



# Extend and Connect

---

This chapter provides information about the Extend and Connect feature. This chapter contains the following information:

- [Extend and Connect, on page 1](#)
- [System Requirements, on page 6](#)
- [Interactions and Restrictions, on page 6](#)
- [Availability Information, on page 8](#)
- [CallerID Information, on page 8](#)
- [Performance and Scalability, on page 9](#)
- [Extend and Connect Setup, on page 10](#)
- [Persistent Connection, on page 15](#)

## Extend and Connect

### Overview of Extend and Connect

Changes in personal device preferences and an increasing number of mobile and remote workers necessitates a flexible solution that extends Unified Communications (UC) features with a Bring Your Own Device (BYOD) philosophy. Extend and Connect provides this solution.

Extend and Connect is a feature that allows administrators to rapidly deploy UC Computer Telephony Integration (CTI) applications which interoperate with any endpoint. With Extend and Connect, users can leverage the benefits of UC applications from any location using any device. This feature also allows interoperability between newer UC solutions and legacy systems, so customers can migrate to newer UC solutions over time as existing hardware is deprecated.

### Features and Benefits

#### Features

The Extend and Connect feature for Unified Communications Manager provides the following UC features:

- Receive incoming enterprise calls
- Make Call

- Disconnect
- Hold and Retrieve
- Redirect and Forward
- Call Forward All
- Do Not Disturb
- Play DTMF (out-of-band and in-band)
- Consult Transfer, Conference
- Add, edit, and delete Remote Destinations
- Set Remote Destination as Active or Inactive
- Persistent Connection
- Play Whisper Announcement

### Benefits

The Extend and Connect feature provides the following benefits to its users:

- Standardized call control across the Enterprise
- Centralized applications
- Simplified integration points and network topology
- Centralized licensing
- Centralized call-detail records for accounting and billing
- Accelerated application deployment
- Existing investments in legacy PBXs and devices are preserved
- Migration to Cisco IP devices over time is enabled

## Use Cases

### Cisco Jabber for Customers with a Third-Party PBX

Customers want to deploy Cisco Jabber as the desktop standard for IM and Presence Service capability, but they have not yet decided to adopt Cisco IP devices. They plan to migrate to Cisco IP devices over time, or they need to maintain a hybrid device environment.

### Cisco Jabber for Mobile Workers

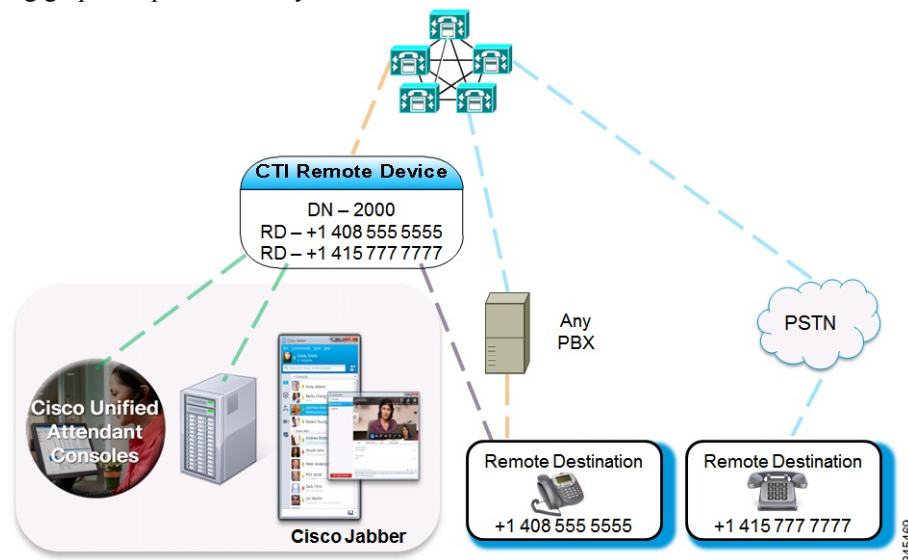
- Users want to use Cisco Jabber to make and receive calls using a home or hotel phone, because their PC hardware or available network connection does not support VoIP.
- Users want to use Cisco Jabber because they want the convenience of Jabber click-to-call features to work with the device they are sitting next to at that moment.

- Users already have a Cisco Unified IP Phone, Jabber Softphone, or both, but they also want to use Jabber with a home or hotel phone.

## System Architecture

**Figure 1: Extend and Connect System Architecture**

The following graphic represents the system architecture for the Extend and Connect feature.



- A CTI Remote Device is registered to Unified Communications Manager. For example, directory number (DN) 2000 is the internal and external extension, of the user, represented as +1 408 200 2000 or 2000.
- Remote Destinations represent the off-cluster devices of a user.
- Off-cluster devices are registered to the PBX or PSTN.
- CTI applications receive call events and can perform call operations.
- Trunks connect Unified Communications Manager with the PSTN or PBX. Supported types include PRI, BRI, SIP, and FXO.



### Note

When you use remote destinations across MGCP gateways, the display name, the display number, and the call information that is passed across the gateway cannot be updated after the call is answered. This is a limitation of the MGCP protocol.

## Call Flow

This section describes the flow of events for Extend and Connect from a system perspective.

1. Unified Communications Manager and Cisco Unified Communications Manager Session Management Edition (Unified Communications Manager SME) control the Enterprise PSTN trunking and dial-plan.

