.  
The CTI route point that you created displays as an available device.
  - In the **Available Devices** list, select the CTI route point that you created for self-provisioning and click the down arrow.  
The CTI route point displays in the **Controlled Devices** list.
- Step 6** Complete the remaining fields in the **Application User Configuration** window. For help with the fields and their settings, see the online help.
- Step 7** Click **Save**.
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## Configure the System for Self-Provisioning

Use this procedure to configure your system for self-provisioning. Self-provisioning provides users in your network with the ability to add their own desk phone through an IVR system, without contacting an administrator.



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**Note** In order to use the self-provisioning feature, your end users must also have the feature enabled in their user profiles.

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### Procedure

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- Step 1** From Cisco Unified CM Administration, choose **User Management > Self-Provisioning**.
- Step 2** Configure whether you want the self-provisioning IVR to authenticate end users by clicking one of the following radio buttons:
- **Require Authentication**—In order to use the self-provisioning IVR, end users must enter their password, PIN, or a system authentication code.
  - **No Authentication Required**—End users can access the self-provisioning IVR without authenticating.
- Step 3** If the self-provisioning IVR is configured to require authentication, click one of the following radio buttons to configure the method whereby the IVR authenticates end users:
- **Allow authentication for end users only**—End users must enter their password or PIN.

- **Allow authentication for users (via Password/PIN) and Administrators (via Authentication Code)**—End Users must enter an authentication code. If you choose this option, configure the authentication code by entering an integer between 0 and 20 digits in the **Authentication Code** text box.

- Step 4** In the **IVR Settings** list boxes, use the arrows to select the Language that you prefer to use for IVR prompts. The list of available languages depends on the language packs that you have installed on your system. Refer to the Downloads section of cisco.com if you want to download additional language packs.
- Step 5** From the **CTI Route Points** drop-down list, choose the CTI route point that you have configured for your self-provisioning IVR.
- Step 6** From the **Application User** drop-down list, choose the application user that you have configured for self-provisioning.
- Step 7** Click **Save**.

## Enable Self-Provisioning in a User Profile

In order for users to be able to Self-Provision phones, the feature must be enabled in the user profile to which they are assigned.



**Note** If you don't know which user profile your users are using, you can open a user's settings in the End User Configuration window and view the **User Profile** field to get the correct profile.

### Procedure

- Step 1** From Cisco Unified CM Administration, choose **User Management > User Settings > User Profile**.
- Step 2** Click **Find and select the user profile** to which the user is assigned.
- Step 3** Assign **Universal Line Templates** and **Universal Device Templates** to the user profile.
- Step 4** Configure user settings for Self-Provisioning:
- Check the **Allow End User to Provision their own phones** check box.
  - Enter a limit for the number of phones a user can provision. The default is 10.
  - If you want users to be able to use self-provisioning to reassign a previously assigned phone, check the **Allow Provisioning of a phone that is already assigned to a different End User** setting in the user profile page associated with the end user of old device. Users can reassign a previously assigned phone only if this check box is enabled in the User Profile that is associated to the old device.
- Step 5** Click **Save**.

## Phone Migration Tasks

After self-provisioning Authentication is setup, use any of the following procedures to migrate phones.

## Migrate Phones Using Self-Provisioning IVR (Phone Users)

Phone users can use this procedure to migrate to a new Cisco IP Phone.

### Before you begin

Make sure that the old phone is in the "Unregistered" state before you proceed with migration. You can plug the new phone into the network, wait until the phone registers and then perform the migration tasks. Once the migration is successful, the device will re-register with the users phone configuration data.

### Procedure

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**Step 1** Dial the extension that is assigned to the Self-Provisioning IVR from a new Cisco IP Phone.

**Step 2** Press **2** to replace an existing phone.

**Step 3** Enter the primary extension number of your phone followed by the pound key (#).

**Step 4** Enter your PIN followed by the pound key (#).

Migration starts after a successful authentication. After successful migration, the phone restarts with the configuration settings migrated from your old phone.

