



# Provision Audio and Video Capabilities on Cisco Unified Communications Manager Version 8.x

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Create software phone devices so that users can send and receive audio and video over their mobile devices. Learn how to enable various features to enhance the audio and video experience for users.

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## Create Software Phone Devices

Software phones let users send and receive audio and video through their mobile devices.

## Create TCT Software Phone Devices

TCT devices provide capabilities for Cisco Jabber for iPhone to send and receive audio and video through an iOS device.

## Install Cisco Options Package File for Devices

To make Cisco Jabber available as a device in Cisco Unified Communications Manager, you must install a device-specific Cisco Options Package (COP) file on all your Cisco Unified Communications Manager servers.

Perform this procedure at a time of low usage; it can interrupt service.

General information about installing COP files is available in the “Software Upgrades” chapter in the *Cisco Unified Communications Operating System Administration Guide* for your release.

## Procedure

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- Step 1** Download the device COP file.
- Locate the device COP file.
    - Go to the [software download site](#).
    - Locate `cmterm-iphone-install-130917.cop.sgn`.
  - Click **Download Now**.
  - Note the MD5 checksum.  
You will need this information later.
  - Click **Proceed with Download** and follow the instructions.
- Step 2** Place the COP file on an FTP or SFTP server that is accessible from your Cisco Unified Communications Manager servers.
- Step 3** Install this COP file on the Publisher server in your Cisco Unified Communications Manager cluster:
- Open the **Cisco Unified OS Administration** interface.
  - Select **Software Upgrades > Install/Upgrade**.
  - Specify the location of the COP file and provide the required information.  
For more information, see the online help.
  - Select **Next**.
  - Select the device COP file.
  - Select **Next**.
  - Follow the instructions on the screen.
  - Select **Next**.  
Wait for the process to complete. This process can take some time.
  - Reboot Cisco Unified Communications Manager at a time of low usage.
  - Let the system fully return to service.  
**Note** To avoid interruptions in service, make sure each server returns to active service before you perform this procedure on another server.
- Step 4** Install the COP file on each Subscriber server in the cluster.  
Use the same process you used for the Publisher, including rebooting the server.
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## Related Topics

[Cisco Unified Communications Manager Maintain and Operate Guides](#)

## Create SIP Profiles

The first step in creating a software phone device is to create a SIP profile that allows Cisco Jabber to stay connected to Cisco Unified Communications Manager while Cisco Jabber runs in the background.

### Procedure

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- Step 1** Open the **Cisco Unified CM Administration** interface.
- Step 2** Select **Device > Device Settings > SIP Profile**.  
The **Find and List SIP Profiles** window opens.
- Step 3** Do one of the following to create a new SIP profile:
- Find the default SIP profile and create a copy that you can edit.
  - Select **Add New** and create a new SIP profile.
- Step 4** In the new SIP profile, set the following values:
- **Timer Register Delta** to 120
  - **Timer Register Expires** to 720
  - **Timer Keep Alive Expires** to 720
  - **Timer Subscribe Expires** to 21600
  - **Timer Subscribe Delta** to 15
- Step 5** Select **Save**.
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## Increase SIP Dual Mode Alert Timer Value

Increase the SIP Dual Mode Alert Timer value to ensure that calls to the Cisco Jabber extension are not prematurely routed to the mobile-network phone number.

### Before You Begin

Cisco Jabber must be running to receive work calls.

## Procedure

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- Step 1** Open the **Cisco Unified CM Administration** interface.
- Step 2** Select **System > Service Parameters**.
- Step 3** Select the server.
- Step 4** Select the **Cisco CallManager (Active)** service.
- Step 5** Scroll to the **Clusterwide Parameters (System - Mobility)** section.
- Step 6** Increase the SIP Dual Mode Alert Timer value to 4500 milliseconds.
- Step 7** Select **Save**.

**Note** If, after you increase the SIP Dual Mode Alert Timer value, incoming calls that arrive in Cisco Jabber are still terminated and diverted using Mobile Connect, you can increase the SIP Dual Mode Alert Timer value again in increments of 500 milliseconds. The 4500 millisecond value is the lowest recommended value.

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## Create TCT Devices

Complete the steps in this task to create TCT devices for Cisco Jabber for iPhone users.




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**Restriction** The maximum number of participants for ad-hoc conferences is limited to three, which is the maximum number of calls for TCT devices.

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### Before You Begin

Specify the organization top domain name to support registration between Cisco Jabber and the Cisco Unified Communications Manager. In **Unified CM Administration** interface, select **System > Enterprise Parameters**. Under the **Clusterwide Domain Configuration** section, enter the organization top domain name. For example, cisco.com.

## Procedure

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- Step 1** Open the **Cisco Unified CM Administration** interface.
- Step 2** Select **Device > Phone**.  
The **Find and List Phones** window opens.
- Step 3** Select **Add New**.
- Step 4** Select **Cisco Dual Mode for iPhone** from the **Phone Type** drop-down list and then select **Next**.
- Step 5** Specify configuration settings on the **Phone Configuration** window as appropriate. See the *TCT Device Configuration Settings* topic below for information about the specific settings that are required for TCT devices.
  - Restriction** Multiple lines are not supported on TCT devices.
- Step 6** Select **Save**.

A message displays to inform you if the device is added successfully. The **Association Information** section becomes available on the **Phone Configuration** window.

**Step 7** Select **Apply Config**.

## TCT Device Configuration Settings

Use the following tables to set up TCT devices on the **Phone Configuration** window.

Restrictions and requirements that are not specific to Cisco Jabber may apply to these values. If you require additional information about any option on the **Phone Configuration** window, see the online help in the **Cisco Unified CM Administration** interface.