2. Administrators add users to Unified Communications Manager and assign them a new CTI Remote Device type.
3. Each CTI Remote Device is configured with the user work number directory number (DN) (for example, 2000) and a remote destination which represents any off-cluster device (for example, a PBX phone with the number +1 408 555 5555).
4. Administrators can configure remote destinations using the Cisco Unified Communications Manager Administration interface, Administrative XML (AXL) interface, or the Bulk Administration Tool (BAT), and end users can configure remote destinations using the Jabber client.
5. Users sign in to Jabber and select **Use my other device**.
6. Users may add a new remote destination (for example, home office, +1 415 777 7777) or can select from previously configured remote destinations.
7. The Jabber client marks the selected remote destination as **Active**.
8. Incoming calls to the work DN (+1 408 200 2000) are automatically routed to the active destination (+1 415 777 7777).
9. Outbound call requests follow a Dial Via Office reverse call flow, as follows:
  - a. The user clicks to call.
  - b. A server call is placed to the active remote destination.
  - c. The user answers the server (DVO) call.
  - d. The call is immediately redirected to the desired number.
10. During calls, midcall features are available through the Jabber client, such as Hold and Resume, Consult, Conference, and Transfer.
11. When users shut down or sign out of the Jabber client, the remote destination is marked **Inactive**.
12. When remote destinations are inactive, calls to the DN are routed to voicemail by default. Administrators can select the option to always forward calls to all remote destinations based on their schedule when using third-party voicemail.

**Figure 2: Incoming Call from PBX**

The following illustration shows a sample incoming call from the PBX.

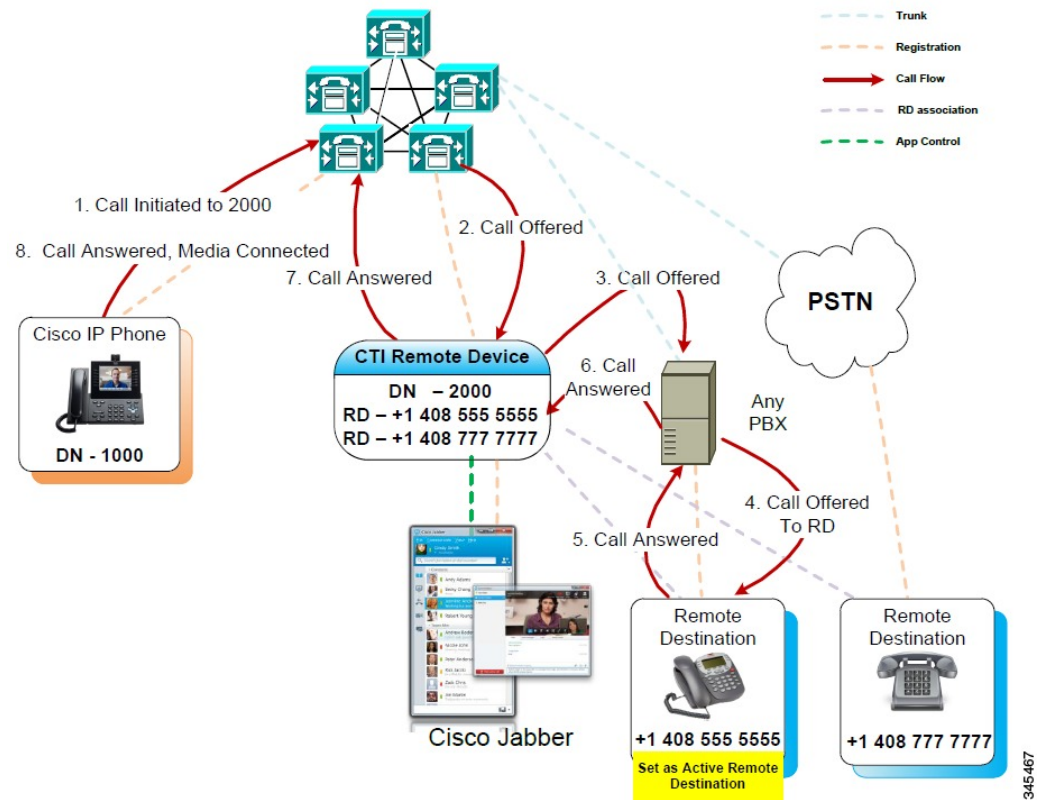
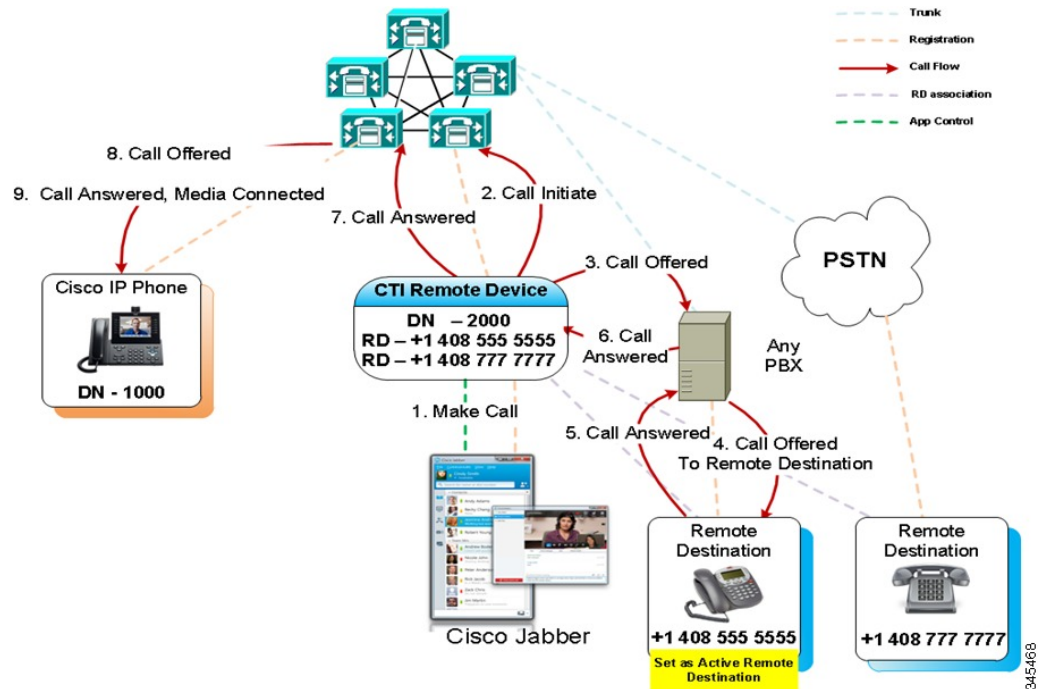