**Note** If the phone is assigned to another user, a phone user can re-provision the phone provided an administrator has enabled the **Allow Provisioning of a phone already assigned to a different End User** option in the user's User Profile window. Talk to your administrator about this option.

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## Migrate Phones Using Self-Provisioning IVR (Administrator)

Administrators can use this procedure to migrate Cisco IP Phones on behalf of an end user, or to migrate common phones (for example, a lobby phone).

### Before you begin

Make sure that the old phone is in the "Unregistered" state before you proceed with migration. You can plug the new phone into the network, wait until the phone registers and then perform the migration tasks. Once the migration is successful, the device will re-register with the users phone configuration data.

### Procedure

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**Step 1** Dial the extension that is assigned to the Self-Provisioning IVR from a new phone.

**Step 2** Press **2** to replace an existing phone.

**Step 3** Enter the primary extension number of an end user phone or common phone followed by the pound key (#).

**Step 4** Enter the **Authentication Code** followed by the pound key (#).

Migration starts after a successful authentication. Following the migration, the phone restarts with configuration settings migrated from end user's old phone.

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## Phone Migration Service COP File

If you are running any version of the Unified Communications Manager starting from 11.5(1) until 11.5(1)SU7, install Phone Migration Service COP file (ciscocm-migration-service-11-5-1.zip) to get the Native Phone Migration feature support.

As part of the COP file installation, 'Tftp restart' service is done automatically for Unified Communications Manager.



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**Note** If you plan to upgrade the Unified CM after Phone Migration Service COP file installation, ensure that you upgrade your Unified CM server to a release version that has native support for the Native Phone Migration feature.

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## View Phone Migration Report

Use this procedure to view the list of all the Cisco IP Phones that are migrated.

### Procedure

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- Step 1** In Cisco Unified CM Administration, select **Device > Phone**.
- Step 2** From the Find and List Phones page, choose **Migrate (old phone)** from the **Find Phone** where drop-down list.
- Step 3** Click **Find**.
- You can view the list of all the old devices that got migrated. This list is populated only if the **Retain Existing Phone** option is configured in the Enterprise Parameters page.
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## Migrate Phones using Cisco Unified CM Administration Interface

Use this procedure to migrate phones using either the **Phone Template** or **Phone Type (and Protocol)** options in the Cisco Unified CM Administration interface.

### Procedure

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- Step 1** In the Find and List Phones window (**Device > Phone**), find the Cisco IP Phone that you want to migrate.
- Step 2** In the Phone Configuration window for the Cisco IP Phone that you want to migrate, choose **Migrate Phone** from the **Related Links** drop-down list.
- Step 3** To migrate phones, you can use one of the following options:
- Phone Template**—Choose the phone template for the phone model to which you want to migrate the phone configuration.
  - Phone Type (and Protocol)**—Choose the Cisco IP Phone model for which you want to migrate the phone configuration.



- Step 4** Enter the **MAC address** for the new Cisco Unified IP Phone to which you are migrating the configuration.
- Step 5** **(Optional)** Enter a description for the new phone. For more information on the migration considerations and configuration settings, see the *Cisco Unified CM Administration Online Help* pages.
- Step 6** Click **Save**.

If a warning message displays that the new phone may lose feature functionality, click **OK**. After migration, the new device will inherit setting of the old phone.

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## Phones Using Shared Lines

Consider a scenario where an old phone has the primary DN shared line with multiple devices. These devices may be owned by the same user or among multiple users. When you try to migrate the old phone with a new Cisco IP Phone using Self-Provisioning IVR or Phone Migration Service methods using a shared line, migration is possible only for users who own the device with the DN as Line 1. Here, the shared lines feature settings are carried over after phone migration.

If the old phone does not support the Shared Line feature, the old phones lines are removed after phone migration. The new phone retains the old phones lines after phone migration.