**Table 1: Device Information Settings**

Setting	Description
Device Name	<p>The Device Name:</p> <ul style="list-style-type: none"> <li>• Can represent only one device. If a single user has Cisco Jabber on multiple devices (for example, an iPhone and an iPod Touch), configure separate Cisco Dual Mode for iPhone devices for each in Cisco Unified Communications Manager.</li> <li>• Must start with TCT.</li> <li>• Must be uppercase.</li> <li>• Can contain up to 15 characters total.</li> <li>• Can include only A to Z, 0 to 9, dot (.), dash (-), or underscore (_).</li> </ul> <p>Cisco recommends that the device name include the username of the user so it is easy to remember (for example, the recommended device name of user jsmith is TCTJSMITH).</p>
Phone Button Template	Select Standard Dual Mode for iPhone.
Media Resource Group List	Set up the on-hold music to ensure that if a user puts a call on hold, the other party hears on-hold music. This step prevents confusion for the other party.
User Hold MOH Audio Source	
Network Hold MOH Audio Source	
	<p><b>Note</b> You must select an option in the <b>Media Resource Group List</b> to ensure that users can merge the audio for calls.</p> <p>These settings are not specific to this device. For more information about these settings, see the Cisco Unified Communications Manager documentation.</p>

Setting	Description
Primary Phone	If this user has a desk phone, select the desk phone. Selecting the primary phone sets the device as an adjunct in the Cisco Unified Communications Manager for licensing purposes.

**Table 2: Protocol-Specific Information Settings**

Setting	Description
Device Security Profile	Select <b>Cisco Dual Mode for iPhone - Standard SIP Non-Secure Profile</b> .
SIP Profile	<p><b>Cisco Unified Communications Manager Version 9 and lower</b></p> <p>Select the SIP profile you created in the <i>Create SIP Profiles</i> topic.</p> <p><b>Cisco Unified Communications Manager Version 10</b></p> <p>Select the default profile for mobile devices: <b>Standard SIP Profile for Mobile Device</b>.</p> <p>If the default profile for mobile devices does not suit your environment, you can create a custom SIP profile.</p>
Other settings in the preceding sections	<p>As appropriate to your deployment.</p> <p>Values that are not described in this document are not specific to Cisco Jabber but you may need to enter them for the device to work properly.</p>

Information in this section is downloaded to the iOS device during initial setup, to automatically set up the client.

**Table 3: Product Specific Configuration Layout Settings**

Setting	Description
Emergency Numbers	Numbers that, when dialed on an iPhone, connect using the native phone application and the mobile network of the device. If dialed on an iPod, these numbers connect using VoIP calling. For example, 911, 999, 112. These numbers are prepopulated. Update if necessary.

Setting	Description
Preset Wi-Fi Networks	The SSIDs for Wi-Fi networks. Cisco Jabber triggers Connect on Demand to Cisco AnyConnect Secure Mobility Client if users are not on a Wi-Fi network listed in this field, or if they are on a mobile data network. Separate multiple SSIDs with forward slash (/). Example: SalesOffice1/CorporateWiFi
On-Demand VPN URL	Enter the URL that you want to use to initiate on-demand VPN.
Default Ringtone	Select <b> Loud </b> or <b> Normal </b> .
Video Capabilities	Default is set to <b> Enabled </b> , which allows users to make and receive video calls.

The following Product Specific Configuration Layout settings are not supported in this release. Leave these settings blank:

- Allow End User Configuration Editing
- iPhone Country Code
- Cisco Usage and Error Tracking
- SIP Digest settings:
  - Enable SIP Digest Authentication
  - SIP Digest Username
- Sign In Feature
- Voicemail settings:
  - Voicemail Username
  - Voicemail Server
  - Voicemail Message Store Username
  - Voicemail Message Store
- Directory settings:
  - Directory Lookup Rules URL
  - Application Dial Rules URL
  - Enable LDAP User Authentication
  - LDAP Username
  - LDAP Password
  - LDAP Server
  - Enable LDAP SSL

- LDAP Search Base
- LDAP Field Mappings
- LDAP Photo Location

### Related Topics

[Create SIP Profiles, on page 3](#)

## Add Directory Number to Device

### Procedure

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- Step 1** Locate the **Association Information** section on the **Phone Configuration** window.
- Step 2** Select **Add a new DN**.  
The **Directory Number Configuration** window opens.
- Step 3** Specify a directory number in the **Directory Number** field.  
This can be a new DN. A desk phone with the same DN is not required.
- Step 4** Set the **No Answer Ring Duration (seconds)** to 24 seconds to allow time for Cisco Jabber to ring before calls go to voicemail.
- Note** If users have a PIN on the device, you may need to increase the No Answer Ring Duration (seconds) setting to ensure that they have enough time to enter the PIN and answer the call before the call goes to voicemail.
- If you increase the No Answer Ring Duration (seconds) setting, see related cautions for this setting in the online help in Cisco Unified Communications Manager.
- Step 5** In the **Multiple Call/Call Waiting Settings on Device** section, in the **Busy Trigger** field, ensure that the value is set to 3.
- Step 6** Specify all other required configuration settings as appropriate.
- Step 7** Select **Save**.
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## Configure User Associations

When you associate a user with a device, you provision that device to the user.

### Procedure

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- Step 1** Open the **Cisco Unified CM Administration** interface.
- Step 2** Select **User Management > End User**.



The **Find and List Users** window opens.