Figure 3: Outgoing Call to PBX

The following illustration shows a sample outgoing call to the PBX.



# System Requirements

## Software Components

To operate correctly, Extend and Connect requires the following software components:

- Cisco Unified Communications Manager, Release 9.1(1)
- Cisco Jabber, Release 9.1(1)
  - The initial release supports the third-party PBX use case.
  - The maintenance release adds support for the mobile worker use case.

For more information and use cases, see the *Cisco Jabber Install and Upgrade Guides*.

## Licensing Requirements

Extend and Connect operates under the following licenses:

- CUWL Standard
- CUWL Professional
- UCL-Enhanced

# Interactions and Restrictions

This section describes the interactions and restrictions for Extend and Connect.

## Interactions

### Directory URI Dialing

A Directory URI is the SIP address of a user that takes the form **user@host**, where *user* specifies a phone number or user name and *host* specifies the IP address, domain, or hostname where the user is available. You can assign multiple URIs to a single DN. End user Directory URIs are automatically associated to the primary extension for the user.

You can configure a Directory URI as the DN, remote destination, or both for the CTI remote device.

### Unified Mobility

The Unified Mobility feature allows users to answer incoming calls to their enterprise extension on either their Cisco Unified IP phone or a remote destination, such as a mobile phone, home phone, or hotel phone. Users can move active calls between their Cisco Unified IP phone and their mobile phone without losing the connection. This feature requires configuration of Remote Destination Profile device type.

The Extend and Connect feature allows users to answer incoming calls on any of their Cisco Unified IP phones or remote destination phones under the control of Cisco Jabber. However, connected (active) calls cannot be moved between the Cisco Unified IP phone and the remote destination phone. Therefore, Extend and Connect provides application control over the remote phone, but does not support mobility features such as being able to move the call to a Cisco Unified IP phone. This feature requires configuration of CTI Remote Device type.

Users who want the capabilities of both Unified Mobility and Extend and Connect may configure the same remote destination on the Remote Device Profile and CTI Remote Device types when the Owner ID of both device types is the same. This configuration allows Cisco Mobility features to be used concurrently with Extend and Connect. The ability to configure the same remote destination on both device types is supported using Cisco Unified Communications Manager Release 10 or later.

Remote destinations used with Cisco Extend and Connect feature should not be configured on Cisco Dual-mode for iPhone, Cisco Dual-mode for Android, and Carrier-integrated Mobile device types. Prefixes should not be used to differentiate the same remote destination address. For example, 91- 4085555555 and +1- 4085555555 are treated as the same number.

For more information, see the Unified Mobility chapter.

## Hunt List

A hunt list consists of a group of extensions that can answer calls. The Extend and Connect feature allows users to receive hunt calls on remote destination phones under the following conditions:

- User has Cisco Unified IP Phone
- Cisco Unified P Phone is available to answer hunt calls (logged-in/HLog)
- Cisco Jabber is running in Extend and Connect mode

**Note**

Users can indicate their availability to answer hunt list calls by pressing the HLog softkey or programmable line key on their Cisco IP Phone. The HLog key is not currently available using Cisco Jabber.

For more information, see the Hunt List chapter.

## Restrictions

The following restrictions apply to Extend and Connect:

- You can configure up to ten remote destinations for each CTI remote device.

**Note**

By default, four remote destinations are supported per device. You can set the maximum number to 10 remote destinations per device.

- Remote destination numbers must represent off-cluster devices.
- Remote destinations can be off-cluster URIs.
- Directory numbers cannot be configured as remote destination numbers.
- Remote destinations that are configured using Cisco Jabber are verified to be routable by the configured dial plan before they are saved.

- Remote destination numbers are validated using the CTI remote device reroute calling search space.
- Remote destinations that are configured using the Cisco Unified Communications Manager Administration interface and AXL interface are not validated.
- Application Dial Rules are applied to all remote destinations that are configured on the CTI remote device through the Cisco Unified Communications Manager Administration interface and Cisco Jabber.



---

**Note** Advise end users which number formats the Application Dial Rules are configured to support (for example, nn-nnn-nnnn, E.164, both).

---

- Each remote destination number must be unique within the cluster.



