



## Extend and Connect

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### Overview of Extend and Connect

With the Extend and Connect feature, Unified Contact Center Express agents and supervisors can work from a remote location using any device.

This feature gives the user (agent or supervisor) the flexibility to answer or make calls using devices that are connected to the PSTN or to mobile or other PBX networks. Extend and Connect functions by leveraging CTI remote device and persistent connection features of Cisco Unified Communications Manager (CUCM).

You can enable the Extend and Connect feature through the Cisco Jabber client by selecting only the Extend mode. This feature provide the following connections:

- CTI remote device—CTI remote devices are Unified CCX off-cluster devices for users that can be connected to any of the third-party networks, such as PSTN, mobile, or PBX.
- Persistent connection—Unified CCX users use this feature to set up a persistent call connection to remote destination. The advantage of this connection is that call establishment to the remote destination is much faster.

For information about Extend and Connect feature, see *Features and Services Guide for Cisco Unified Communications Manager* at [https://www.cisco.com/c/en/us/td/docs/voice\\_ip\\_comm/cucm/admin/10\\_0\\_1/ccmfeat/CUCM\\_BK\\_F3AC1C0F\\_00\\_cucm-features-services-guide-100/CUCM\\_BK\\_F3AC1C0F\\_00\\_cucm-features-services-guide-100\\_chapter\\_010111.html](https://www.cisco.com/c/en/us/td/docs/voice_ip_comm/cucm/admin/10_0_1/ccmfeat/CUCM_BK_F3AC1C0F_00_cucm-features-services-guide-100/CUCM_BK_F3AC1C0F_00_cucm-features-services-guide-100_chapter_010111.html).

For more information about remote destination, see *Cisco Unified Communications Manager Administration Guide* at <https://www.cisco.com/c/en/us/support/unified-communications/unified-communications-manager-callmanager/products-maintenance-guides-list.html>.

### Server Configuration

To use the Extend and Connect, follow these server configuration steps:

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- Step 1** Perform the preinstallation tasks for IM and Presence nodes.

See "Perform pre-installation tasks for IM and Presence nodes" section in *Installing Cisco Unified Communications Manager* at <https://www.cisco.com/c/en/us/support/unified-communications/unified-communications-manager-callmanager/products-installation-guides-list.html>

**Step 2** Configure the Cisco IM and Presence node details on Call Manager before you install Cisco IM and Presence. From Cisco Unified CM Administration on the publisher node, choose **System > Server > Server Type** and then choose **CUCM IM and Presence**.

For information about server setup, see the *Cisco Unified Communications Manager Administration Guide* at <https://www.cisco.com/c/en/us/support/unified-communications/unified-communications-manager-callmanager/products-maintenance-guides-list.html>.

**Step 3** Install Cisco IM and Presence as a Call Manager subscriber.

For information about Cisco IM and Presence installation, see *Installing Cisco Unified Communications Manager* at <https://www.cisco.com/c/en/us/support/unified-communications/unified-communications-manager-callmanager/products-installation-guides-list.html>

**Step 4** Activate and start all the Cisco IM and Presence services in **Cisco Unified Serviceability**.

For information about activating services, see the "Activate services" section in *Installing Cisco Unified Communications Manager* at <https://www.cisco.com/c/en/us/support/unified-communications/unified-communications-manager-callmanager/products-installation-guides-list.html>

**Step 5** Create Presence Redundancy groups in Call Manager.

- a) Choose **System > Presence Redundancy Groups > Add New**.
- b) Select Cisco IM and Presence, which you installed from the **Presence Server** drop-down list.

For information about the Presence redundancy group setup, see the "Presence redundancy group setup" section in *Cisco Unified Communications Manager Administration Guide* at <https://www.cisco.com/c/en/us/support/unified-communications/unified-communications-manager-callmanager/products-maintenance-guides-list.html>.