- Step 3** Specify the appropriate filters in the **Find User where** field and then select **Find** to retrieve a list of users.
  - Step 4** Select the appropriate user from the list.  
The **End User Configuration** window opens.
  - Step 5** Locate the **User Information** section.
  - Step 6** Ensure that a Mail ID is associated with this user.  
You cannot modify the end user information if synchronization with an LDAP server is enabled. To check whether synchronization with an LDAP server is enabled, select **SystemLDAPLDAP System** and verify if the **Enable Synchronizing from LDAP Server** check box is checked.
  - Step 7** Locate the **Device Information** section.
  - Step 8** Select **Device Association**.  
The **User Device Association** window opens.
  - Step 9** Select the devices to which you want to associate the user.
  - Step 10** Select **Save Selected/Changes**.
  - Step 11** Select **User Management > End User** and return to the **Find and List Users** window.
  - Step 12** Find and select the same user from the list.  
The **End User Configuration** window opens.
  - Step 13** Locate the **Permissions Information** section.
  - Step 14** Select **Add to User Group**.  
The **Find and List User Groups** dialog box opens.
  - Step 15** Select the groups to which you want to assign the user.  
At a minimum you should assign the user to the following group **Standard CCM End Users**.
  - Step 16** Select the groups to which you want to assign the user.
  - Step 17** Select **Add Selected**.  
The **Find and List User Groups** window closes.
  - Step 18** Locate the **Directory Number Associations** section.
  - Step 19** Select the **Primary Extension** for the end user.
  - Step 20** Select **Save** on the **End User Configuration** window.
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## Reset Devices

After you create and associate users with devices, you should reset those devices.

### Procedure

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- Step 1** Open the **Cisco Unified CM Administration** interface.
- Step 2** Select **Device > Phone**.

The **Find and List Phones** window opens.

- Step 3** Specify the appropriate filters in the **Find Phone where** field and then select **Find** to retrieve a list of devices.
- Step 4** Select the appropriate device from the list.  
The **Phone Configuration** window opens.
- Step 5** Locate the **Association Information** section.
- Step 6** Select the appropriate directory number configuration.  
The **Directory Number Configuration** window opens.
- Step 7** Select **Reset**.  
The **Device Reset** dialog box opens.
- Step 8** Select **Reset**.
- Step 9** Select **Close** to close the **Device Reset** dialog box.
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## Specify Your TFTP Server Address

The client gets device configuration from the TFTP server. For this reason, you must specify your TFTP server address when you provision users with devices.

## Specify Your TFTP Server on Cisco Unified Presence

Complete the steps to specify the address of your TFTP server on Cisco Unified Presence.

### Procedure

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- Step 1** Open the **Cisco Unified Presence Administration** interface.
- Step 2** Select **Application > Cisco Jabber > Settings**.  
**Note** In some versions of Cisco Unified Presence, this path is as follows: **Application > Cisco Unified Personal Communicator > Settings**.  
The **Cisco Jabber Settings** window opens.
- Step 3** Locate the fields to specify TFTP servers in one of the following sections, depending on your version of Cisco Unified Presence:
- **Cisco Jabber Security Settings**
  - **CUPC Global Settings**
- Step 4** Specify the IP address of your primary and backup TFTP servers in the following fields:
- **Primary TFTP Server**
  - **Backup TFTP Server**
  - **Backup TFTP Server**

- Step 5** Select **Save**.
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## Specify TFTP Servers with the Cisco WebEx Administration Tool

If the client connects to the Cisco WebEx Messenger service, you specify your TFTP server address with the Cisco WebEx Administration Tool.

### Procedure

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- Step 1** Open the Cisco WebEx Administration Tool.
- Step 2** Select the **Configuration** tab.
- Step 3** Select **Unified Communications** in the **Additional Services** section.  
The **Unified Communications** window opens.
- Step 4** Select the **Clusters** tab.
- Step 5** Select the appropriate cluster from the list.  
The **Edit Cluster** window opens.
- Step 6** Select **Advanced Server Settings** in the **Cisco Unified Communications Manager Server Settings** section.
- Step 7** Specify the IP address of your primary TFTP server in the **TFTP Server** field.
- Step 8** Specify the IP address of your backup TFTP servers in the **Backup Server #1** and **Backup Server #2** fields.
- Step 9** Select **Save**.  
The **Edit Cluster** window closes.
- Step 10** Select **Save** in the **Unified Communications** window.
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## Create a CCMCIP Profile

The client gets device lists for users from the CCMCIP server.

### Procedure

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- Step 1** Open the **Cisco Unified Presence Administration** interface.
- Step 2** Select **Application > Cisco Jabber > CCMCIP Profile**.  
**Note** In some versions of Cisco Unified Presence, this path is as follows: **Application > Cisco Unified Personal Communicator > CCMCIP Profile**.  
The **Find and List CCMCIP Profiles** window opens.
- Step 3** Select **Add New**.  
The **CCMCIP Profile Configuration** window opens.
- Step 4** Specify service details in the CCMCIP profile as follows:
- Specify a name for the profile in the **Name** field.

- b) Specify the hostname or IP address of your primary CCMCIP service in the **Primary CCMCIP Host** field.
- c) Specify the hostname or IP address of your backup CCMCIP service in the **Backup CCMCIP Host** field.
- d) Leave the default value for **Server Certificate Verification**.

**Step 5** Add users to the CCMCIP profile as follows:

- a) Select **Add Users to Profile**.  
The **Find and List Users** dialog box opens.
- b) Specify the appropriate filters in the **Find User where** field and then select **Find** to retrieve a list of users.
- c) Select the appropriate users from the list.
- d) Select **Add Selected**.  
The selected users are added to the CCMCIP profile.