---

**Note** The same remote destination number cannot be used by two or more users.

---

## Availability Information

The availability status “on a call” is displayed for a user in the following situations:

- Outgoing Calls
  - The user initiates a call from Cisco Jabber in Extend and Connect mode.
  - The user initiates a call from a device that is configured as a remote destination which is routed using Unified Communications Manager or Unified Communications Manager with Unified Communications Manager SME.
- Incoming Calls
  - The user answers a call on a device configured as a remote destination routed using Unified Communications Manager or Unified Communications Manager with Unified Communications Manager SME.

The availability status “on a call” is not displayed for a user in the following situations:

- When the user initiates a call from a device that is configured as a remote destination, but the call is not routed using Unified Communications Manager or Unified Communications Manager with Unified Communications Manager SME.
- When the user answers a call on a device that is configured as a remote destination, but the call is not routed using Unified Communications Manager or Unified Communications Manager with Unified Communications Manager SME.

## CallerID Information

The follow information explains the CallerID behavior for Extend and Connect:



- The incoming CallerID information (name and number) is displayed in the Jabber client.
- This information may also be displayed on the device, depending on your carrier and trunk configuration.
- Outbound Dial Via Office calls to the remote destination display *Voice Connect* as the name and the trunk DID as the number.
- Configure the trunk DID in the Unified CM Trunk Pattern, Route Pattern, or Cisco Gateway. This configuration may also be assigned by the carrier. The number field may display as blank if the trunk DID is not configured.
- Outbound calls to the desired party display the CTI Remote Device Display Name and Directory Number (DN) as configured in Unified CM.
- Remote destination numbers are never displayed to the called party.

## Performance and Scalability

This section details performance and scalability information that relates to Extend and Connect resources.

### Busy Hour Call Attempts

Add 1 to the Busy Hour Call Attempts (BHCA) for each outbound call. BHCA is the number of attempted calls at the busiest hour of the day.

- A Dial via Office call to the active remote destination is one call.
- A redirect from the active remote destination to the desired called party is one call.

### Trunk Usage

Incoming calls may consume one or more outbound trunks.

- An internal call that is routed to the active remote destination uses one external trunk.
- A received external call that is routed to the active remote destination uses two external trunks: one trunk for the incoming leg and one trunk for the outgoing leg.

Outgoing calls follow a Dial via Office flow that may consume one or more outbound trunks per call.

- A call to a cluster directory number uses one external trunk for a Dial via Office call to an active remote destination.
- A call to an external party uses one external trunk for a Dial via Office call to an active remote destination, as well as one external trunk for a redirect to an external called party.

### CTI Device Weight

The weight of each CTI remote device is the same as a standard Cisco Unified IP Phone (SIP) device.

- A 10,000 user OVA virtual machine template can support a maximum of 10,000 Cisco Unified IP Phones when each phone is a CTI remote device.
- Each CTI remote device can be configured with five lines using five concurrent CTI applications.



---

**Note** Use the Cisco Unified Communications Sizing Tool when sizing production clusters.

---

## Extend and Connect Setup

This section describes the procedures that you must complete to provision Cisco Unified Communications Manager users with Extend and Connect capabilities.

For information about provisioning Cisco Jabber users with Extend and Connect, see the *Cisco Jabber Environment Configuration Guide*.

### Set Up User Account

For a new or existing user in Unified CM, you must enable user mobility to provision CTI remote devices. If you do not enable mobility for users, you cannot assign those users as owners of CTI remote devices.

#### Procedure

---

**Step 1** Select **User Management > End User**.

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

**Step 2** Perform one of the following:

- To configure a new user, select **Add New**.
- To select an existing user, specify the appropriate filters in the **Find User Where** field, select **Find** to retrieve a list of users, and then select the user from the list.

**Note** You may add the new end user account via LDAP integration or local configuration.

The **End User Configuration** window appears.

**Step 3** Locate the Mobility Information section.

**Step 4** Select **Enable Mobility**.

**Step 5** Select **Save**.

---

#### What to do next

Add user permissions.

### Add User Permissions

After the end user is active in Unified CM, add access control group permissions.

### Procedure

---

- Step 1** Select **User Management > End User**.  
The **Find and List Users** window appears.
- Step 2** Specify the appropriate filters in the **Find User where** field, and then select **Find** to retrieve a list of users.
- Step 3** Select the user from the list.  
The **End User Configuration** window appears.
- Step 4** Locate the **Permissions Information** section.
- Step 5** Select **Add to Access Control Group**.  
The **Find and List Access Control Groups** window appears.
- Step 6** Select **Find**.  
The Access Control Group list for Standard Users appears.
- Step 7** Check the check boxes next to the following permissions:
- Standard CCM End-Users
  - Standard CTI Enabled
  - Standard CCMUSER Administration
- Step 8** Select **Add Selected**.  
The window closes and the access control groups are added to the user account.
- Step 9** Select **Save**.
- 

### What to do next

Create CTI remote devices.

## Create CTI Remote Devices

A CTI remote device is a new device type that represents off-cluster phones that users can use with Cisco UC applications. The device type is configured with one or more lines (directory numbers) and one or more remote destinations.

Unified Communications Manager provides Extend and Connect capabilities to control calls on devices such as public switched telephone network (PSTN) phones and private branch exchange (PBX) devices.

### Procedure

---

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

The **Find and List Phone Window** appears.

**Step 3** Select **Add New**.

**Step 4** Select **CTI Remote Device** from the Phone Type drop-down list and then select **Next**.

The **Phone Configuration** window appears.