**Step 6** Create UC services for CTI and IM Presence services in Call Manager.

**Note** You must select CTI and IM Presence services.

For information about creating UC services, see the "Add CTI service" section in *Cisco Unified Communications Manager Administration Guide* at <https://www.cisco.com/c/en/us/support/unified-communications/unified-communications-manager-callmanager/products-maintenance-guides-list.html>.

**Step 7** Set up the service profile in Call Manager.

**Note** You must specify CTI and IM Presence service that you created in step 6.

For information about Service profile setup, see the "Service profile setup" section in *Cisco Unified Communications Manager Administration Guide* at <https://www.cisco.com/c/en/us/support/unified-communications/unified-communications-manager-callmanager/products-maintenance-guides-list.html>.

**Step 8** Set up the end user in Call Manager.

Perform the following steps:

- a) Navigate to **User Management > End User**.
- b) Click the User ID that you want to set up.
- c) In the **Service Settings** section, select **Enable User for Unified CM IM and Presence (Configure IM and Presence in the associated UC Service Profile)** and then in **UC Service Profile**, select the profile that you created.
- d) In the **Mobile Information** section, select **Enable Mobility**.
- e) In **Permission Information**, add **Standard CCM End user** and **Standard CTI enabled**.
- f) Navigate to **User Management > Assign Presence End Users**.

g) Click the User ID that you want to set up and then choose **Assign Selected Users**.

**Step 9**

Set up the trunk in Call Manager.

For information about the Trunk setup, see the "Trunk setup" section in *Cisco Unified Communications Manager Administration Guide* at <https://www.cisco.com/c/en/us/support/unified-communications/unified-communications-manager-callmanager/products-maintenance-guides-list.html>.

**Step 10**

Add the route pattern in Call Manager to route the calls to the remote device.

For information about route pattern setup, see the "Route pattern setup" section in *Cisco Unified Communications Manager Administration Guide* at <https://www.cisco.com/c/en/us/support/unified-communications/unified-communications-manager-callmanager/products-maintenance-guides-list.html>.

**Step 11**

Configure the Presence Gateway configuration on IM and Presence.

For information about configuring Presence Gateway on IM and Presence, see the "Configure Presence Gateway configuration on IM and Presence" section in *Cisco Unified Communications Manager Administration Guide* at <https://www.cisco.com/c/en/us/support/unified-communications/unified-communications-manager-callmanager/products-maintenance-guides-list.html>.

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## Persistent Connection

Unified CCX makes a persistent connection call to the agent's remote phone when an agent logs in to the agent desktop.



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**Note** The agent must first answer the persistent connection call and then change the status to Ready in the agent desktop to answer the incoming call.

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After establishing the persistent connection, the call remains connected until the Maximum Call Duration timer expires or until the agent logs out, provided that no other problems occur in the remote destination network. You must specify to match the time on the Maximum Call Duration timer with your company shift time or specify more than your company shift time. If the persistent connection gets disconnected, it retries until the connection is established.

### Add Customized Announcement for Persistent Connection Call

When an agent answers persistent connection call, make an announcement to the agent indicating that the persistent connection must be retained so that further calls from or to customers are established over persistent connection.

If the agent's remote device supports Caller ID display, it displays `EC Mode` as the caller name, which indicates a persistent connection call.

By default, the Cisco Unified Communications Manager has announcements created. Unified CCX, through JTAPI communication to Cisco Unified Communications Manager, calls the announcement ID **UCCX Persistent Connection Prompt**. You must create the **UCCX Persistent Connection Prompt** customized announcement ID.

To add the customized announcement ID, see the "Upload customized announcement" procedure in the *Cisco Unified Communications Manager Administration Guide* at <https://www.cisco.com/c/en/us/support/>

[unified-communications/unified-communications-manager-callmanager/products-maintenance-guides-list.html](https://www.cisco.com/c/en/us/support/unified-communications/unified-communications-manager-callmanager/products-maintenance-guides-list.html).  
Enter **UCCX Persistent Connection Prompt** in the **Announcement Identifier** field.