**Step 6** Select **Save**.

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## Set Up Mobile Connect

Mobile Connect, formerly known as Single Number Reach (SNR), allows the native mobile phone number to ring when someone calls the work number if:

- Cisco Jabber is not available.  
After Cisco Jabber becomes available again and connects to the corporate network, the Cisco Unified Communications Manager returns to placing VoIP calls rather than using Mobile Connect.
- The user selects the **Mobile Voice Network** calling option.
- The user selects the **Autoselect** calling option and the user is outside of the Wi-Fi network.

To set up Mobile Connect, perform the following procedures:

- 1 Enable Mobile Connect. See the *Enable Mobile Connect* topic.
- 2 Specify one or more remote phone numbers to which Mobile Connect connects using one or both of the following procedures:
  - (Preferred) To specify the mobile phone number of the mobile device, see the *Add Mobility Identity* topic.
  - (Optional) To specify alternate phone numbers, see the *Add Remote Destination (Optional)* topic.  
Alternate numbers can be *any* type of phone number, such as home phone numbers, conference room numbers, desk phone numbers, or a mobile phone number for a second mobile device.
- 3 Test your settings:
  - Exit Cisco Jabber on the mobile device. For instructions, see the User Guide for your release.
  - Call the Cisco Jabber extension from another phone.
  - Verify that the native mobile network phone number rings and that the call connects when you answer it.

**Related Topics**

- [Enable Mobile Connect, on page 13](#)
- [Add Mobility Identity, on page 14](#)
- [Add Remote Destination \(Optional\), on page 16](#)
- [Cisco Jabber for iPhone User Guides](#)

## Enable Mobile Connect

Use the following procedure to enable Mobile Connect for an end user.

**Procedure**

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- Step 1** Open the **Cisco Unified CM Administration** interface.
- Step 2** Search for and delete any existing Remote Destination or Mobility Identity that is already set up with the mobile phone number as follows:
- a) Select **Device > Remote Destination**.
  - b) Search for the destination number.
  - c) Delete the destination number.
- Step 3** Configure the end user for Mobile Connect as follows:
- a) Select **User Management > End User**.
  - b) Search for the end user.
  - c) Select the user id to open the **End User Configuration** window.
  - d) In the Mobility Information section, check the **Enable Mobility** check box.
  - e) On Cisco Unified Communications Manager Release 9.0 and earlier, specify the Primary User Device.
  - f) Select **Save**.
- Step 4** Configure the device settings for Mobile Connect as follows:
- a) Navigate to **Device > Phone**.
  - b) Search for the device that you want to configure.
  - c) Select the device name to open the **Phone Configuration** window.
  - d) Enter the following information:

Setting	Information
Softkey Template	Choose a softkey template that includes the Mobility button.  For information about setting up softkey templates, see the related information in the <i>Cisco Unified Communications Manager Administration Guide</i> for your release. This documentation can be found in the maintenance guides list.
Mobility User ID	Select the user.
Owner User ID	Select the user. The value must match the Mobility User ID.

Setting	Information
Rerouting Calling Search Space	<p>Choose a Rerouting Calling Search Space that includes both of the following:</p> <ul style="list-style-type: none"> <li>• The partition of the desk phone extension of the user. This requirement is used by the system to provide the Dial via Office feature, not for routing calls.</li> <li>• A route to the mobile phone number. The route to the mobile phone number (that is, the Gateway/Trunk partition) must have a higher preference than the partitions of the enterprise extension that is associated with the device.</li> </ul> <p>Note that Cisco Jabber allows users to specify a callback number for Dial via Office-Reverse calls that is different from the mobile phone number of the device, and the Rerouting Calling Search Space controls which callback numbers are reachable.</p> <p>If the user sets up the DVO Callback Number with an alternate number, ensure that you set up the trunk Calling Search Space (CSS) to route to destination of the alternate phone number.</p>

e) Select **Save**.

### Related Topics

[Cisco Unified Communications Manager Maintain and Operate Guides](#)

## Add Mobility Identity

Use this procedure to add a Mobility Identity to specify the mobile phone number of the mobile device as the destination number. This destination number is used by features such as Dial via Office or Mobile Connect.

You can specify only one number when you add a mobility identity. If you want to specify an alternate number such as a second mobile phone number for a mobile device, you can set up a remote destination. The Mobility Identity configuration characteristics are identical to those of the Remote Destination configuration.

### Procedure

- 
- Step 1** Open the **Cisco Unified CM Administration** interface.
- Step 2** Navigate to the device that you want to configure as follows:
- Select **Device > Phone**.
  - Search for the device that you want to configure.

c) Select the device name to open the **Phone Configuration** window.

**Step 3** In the **Associated Mobility Identity** section, select **Add a New Mobility Identity**.

**Step 4** Enter the mobile phone number as the Destination Number.

This number must be routable to an outbound gateway. Generally, the number is the full E.164 number.

**Note** If you enable the Dial via Office - Reverse feature for a user, you must enter a destination number for the user's mobility identity.

If you enable Dial via Office - Reverse and leave the destination number empty in the mobility identity:

- The phone service cannot connect if the user selects the **Autoselect** calling option while using a mobile data network and VPN.
- The phone service cannot connect if the user selects the **Mobile Voice Network** calling option on any type of network.
- The logs do not indicate why the phone service cannot connect.

**Step 5** Enter the initial values for call timers.

These values ensure that calls are not routed to the mobile service provider voicemail before they ring in the client on the mobile device. You can adjust these values to work with the end user's mobile network.

For more information, see the online help in Cisco Unified Communications Manager.

**Example:**

Setting	Suggested Initial Value
Answer Too Soon Timer	3000
Answer Too Late Timer	20000
Delay Before Ringing Timer	0
	<b>Note</b> This setting does not apply to DVO-R calls.

**Step 6** Do one of the following:

- **Cisco Unified Communications Manager Version 9 or earlier**  
Check the **Enable Mobile Connect** check box.
- **Cisco Unified Communications Manager Version 10**  
Check the **Enable Single Number Reach** check box.