**Step 5** Select the appropriate user ID from the Owner User ID drop-down list.

**Note** Only users for whom you enable mobility are available from the Owner User ID drop-down list.

Unified Communications Manager populates the Device Name field with the user ID and a CTRID prefix, for example, *CTRIDusername*.

**Step 6** Edit the default value in the Device Name field, if appropriate.

**Step 7** Enter a meaningful description in the Description field.

**Tip** Cisco Jabber displays device descriptions to users. If Cisco Jabber users have multiple devices of the same model, the descriptions from Unified Communications Manager help users tell the difference between them.

**Step 8** Ensure you select an appropriate option from the Rerouting Calling Search Space drop-down list in the Protocol Specific Information section.

The Rerouting Calling Search Space drop-down list defines the calling search space for rerouting and ensures that users can send and receive calls from the CTI remote device.

**Step 9** Specify all other configuration settings on the **Phone Configuration** window as appropriate.

For more information, see “CTI Remote Device Setup” in the *Cisco Unified Communications Manager Administration Guide*.

**Step 10** Select **Save**.

The fields to associate directory numbers and add remote destinations become available on the **Phone Configuration** window.

---

### What to do next

Add a directory number to the device.

## Add Directory Number to Device

A directory number (DN) is a numerical address that is configured as a line on the CTI remote device. A DN typically represents the primary work number of a user (for example, 2000 or +1 408 200 2000).

You must add directory numbers to devices in Unified CM. This procedure provides instructions for adding directory numbers using the **Device > Phone** menu option after you create your device. Under this menu option, only the configuration settings that apply to the phone model or CTI route point display. See the *Cisco Unified Communications Manager Administration Guide* for more information about different options to configure directory numbers.

### Procedure

- 
- Step 1** Locate the Association Information section on the **Phone Configuration** window.
- Step 2** Select **Add a new DN**.  
The **Directory Number Configuration** window appears.
- Step 3** Specify a directory number in the Directory Number field.
- Step 4** Specify all other required configuration settings as appropriate.
- Step 5** Select **Save**.
- 

### What to do next

Add Remote Destination.

## Add Remote Destination

A remote destination is a numerical address or directory URI that represents the other phones that the user owns (for example, a home office line or other PBX phone). A remote destination may be any off-cluster device.

This procedure to add a remote destination is optional.



---

**Note** Administrators can determine which remote destination the Jabber client has set as Active from the Cisco Unified Communications Manager Administration interface.

---



---

**Note** Unified Communications Manager users can add remote destinations through the Cisco Jabber interface. For more information, see the *Cisco Jabber for Windows Environment Configuration Guide*.

- Unified Communications Manager automatically verifies whether it can route calls to remote destinations that Cisco Jabber users add through the client interface.
  - Unified Communications Manager does not verify whether it can route calls to remote destinations that you add through the Cisco Unified CM Administration interface.
- 



---

**Note** Unified Communications Manager automatically applies application dial rules to all remote destination numbers for CTI remote devices. For more information about application dial rules, see “Application Dial Rule Setup” in the *Cisco Unified Communications Manager Administration Guide*.

---

### Procedure

---

- Step 1** From Cisco Unified Communications Manager Administration, select **Device > Phone**.  
The **Find and List Phones** window appears.
- Step 2** Specify the appropriate filters in the Find Phone Where field to and then select **Find** to retrieve a list of phones.
- Step 3** Select the CTI remote device from the list.  
The **Phone Configuration** window appears.
- Step 4** Locate the Associated Remote Destinations section.
- Step 5** Select **Add a New Remote Destination**.  
The **Remote Destination Information** window appears.
- Step 6** Enter the destination number in the Destination Number field and specify all other values as appropriate.  
To use the remote destination with Cisco Jabber clients, you must configure the destination name as *JabberRD*.  
For more information about configuring remote destinations, see “Remote Destination Setup” in the *Cisco Unified Communications Manager Administration Guide*.
- Step 7** Select **Save**.
- 

### What to do next

Complete the following steps to verify the remote destination and apply the configuration to the CTI remote device:

1. Repeat the steps to open the **Phone Configuration** window for the CTI remote device.
2. Locate the Associated Remote Destinations section.
3. Verify that the remote destination is available.
4. Select **Apply Config**.



---

**Note** The Device Information section on the **Phone Configuration** window indicates when a Remote Destination is active or controlled by Cisco Jabber.

---

## Associate User to Device

### Before you begin

You must create or modify an end user account and enable it for mobility. You must also create a CTI Remote Device.

### Procedure

- 
- |               |  |
|---------------|--|
| <b>Step 1</b> | Navigate to the end user account.  |
| <b>Step 2</b> | Locate the Device Information section.                                       |
| <b>Step 3</b> | Select <b>Device Association</b> .   |
| <b>Step 4</b> | Find and select the CTI remote device.                                       |
| <b>Step 5</b> | Verify that the selected device appears as a controlled device for the user. |
- 

## Persistent Connection

The Extend and Connect feature allows a user to benefit from UC applications from any location and any device on a call by call basis. The Persistent Connection feature extends that functionality by allowing the connection to remain persistent between calls.

Persistent connections are created by CTI applications such as Contact Center Express/Enterprise to accelerate call delivery and media setup. Additionally, whisper announcements can be played on persistent connection calls to announce callers (for example, Customer Sales – English) or indicate when media is connected (for example, zip tone).