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- Note**
- Add a customized prompt to the created UCCX Persistent Connection Prompt, click **Upload Files** and select the desired prompt (.wav file).
  - When the announcement is played, the Caller ID information on agent's remote phone changes to **Voice Connect**.
  - If no announcement ID is created, Cisco Unified Communications Manager does not play any announcement to the agent when the persistent call is answered.
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### Incoming Call Notification

An agent can configure a sound alert to notify an incoming call when the customer calls are routed through Persistent Connection Calls of the agents.

To receive the sound alert, in Cisco Unified Communications Manager, configure the Announcement ID as **UCCX Customer Call Prompt**. When the Announcement ID is configured, Unified CCX plays the announcement before the call is routed to a desktop. If you do not configure an Announcement ID, Unified CCX does not play an announcement, and then the agent relies on desktop signal for an incoming call.



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- Note** Configure **UCCX Customer Call Prompt** in the English language in Cisco Unified Communications Manager.
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## Server Configuration

To use the Extend and Connect, follow these server configuration steps:

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- Step 1** Perform the preinstallation tasks for IM and Presence nodes.  
See "Preinstall Tasks for the IM and Presence Service" section in *Installation Guide for Cisco Unified Communications Manager and the IM and Presence Service* at <https://www.cisco.com/c/en/us/support/unified-communications/unified-communications-manager-callmanager/products-installation-guides-list.html>
- Step 2** Configure the Cisco IM and Presence node details on Call Manager before you install Cisco IM and Presence. From Cisco Unified CM Administration on the publisher node, choose **System** > **Server** > **Server Type** and then choose **CUCM IM and Presence**.  
For information about the server setup, see "Manage the Server" in *Cisco Unified Communications Manager Administration Guide* at <https://www.cisco.com/c/en/us/support/unified-communications/unified-communications-manager-callmanager/products-maintenance-guides-list.html>.
- Step 3** Install Cisco IM and Presence as a Call Manager subscriber.  
For information about Cisco IM and Presence installation, see "Installation Tasks" in *Installation Guide for Cisco Unified Communications Manager and the IM and Presence Service* at <https://www.cisco.com/c/en/us/support/unified-communications/unified-communications-manager-callmanager/products-installation-guides-list.html>

- Step 4** Activate and start all the Cisco IM and Presence services in **Cisco Unified Serviceability**.  
For information about activating services, see the "Configure the IM and Presence Publisher" section in *Installation Guide for Cisco Unified Communications Manager and the IM and Presence Service* at <https://www.cisco.com/c/en/us/support/unified-communications/unified-communications-manager-callmanager/products-installation-guides-list.html>
- Step 5** Create Presence Redundancy groups in Call Manager.
- Choose **System > Presence Redundancy Groups > Add New**.
  - Select Cisco IM and Presence, which you installed from the **Presence Server** drop-down list.
- For information about the Presence redundancy group setup, see the "Configure Presence Redundancy Groups" section in *System Configuration Guide for Cisco Unified Communications Manager* at <https://www.cisco.com/c/en/us/support/unified-communications/unified-communications-manager-callmanager/products-installation-and-configuration-guides-list.html>.
- Step 6** Create UC services for CTI and IM Presence services in Call Manager.
- Note** You must select CTI and IM Presence services.
- For information about creating UC services, see the "Add CTI service" section in *System Configuration Guide for Cisco Unified Communications Manager* at <https://www.cisco.com/c/en/us/support/unified-communications/unified-communications-manager-callmanager/products-installation-and-configuration-guides-list.html>.
- Step 7** Set up the service profile in Call Manager.
- Note** You must specify CTI and IM Presence service that you created in step 6.
- For information about the Service profile setup, see the "Configure Service Profile" section in *System Configuration Guide for Cisco Unified Communications Manager* at <https://www.cisco.com/c/en/us/support/unified-communications/unified-communications-manager-callmanager/products-installation-and-configuration-guides-list.html>.
- Step 8** Set up the end user in Call Manager.
- Perform the following steps:
- Navigate to **User Management > End User**.
  - Click the User ID that you want to set up.
  - In the **Service Settings** section, select **Enable User for Unified CM IM and Presence (Configure IM and Presence in the associated UC Service Profile)** and then in **UC Service Profile**, select the profile that you created.
  - In the **Mobile Information** section, select **Enable Mobility**.
  - In **Permission Information**, add **Standard CCM End user** and **Standard CTI enabled**.
  - Navigate to **User Management > Assign Presence End Users**.
  - Click the User ID that you want to set up and then choose **Assign Selected Users**.
  - Create a CTI Remote Device.
  - Associate Jabber and CTI Remote device to end user.
  - Associate the CTI Remote device to UCCX RmCm application user.
- Step 9** Set up the trunk in Call Manager.
- For information about the Trunk setup, see the "Configure Cisco Unified Communications Manager for IM and Presence Service" section in *Configuration and Administration of the IM and Presence Service* at <https://www.cisco.com/c/en/us/support/unified-communications/unified-communications-manager-callmanager/products-installation-and-configuration-guides-list.html>.
- Step 10** Add the route pattern in Call Manager to route the calls to the remote device.