**Step 7** If you are setting up the Dial via Office feature, in the Mobility Profile drop-down list, select one of the following options.

Option	Description
Leave blank	Choose this option if you want users to use the Enterprise Feature Access Number (EFAN).
Mobility Profile	Choose the Mobility Profile that you just created if you want users to use a Mobility Profile instead of an EFAN.

**Step 8** Set up the schedule for routing calls to the mobile number.

**Step 9** Select **Save**.

### Related Topics

[Set Up Enterprise Feature Access Number, on page 24](#)

## Add Remote Destination (Optional)

Use this procedure to add a Remote Destination to specify any alternate number as the destination number. The Mobility Identity configuration characteristics are identical to those of the Remote Destination configuration.

Alternate numbers can be *any* type of phone number, such as home phone numbers, conference room numbers, desk phone numbers, or multiple mobile phone numbers for additional mobile devices. You can add more than one remote destination.

### Procedure

**Step 1** Open the **Cisco Unified CM Administration** interface.

**Step 2** Navigate to the device that you want to configure as follows:

- a) Select **Device > Phone**.
- b) Search for the device that you want to configure.
- c) Select the device name to open the **Phone Configuration** window.

**Step 3** In the **Associated Remote Destinations** section, select **Add a New Remote Destination**.

**Step 4** Enter the desired phone number as the Destination Number.

This number must be routable to an outbound gateway. Generally, the number is the full E.164 number.

**Step 5** Enter the initial values for call timers.

These values ensure that calls are not routed to the mobile service provider voicemail before they ring in the client on the mobile device.

For more information, see the online help in Cisco Unified Communications Manager.

### Example:

Setting	Suggested Initial Value
Answer Too Soon Timer	3000



Setting	Suggested Initial Value
Answer Too Late Timer	20000
Delay Before Ringing Timer	0
	<b>Note</b> This setting does not apply to DVO-R calls.

**Step 6** Do one of the following:

- **Cisco Unified Communications Manager Version 9 or earlier**

Check the **Enable Mobile Connect** check box.

- **Cisco Unified Communications Manager Version 10**

Check the **Enable Single Number Reach** check box.

**Step 7** Set up the schedule for routing calls to the mobile number.

**Step 8** Select **Save**.

## Transfer Active VoIP Call to the Mobile Network

Users can transfer an active VoIP call from Cisco Jabber to their mobile phone number on the mobile network. This feature is useful when a user on a call leaves the Wi-Fi network (for example, leaving the building to walk out to the car), or if there are voice quality issues over the Wi-Fi network. This Cisco Jabber feature is called Move to Mobile.

There are two ways to enable this feature. You can also disable it.

Implementation Method	Description	Instructions
Handoff DN	<p>The mobile device calls Cisco Unified Communications Manager using the mobile network.</p> <p>This method requires a Direct Inward Dial (DID) number.</p> <p>The service provider must deliver the DID digits exactly as configured. Alternately, for Cisco IOS gateways with H.323 or SIP communication to Cisco Unified Communications Manager, you can use Cisco IOS to manipulate the inbound called-party number at the gateway, presenting the digits to Cisco Unified Communications Manager exactly as configured on the handoff DN.</p> <p>This method does not work for iPod Touch devices.</p>	See the <i>Enable Handoff from VoIP to Mobile Network</i> topic.
Mobility Softkey	Cisco Unified Communications Manager calls the phone number of the PSTN mobile service provider for the mobile device.	See the <i>Enable Transfer from VoIP to Mobile Network</i> topic.
None of the above	Disable this feature if you do not want to make it available to users.	Select <b>Disabled</b> for the <b>Transfer to Mobile Network</b> option in the <b>Product Specific Configuration Layout</b> section of the TCT device page.

### Related Topics

[Enable Handoff from VoIP to Mobile Network, on page 18](#)

[Enable Transfer from VoIP to Mobile Network, on page 21](#)

## Enable Handoff from VoIP to Mobile Network

Set up a directory number that Cisco Unified Communications Manager can use to hand off active calls from VoIP to the mobile network. Match the user's caller ID with the Mobility Identity to ensure that Cisco Unified Communications Manager can recognize the user. Set up the TCT device and mobile device to support handoff from VoIP to the mobile network.

## Set Up Handoff DN

### Before You Begin

Determine the required values. The values that you choose depend on the phone number that the gateway passes (for example, seven digits or ten digits).

### Procedure

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- Step 1** Open the **Cisco Unified CM Administration** interface.
- Step 2** Select **Call Routing > Mobility > Handoff Configuration**.
- Step 3** Enter the Handoff Number for the Direct Inward Dial (DID) number that the device uses to hand off a VoIP call to the mobile network.  
The service provider must deliver the DID digits exactly as configured. Alternately, for Cisco IOS gateways with H.323 or SIP communication to Cisco Unified Communications Manager, you can use Cisco IOS to manipulate the inbound called-party number at the gateway, presenting the digits to Cisco Unified Communications Manager exactly as configured on the handoff number.
- Note** You cannot use translation patterns or other similar manipulations within Cisco Unified Communications Manager to match the inbound DID digits to the configured Handoff DN.
- Step 4** Select the **Route Partition** for the handoff DID.  
This partition should be present in the Remote Destination inbound Calling Search Space (CSS), which points to either the Inbound CSS of the Gateway or Trunk, or the Remote Destination CSS.  
This feature does not use the remaining options on this page.
- Step 5** Select **Save**.
- 

## Match Caller ID with Mobility Identity

To ensure that only authorized phones can initiate outbound calls, calls must originate from a phone that is set up in the system. To do this, the system attempts to match the caller ID of the requesting phone number with an existing Mobility Identity. By default, when a device initiates the Handoff feature, the caller ID that is passed from the gateway to Cisco Unified Communications Manager must exactly match the Mobility Identity number that you entered for that device.