### Persistent Connection Creation

- A persistent connection must be created using a CTI application such as Contact Center Express/Enterprise
- Requirements
  - At least one Remote Destination (RD) must be configured
  - The RD must be Active
- A request to create a second Persistent Connection after the first one is successfully established will fail
- A request to create a second Persistent Connection when the first one is being setup will fail
- A Persistent Connection will have a unique Global Call ID and Call ID, different from a typical call
- A Longest Active Call timer will drop the Persistent Connection when the timer expires
- Call features (such as Consult and Transfer) cannot be performed on a persistent connection, but are supported for a typical call when media is connected.
- After a Persistent Connection is answered, it will remain in the state as Connected for the duration of the call
- When the active remote destination is reset, a Persistent Connection call will drop if there are no other active calls. If there are active calls, it will drop after the current active call is dropped
- The Real-time Monitoring Tool will report the Persistent Connection call as an active call
- A maximum of 8000 Persistent Connections can be created per cluster, or 2000 per node

## Persistent Connection Use Cases

### Verify Remote Destination in Add

- Route Pattern configured is 9.XXXX
- Application initiates AddRemoteDestination (OtherExtn, 91000, Active=TRUE)
- CTI verifies 91000 and confirms that it is reachable
- AddRemoteDestination is successful

### Verify Remote Destination in Update

- Route Pattern configured is 9.XXXX
- Remote Destination configured as 92000
- Application initiates UpdateRemoteDestination (OtherExtn, 92000, 91000, Active=True)
- CTI verifies 91000 and confirms that it is reachable
- UpdateRemoteDestination is successful

### Verify Remote Destination with a Wrong Route Pattern

- Route Pattern configured is 8.XXXX
- Application initiates AddRemoteDestination (OtherExtn, 91000, Active=True)
- CTI verifies 91000 and confirms that it is not reachable
- AddRemoteDestination is rejected (RD\_NOT\_REACHABLE)
- UpdateRemoteDestination reports a similar error

### Verify Remote Destination with Conflicting Route Patterns

- Route Pattern configured is 9.XXXX
- Application initiates AddRemoteDestination (OtherExtn, 91000, Active=True)
- CTI verifies 91000 and confirms that it is reachable
- AddRemoteDestination is successful
- A similar UpdateRemoteDestination will be successful also

### Verify Remote Destination with Typo Error by User

- Route Pattern configured is 9.XXXX
- Remote Destination the user intended to configure is 91000
- Application initiates AddRemoteDestination (OtherExtn, 91100, Active=True)
- CTI verifies 91100 and confirms that it is reachable



- AddRemoteDestination is successful
- A similar UpdateRemoteDestination be successful also
- A call initiated or offered from Remote Device will not be offered to 91000 because the Remote Destination is 91100

### Persistent Connection Creation

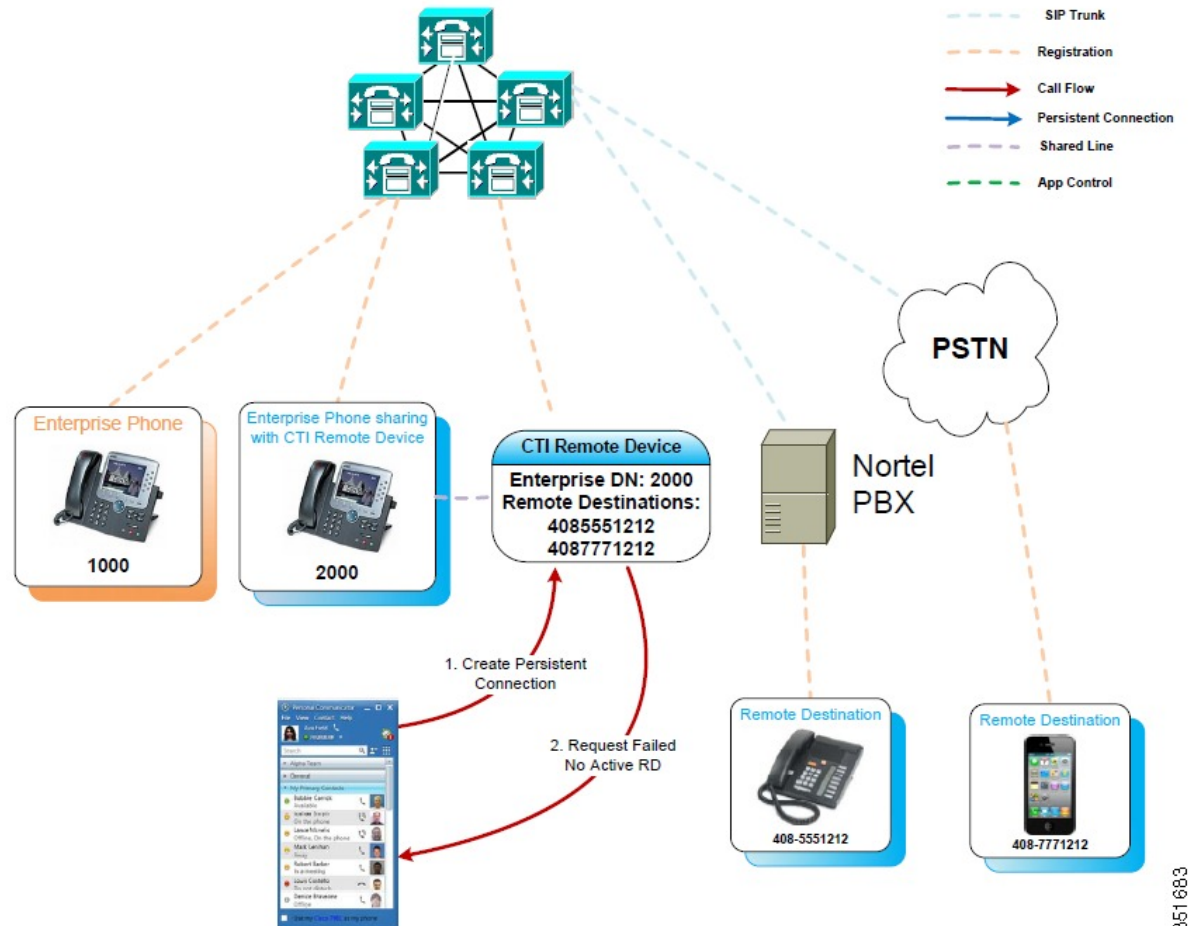
- A persistent connection must be created using a CTI application such as Contact Center Express/Enterprise
- Requirements
  - At least one Remote Destination (RD) must be configured
  - The RD must be Active
  - User may specify Calling Party Destination Number and Calling Party Name
- Any application can create a Persistent Connection, regardless of which application created the Active RD
- Use the Parking Lot to create the persistent connection
- If no Calling Party DN or Calling Party Name are specified, the default will be a Voice Connect with DN
- Only supports Remote Devices and Jabber in Extend Mode
- There is no admin configuration to allow Persistent Connection
- Remote Connection succeeds as soon the call is offered to a Remote Device
- A Persistent Connection Call answered by Voice Mail, Annunciator device inserted to avoid voice mail answers
- A Persistent Connection Call will not be offered to shared lines (such as DVO)
- A Persistent Connection will appear as RIU on shared lines after Remote Destination answers (such as DVO)
- Privacy on Hold will be false (such as DVO) so User can resume call from a desk phone
- A request to create a second Persistent Connection after the first one is successfully established will fail
- A request to create a second Persistent Connection when the first one is being setup will fail
- You can create a Persistent Connection on any line in the Remote Device
- A Persistent Connection will have a unique Global Call ID and Call ID, different from a typical call
- A Longest Active Call timer will drop the Persistent Connection when the timer expires
- Call features (such as Consult and Transfer) cannot be performed on a persistent connection, but are supported for a typical call when media is connected.
- A Persistent Connection cannot be included in other feature invocations such as Direct Transfer and Join
- After a Persistent Connection is answered, it will remain in the state as Connected for the duration of the call