For information about the route pattern setup, see the "Configure Advanced Routing" section in *Configuration and Administration of the IM and Presence Service* at <https://www.cisco.com/c/en/us/support/unified-communications/unified-communications-manager-callmanager/products-installation-and-configuration-guides-list.html>.

**Step 11**

Configure the Presence Gateway configuration on IM and Presence.

For information about configuring Presence Gateway on IM and Presence, see the "Configure the Presence Gateway" section in *Configuration and Administration of the IM and Presence Service* at <https://www.cisco.com/c/en/us/support/unified-communications/unified-communications-manager-callmanager/products-installation-and-configuration-guides-list.html>.

**Example**

For an example about how to configure Extend and Connect for Unified CCX, see <https://www.cisco.com/c/en/us/support/docs/contact-center/unified-contact-center-express/215536-configure-extend-and-connect-feature-for.html>.

## Persistant Connection

Unified CCX makes a persistent connection call to the agent's remote phone when an agent logs in to the agent desktop.



**Note** The agent must first answer the persistent connection call and then change the status to Ready in the agent desktop to answer the incoming call.

After establishing the persistent connection, the call remains connected until the Maximum Call Duration timer expires or until the agent logs out, provided that no other problems occur in the remote destination network. You must specify to match the time on the Maximum Call Duration timer with your company shift time or specify more than your company shift time. If the persistent connection gets disconnected, it retries until the connection is established.

**Add Customized Announcement for Persistent Connection Call**

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If the agent's remote device supports Caller ID display, it displays `EC Mode` as the caller name, which indicates a persistent connection call.

By default, the Cisco Unified Communications Manager has announcements created. Unified CCX, through JTAPI communication to Cisco Unified Communications Manager, calls the announcement ID **UCCX Persistent Connection Prompt**. You must create the **UCCX Persistent Connection Prompt** customized announcement ID.

To add the customized announcement ID, see "Media Resources" in the *Cisco Unified Communications Manager Administration Guide* at <https://www.cisco.com/c/en/us/support/unified-communications/unified-communications-manager-callmanager/products-maintenance-guides-list.html>.

Enter **UCCX Persistent Connection Prompt** in the **Announcement Identifier** field.



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- Note**
- Add a customized prompt to the created UCCX Persistent Connection Prompt, click **Upload Files** and select the desired prompt (.wav file).
  - When the announcement is played, the Caller ID information on agent's remote phone changes to **Voice Connect**.
  - If no announcement ID is created, Cisco Unified Communications Manager does not play any announcement to the agent when the persistent call is answered.
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### Incoming Call Notification

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- Note** Configure **UCCX Customer Call Prompt** in the English language in Cisco Unified Communications Manager.
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