However, your system may be set up such that these numbers do not match exactly. For example, Mobility Identity numbers may include a country code while caller ID does not. If so, you must set up the system to recognize a partial match.

Be sure to account for situations in which the same phone number may exist in different area codes or in different countries. Also, be aware that service providers can identify calls with a variable number of digits, which may affect partial matching. For example, local calls may be identified using seven digits (such as 555 0123) while out-of-area calls may be identified using ten digits (such as 408 555 0199).

### Before You Begin

Set up the Mobility Identity. See the *Add Mobility Identity* topic.

To determine whether you need to complete this procedure, perform the following steps. Dial in to the system from the mobile device and compare the caller ID value with the Destination Number in the Mobility Identity. If the numbers do not match, you must perform this procedure. Repeat this procedure for devices that are issued in all expected locales and area codes.

### Procedure

---

- Step 1** Open the **Cisco Unified CM Administration** interface.
  - Step 2** Select **System > Service Parameters**.
  - Step 3** Select the active server.
  - Step 4** Select the **Cisco CallManager (Active)** service.
  - Step 5** Scroll down to the **Clusterwide Parameters (System - Mobility)** section.
  - Step 6** Select **Matching Caller ID with Remote Destination** and read essential information about this value.
  - Step 7** Select **Partial Match for Matching Caller ID with Remote Destination**.
  - Step 8** Select **Number of Digits for Caller ID Partial Match** and read the essential requirements for this value.
  - Step 9** Enter the required number of digits to ensure partial matches.
  - Step 10** Select **Save**.
- 

## Set Up User and Device Settings for Handoff

### Before You Begin

- Set up the user device on the Cisco Unified Communications Manager.
- Set up the user with a Mobility Identity.

### Procedure

---

- Step 1** In the **Cisco Unified CM Administration** interface, go to the TCT Device page, and select **Use Handoff DN Feature** for the **Transfer to Mobile Network** option.  
Do not assign this method for iPod Touch devices. Use the Mobility Softkey method instead.
  - Step 2** On the iOS device, tap **Settings > Phone > Show My Caller ID** to verify that Caller ID is on.
  - Step 3** Test this feature.
-

# Enable Transfer from VoIP to Mobile Network

## Procedure

---

- Step 1** Open the **Cisco Unified CM Administration** interface.
- Step 2** For system-level settings, check that the Mobility softkey appears when the phone is in the connected and on-hook call states.
- Select **Device > Device Settings > Softkey Template**.
  - Select the same softkey template that you selected when you configured the device for Mobile Connect.
  - In the **Related Links** drop-down list at the upper right, select **Configure Softkey Layout** and select **Go**.
  - In the call state drop-down list, select the On Hook state and verify that the Mobility key is in the list of selected softkeys.
  - In the call state drop-down list, select the Connected state and verify that the Mobility key is in the list of selected softkeys.
- Step 3** Navigate to the device that you want to configure as follows:
- Select **Device > Phone**.
  - Search for the device that you want to configure.
  - Select the device name to open the **Phone Configuration** window.
- Step 4** For the per-user and per-device settings in Cisco Unified Communications Manager, set the specific device to use the Mobility softkey when the device transfers calls to the mobile voice network. Ensure that you have set up both Mobility Identity and Mobile Connect for the mobile device. After the transfer feature is working, users can enable and disable Mobile Connect at their convenience without affecting the feature. If the device is an iPod Touch, you can configure a Mobility Identity using an alternate phone number such as the mobile phone of the user.
- Select the **Owner User ID** on the device page.
  - Select the **Mobility User ID**. The value usually matches that of the Owner User ID.
  - In the Product Specific Configuration Layout section, for the Transfer to Mobile Network option, select **Use Mobility Softkey** or **Use HandoffDN Feature**.
- Step 5** In the User Locale field, choose **English, United States**.
- Step 6** Select **Save**.
- Step 7** Select **Apply Config**.
- Step 8** Instruct the user to sign out of the client and then to sign back in again to access the feature.
- 

## What to Do Next

Test your settings by transferring an active call from VoIP to the mobile network.

## Related Topics

- [Create TCT Software Phone Devices, on page 1](#)
- [Set Up Mobile Connect, on page 12](#)

# Set Up Dial via Office



**Important** User-controlled voicemail avoidance, which can be used in conjunction with the Dial via Office feature, is available only on Cisco Unified Communications Manager Release 9.0 and later. Timer-controlled voicemail avoidance is available on Cisco Unified Communications Manager Release 6.0 and later.

The Dial via Office feature is not supported with the Extension Mobility feature.

The Dial via Office (DVO) feature allows users to initiate Cisco Jabber *outgoing* calls with their work number using the voice plan for the device.




Cisco Jabber supports Dial via Office-Reverse (DVO-R) calls. DVO-R works as follows:

- 1 User initiates a Dial via Office-Reverse call.
- 2 The client notifies Cisco Unified Communications Manager to call the mobile phone number.
- 3 Cisco Unified Communications Manager calls and connects to the mobile phone number.
- 4 Cisco Unified Communications Manager calls and connects to the number that the user dialed.
- 5 Cisco Unified Communications Manager connects the two segments.
- 6 The user and the called party continue as with an ordinary call.