- When the active remote destination is reset, a Persistent Connection call will drop if there are no other active calls. If there are active calls, it will drop after the current active call is dropped
- The Real-time Monitoring Tool will report the Persistent Connection call as an active call
- CDR for the Persistent Connection call should be updated for the entire lifetime of the call (not only when the Half call is cleared)
- A maximum of 8000 Persistent Connections can be created per cluster, or 2000 per node

### Persistent Connection Call Events

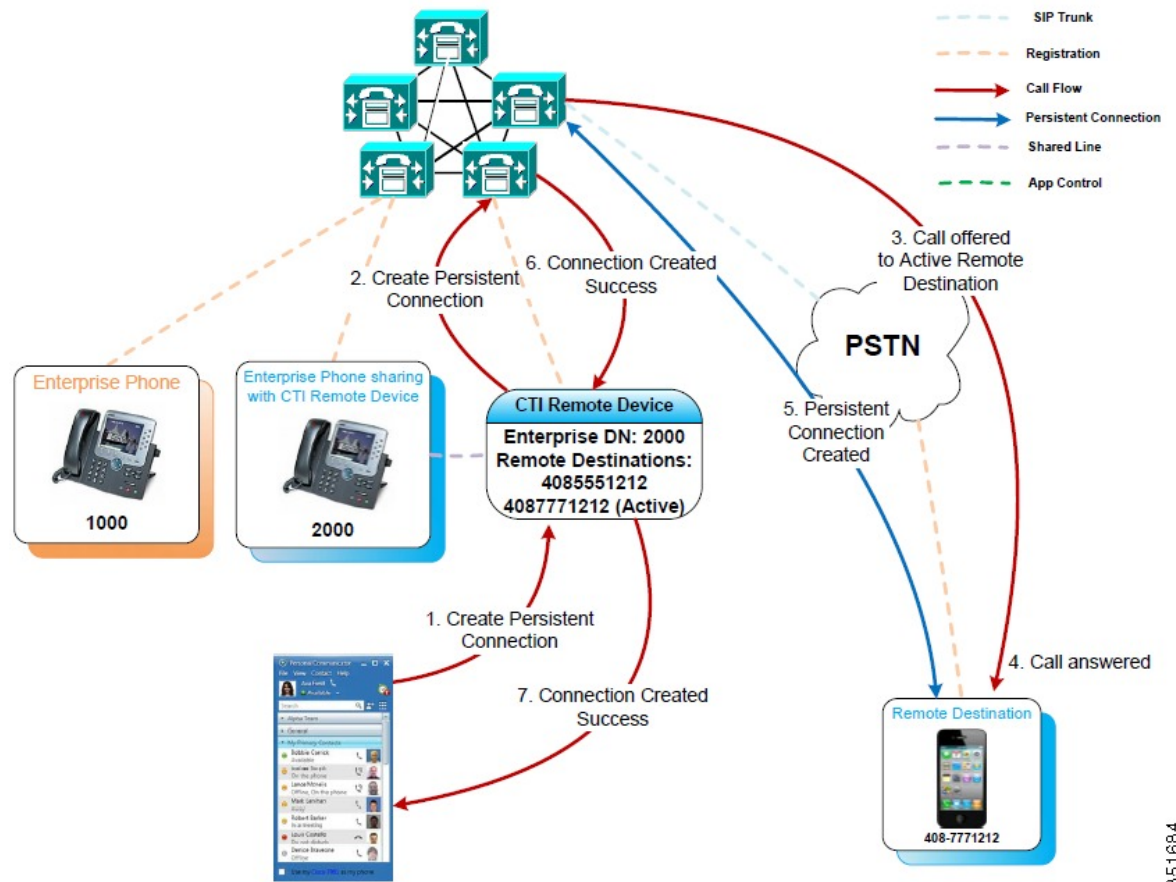
- When a Persistent Connection Call is offered
  - New Call Event (Attribute = Persistent Connection, Caller ID, Caller ID Name)
  - Call State (Offering)
  - Call State (Accepted)
- When the call is answered
  - Call State (Connected)