*Incoming* calls use either Mobile Connect or the Voice over IP, depending on which Calling Options the user sets on the client. Dial via Office does not require Mobile Connect to work. However, we recommend that you enable Mobile Connect to allow the native mobile number to ring when someone calls the work number. From the Cisco Unified Communications Manager user pages, users can enable and disable Mobile Connect, and adjust Mobile Connect behavior using settings (for example, the time of day routing and Delay Before Ringing Timer settings). For information about setting up Mobile Connect, see the *Set Up Mobile Connect* topic.

The following table describes the calling methods used for incoming and outgoing calls. The calling method (VoIP, Mobile Connect, DVO-R, or native cellular call) varies depending on the selected Calling Options and the network connection.

**Table 4: Calling Methods used with Calling Options over Different Network Connections**

Connection	Calling Options					
	Voice over IP		Mobile Voice Network		Autoselect	
 Corporate Wi-Fi	Outgoing: VoIP	Incoming: VoIP	Outgoing: DVO-R	Incoming: Mobile Connect	Outgoing: VoIP	Incoming: VoIP
 Noncorporate Wi-Fi					Outgoing: DVO-R	Incoming: Mobile Connect
 Mobile Network (3G, 4G)					Outgoing: DVO-R	Incoming: Mobile Connect
Phone Services are not registered	Outgoing Native Cellular Call					
	Incoming Mobile Connect					

To set up Dial via Office-Reverse (DVO-R), you must do the following:

- 1 Set up the Cisco Unified Communications Manager to support DVO-R. See the *Set Up Cisco Unified Communications Manager to Support DVO* topic for more information.
- 2 Enable DVO on each Cisco Dual Mode for iPhone device. See the *Set Up Dial via Office for Each Device* topic for more information.

#### Related Topics

[Set Up Mobile Connect, on page 12](#)

[Set Up Cisco Unified Communications Manager to Support DVO, on page 23](#)

[Enable Dial via Office on Each Device, on page 27](#)

## Set Up Cisco Unified Communications Manager to Support DVO

To set up Cisco Unified Communications Manager to support DVO-R, perform the following procedures:

- 1 Complete one or both of the following procedures.
  - *Set Up Enterprise Feature Access Number*
  - *Set Up Mobility Profile*
- 2 Complete the *Verify Device COP File Version* procedure.

- 3 If necessary, create application dial rules to allow the system to route calls to the Mobile Identity phone number to the outbound gateway. Ensure that the format of the Mobile Identity phone number matches the application dial rules.

### Related Topics

- [Set Up Enterprise Feature Access Number, on page 24](#)
- [Set Up Mobility Profile, on page 25](#)
- [Verify Device COP File Version, on page 25](#)

## Set Up Enterprise Feature Access Number

Use this procedure to set up an Enterprise Feature Access Number for all Cisco Jabber calls that are made using Dial via Office-Reverse.

The Enterprise Feature Access Number is the number that Cisco Unified Communications Manager uses to call the mobile phone and the dialed number unless a different number is set up in Mobility Profile for this purpose.

### Before You Begin

- Reserve a Direct Inward Dial (DID) number to use as the Enterprise Feature Access Number (EFAN). This procedure is optional if you already set up a mobility profile.
- Determine the required format for this number. The exact value you choose depends on the phone number that the gateway passes (for example, 7 digits or 10 digits). The Enterprise Feature Access Number must be a routable number.

### Procedure

---

- Step 1** Open the **Cisco Unified CM Administration** interface.
- Step 2** Select **Call Routing > Mobility > Enterprise Feature Access Number Configuration**.
- Step 3** Select **Add New**.
- Step 4** In the **Number** field, enter the Enterprise Feature Access number.  
Enter a DID number that is unique in the system.  
  
To support dialing internationally, you can prepend this number with \+.
- Step 5** From the **Route Partition** drop-down list, choose the partition of the DID that is required for enterprise feature access.  
This partition is set under **System > Service Parameters**, in the **Clusterwide Parameters (System - Mobility)** section, in the **Inbound Calling Search Space for Remote Destination** setting. This setting points either to the Inbound Calling Search Space of the Gateway or Trunk, or to the Calling Search Space assigned on the Phone Configuration screen for the device.  
  
If the user sets up the DVO Callback Number with an alternate number, ensure that you set up the trunk Calling Search Space (CSS) to route to destination of the alternate phone number.



- Step 6** In the **Description** field, enter a description of the Mobility Enterprise Feature Access number.
  - Step 7** (Optional) Check the **Default Enterprise Feature Access Number** check box if you want to make this Enterprise Feature Access number the default for this system.
  - Step 8** Select **Save**.
- 

## Set Up Mobility Profile

Use this procedure to set up a mobility profile for Cisco Jabber devices. This procedure is optional if you already set up an Enterprise Feature Access Number.

Mobility profiles allow you to set up the Dial via Office-Reverse settings for a mobile client. After you set up a mobility profile, you can assign it to a user or to a group of users, such as the users in a region or location.

### Procedure

---

- Step 1** Open the **Cisco Unified CM Administration** interface.
  - Step 2** Select **Call Routing > Mobility > Mobility Profile**.
  - Step 3** In the **Mobility Profile Information** section, in the **Name** field, enter a descriptive name for the mobility profile.
  - Step 4** In the **Dial via Office-Reverse Callback** section, in the **Callback Caller ID** field, enter the caller ID for the callback call that the client receives from Cisco Unified Communications Manager.
  - Step 5** Click **Save**.
- 

## Verify Device COP File Version

Use the following procedure to verify that you are using the correct device COP file for this release of Cisco Jabber.

### Procedure

---

- Step 1** Open the **Cisco Unified CM Administration** interface.
  - Step 2** Select **Device > Phone**.
  - Step 3** Click **Add New**.
  - Step 4** From the Phone Type drop-down list, choose **Cisco Dual Mode for iPhone**.
  - Step 5** Click **Next**.
  - Step 6** Scroll down to the Product Specific Configuration Layout section, and verify that you can see the Video Capabilities drop-down list.  
If you can see the Video Capabilities drop-down list, the COP file is already installed on your system.  
If you cannot see the Video Capabilities drop-down list, locate and download the correct COP file. For more information, see the Cisco Jabber Installation and Configuration Guide for your release.
-

**Related Topics**

[Cisco Jabber for iPhone Installation and Upgrade Guides](#)

## Set Up Dial via Office for Each Device

Use the following procedures to set up Dial via Office - Reverse for each TCT device.

- 1 Add a Mobility Identity for each user.
- 2 Enable Dial via Office on each device.
- 3 If you enabled Mobile Connect, verify that Mobile Connect works. Dial the desk phone extension and check that the phone number that is specified in the associated Mobile Identity rings.

### Add Mobility Identity

Use this procedure to add a Mobility Identity to specify the mobile phone number of the mobile device as the destination number. This destination number is used by features such as Dial via Office or Mobile Connect.

You can specify only one number when you add a mobility identity. If you want to specify an alternate number such as a second mobile phone number for a mobile device, you can set up a remote destination. The Mobility Identity configuration characteristics are identical to those of the Remote Destination configuration.

#### Procedure

---

**Step 1** Open the **Cisco Unified CM Administration** interface.

**Step 2** Navigate to the device that you want to configure as follows:

- a) Select **Device > Phone**.
- b) Search for the device that you want to configure.
- c) Select the device name to open the **Phone Configuration** window.

**Step 3** In the **Associated Mobility Identity** section, select **Add a New Mobility Identity**.

**Step 4** Enter the mobile phone number as the Destination Number.

This number must be routable to an outbound gateway. Generally, the number is the full E.164 number.

**Note** If you enable the Dial via Office - Reverse feature for a user, you must enter a destination number for the user's mobility identity.

If you enable Dial via Office - Reverse and leave the destination number empty in the mobility identity:

- The phone service cannot connect if the user selects the **Autoselect** calling option while using a mobile data network and VPN.
- The phone service cannot connect if the user selects the **Mobile Voice Network** calling option on any type of network.
- The logs do not indicate why the phone service cannot connect.

**Step 5** Enter the initial values for call timers.

These values ensure that calls are not routed to the mobile service provider voicemail before they ring in the client on the mobile device. You can adjust these values to work with the end user's mobile network.

For more information, see the online help in Cisco Unified Communications Manager.

**Example:**

Setting	Suggested Initial Value
Answer Too Soon Timer	3000
Answer Too Late Timer	20000
Delay Before Ringing Timer	0
	<b>Note</b> This setting does not apply to DVO-R calls.

**Step 6** Do one of the following:

- **Cisco Unified Communications Manager Version 9 or earlier**  
Check the **Enable Mobile Connect** check box.
- **Cisco Unified Communications Manager Version 10**  
Check the **Enable Single Number Reach** check box.

**Step 7** If you are setting up the Dial via Office feature, in the Mobility Profile drop-down list, select one of the following options.

Option	Description
Leave blank	Choose this option if you want users to use the Enterprise Feature Access Number (EFAN).
Mobility Profile	Choose the Mobility Profile that you just created if you want users to use a Mobility Profile instead of an EFAN.

**Step 8** Set up the schedule for routing calls to the mobile number.

**Step 9** Select **Save**.

**Related Topics**

[Set Up Enterprise Feature Access Number, on page 24](#)

## Enable Dial via Office on Each Device

Use this procedure to enable Dial via Office on each device.

## Procedure

---

- Step 1** Open the **Cisco Unified CM Administration** interface.
- Step 2** Navigate to the device that you want to configure as follows:
- Select **Device > Phone**.
  - Search for the device that you want to configure.
  - Select the device name to open the **Phone Configuration** window.
- Step 3** In the Device Information section, check the **Enable Cisco Unified Mobile Communicator** check box.
- Step 4** In the Protocol Specific Information section, in the **Rerouting Calling Search Space** drop-down list, select a Calling Search Space (CSS) that can route the call to the DVO callback number.
- Step 5** In the Product Specific Configuration Layout section, set the **Dial via Office** drop-down list to **Enabled**.
- Step 6** Select **Save**.
- Step 7** Select **Apply Config**.
- Step 8** Instruct the user to sign out of the client and then to sign back in again to access the feature.
- 

## What to Do Next

Test this feature.

# Set Up Voicemail Avoidance

Voicemail avoidance is a feature that prevents calls from being answered by the mobile service provider voicemail. This feature is useful if a user receives a Mobile Connect call from the enterprise on the mobile device. It is also useful when an incoming DVO-R call is placed to the mobile device.

On Cisco Unified Communications Manager Version 8.x, you can set up Voicemail Avoidance using timers. With this method, you set timers on the Cisco Unified Communications Manager to determine if the call is answered by the mobile user or mobile service provider voicemail.

For more information about voicemail avoidance, see the *Confirmed Answer and DVO VM detection* section in the Cisco Unified Communications Manager Features and Services Guide for your release.

## Related Topics

[Cisco Unified Communications Manager Features and Services Guide](#)

# Set Up Timer-Controlled Voicemail Avoidance

Timer-controlled voicemail avoidance is supported on Cisco Unified Communications Manager Release 6.0 and later.

Set up the timer control method by setting the **Answer Too Soon Timer** and **Answer Too Late Timer** on either the Mobility Identity or the Remote Destination. For more information, see the *Add Mobility Identity* or *Add Remote Destination (Optional)* topics.

### Related Topics

[Add Mobility Identity, on page 14](#)

[Add Remote Destination \(Optional\), on page 16](#)