### No Active Remote Destination Device



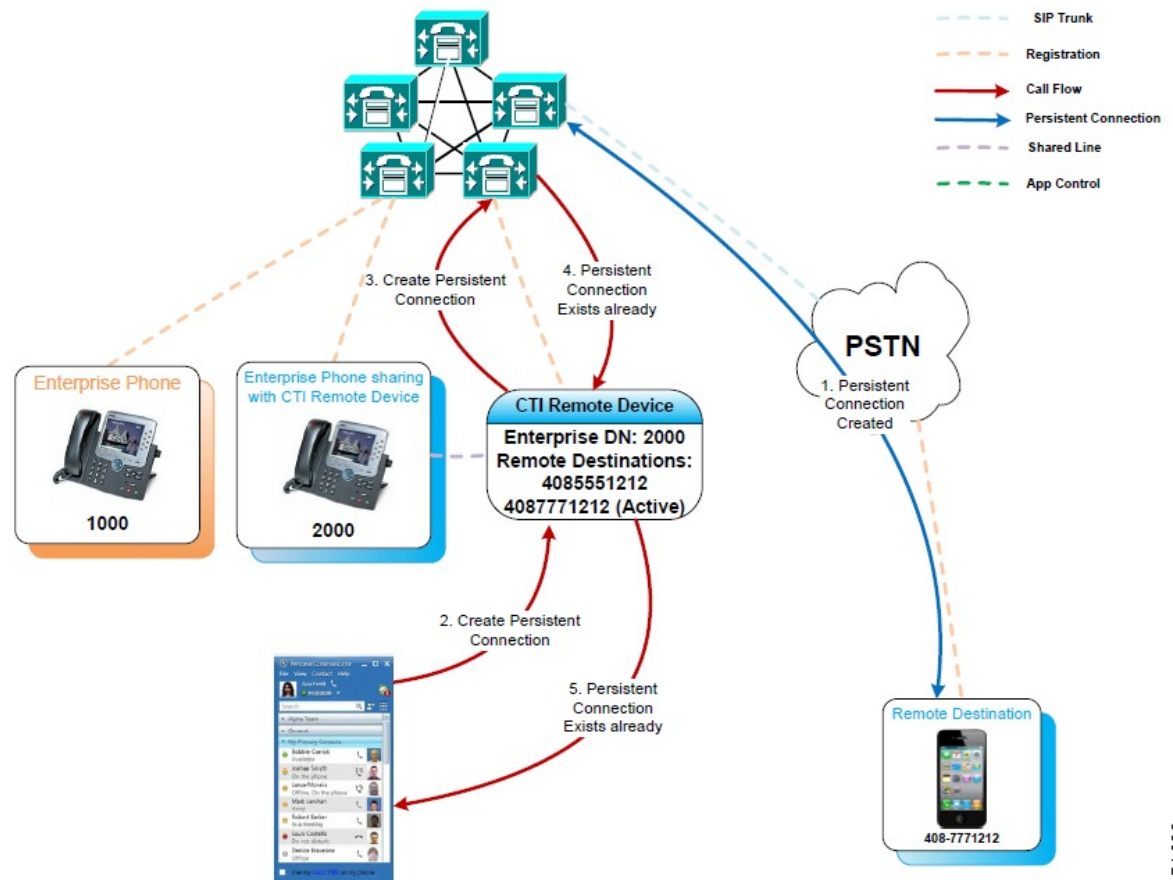
351683

## Active Remote Destination Device



351884

### Persistent Connection Already Exists



351682

## Whisper Announcement

Whisper announcements are played by CTI applications such as Contact Center Express/Enterprise. These announcements help agents answer the customer call with the appropriate greeting (for example, Customer Support – Spanish) or indicate when customer call media is connected (for example, zip tone).

### Typical Use Cases

- Contact Center plays the zip tone before connecting customer to agent.
- Contact Center plays the Whisper Announcement before connecting customer to agent.

### Requirements

- A CTI application, such as Contact Center Express/Enterprise, must be used to play the announcement.
- Announcement is configured on Cisco Unified CM Administration (**Media Resources > Announcement**).
- A persistent connection call is established and connected.
- No other active call is connected. A customer call may be ringing.

- Any call state change will stop the announcement.