



# Mobile Agent

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## Mobile Agent

Deployments that need connectivity from the agent desktop over the internet without using a VPN is supported using the [Reverse Proxy Automated Installer](#) .

### Related Topics

[Reverse Proxy Automated Installer](#)

## Capabilities

### Cisco Unified Mobile Agent Description

Unified Mobile Agent supports call center agents using phones that your contact center enterprise solution does not directly control. You can deploy a Mobile Agent as follows:

- Outside the contact center, by using an analog phone or a mobile phone in the home.
- On an IP phone connection that is not CTI-controlled by Packaged CCE or by an associated Unified Communications Manager.
- On any voice endpoint of any ACD (including endpoints on other Unified Communication Managers) that the contact center Unified Communication Manager can reach by a SIP trunk.

A Mobile Agent can use different phone numbers at different times; the agent enters the phone number at login time. An agent can access the Mobile Agent functionality using any phone number that is included in the Unified Communications Manager dial plan.

## Unified Mobile Agent Provides Agent Sign-In Flexibility

Agents can be either local agents or Mobile Agents, depending on how they sign in at various times.

Regardless of whether agents sign in as local or Mobile Agents, their skill groups do not change. Because agents are chosen by existing selection rules and not by how they are connected, the same routing applies regardless of how the agents log in. If you want to control routing depending on whether agents are local or mobile, assign the agents to different skill groups and design your scripts accordingly.

## Connection Modes

Cisco Unified Mobile Agent allows system administrators to configure agents to use either call by call dialing or a nailed connection, or the administrator can configure agents to choose a connection mode at login time.

Mobile Agents are defined as agents using phones not directly controlled by Unified CC, irrespective of their physical location. (The term local agent refers to an agent who uses a phone that is under control of Unified CC, irrespective of physical location.)

You can configure Mobile Agents using either of two delivery modes:

- **Call by Call**—In this mode, the Mobile Agent's phone is dialed for each incoming call. When the call ends, the Mobile Agent's phone is disconnected before being made ready for the next call.
- **Nailed Connection**—In this mode, the agent is called at login time and the line stays connected through multiple customer calls.



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**Note** The administrator can select the *Agent chooses* option, which allows an agent to select a call delivery mode at login.

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## Call by Call

In a *call by call* delivery mode, the Mobile Agent's phone is dialed for each incoming call. When the call ends, the Mobile Agent's phone disconnects before it is made ready for the next call.

The *call by call* call flow works as follows:

1. At login, the agent specifies an assigned extension for a CTI port.
2. A customer call arrives in the system and, through Unified ICM configuration and scripting, is queued for a skill group or an agent. (This is no different than existing processing for local agents.)
3. The system assigns an agent to the call. If the agent's Desk Setting is Unified Mobile Agent-enabled and configured for either call by call or Agent chooses mode, the router uses the extension of the agent's CTI port as a label.
4. The incoming call rings at the agent's CTI port. The JTAPI Gateway and PIM notice this but do not answer the call.
5. A call to the agent is initiated on another CTI port chosen from a preconfigured pool. If this call fails, Redirect on No Answer processing is initiated.



**Note** In call by call mode, the Answer Wait Time is 3 to 15 seconds longer than in a local agent inbound call scenario. Specify a Redirect on No Answer setting large enough to accommodate the extra processing time.

6. When the agent takes the remote phone off-hook to answer the call, the system directs the customer call to the agent's call media address and the agent's call to the customer's call media address.
7. When the call ends, both connections are terminated and the agent is ready to accept another call.



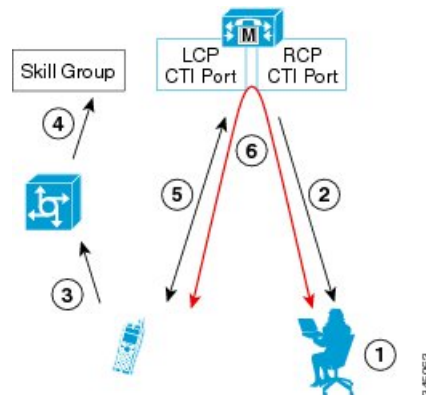
**Note** To configure Mobile Agent in call by call delivery mode, you must set the wrap-up timer to at least one second using the Agent Desktop Settings List tool in the Configuration Manager.

In call by call delivery mode, callers often perceive a longer ring time compared to nailed connection delivery mode. This is because callers hear the ringtone during the call flow; ringing stops only after the agent answers. From the Unified CCE reporting perspective, a Mobile Agent in call by call delivery mode has a longer Answer Wait Time for the same reason.

## Nailed Connections

In *nailed connection* delivery mode, the agent is called once, at login, and the phone line remains connected through multiple customer calls. See the following figure.

**Figure 1: Nailed Connection Call Flow**



The nailed connection call flow works as follows:

1. At login, the agent enters the directory number of the local CTI port (LCP) and the remote phone number in the Desktop.

The remote phone number can be any phone number reachable by Unified CM.

When the agent clicks the Login button, a call is initiated to the agent's remote CTI port (RCP) and the agent's remote phone rings.

2. When the agent answers the call, the call is then *nailed up*. This means that the agent will remain on this call until the agent logs out or ends the call.

3. A customer's call arrives in the system and, through Packaged CCE configuration and scripting, is queued for a skill group/precision queue. (This is no different than existing processing for local agents.)
4. When the agent clicks the Answer button, the voice path between the agent and the customer phone is established, and the two parties can talk.
5. When the system assigns an agent to the call, the call is routed to the agent's LCP port. The agent then hears the connect tone on the headset.
6. When the call ends, the customer connection is terminated and the agent state returns to Ready.

### Connect Tone

The *Connect Tone* feature in the nailed connection mode enables the system to play a tone to the Mobile Agent through the agent's headset to let the agent know when a new call is connected.

Connect Tone is particularly useful when Auto Answer is enabled or the agent is an Outbound agent. Here are its features:

- An audible tone (two beeps) is sent to the Mobile Agent headset when the call to the nailed connection Mobile Agent is connected. It is a DTMF tone played by Unified CM and cannot be modified.
- The Connect Tone plays only when the nailed connection Mobile Agent receives a call, as in the following examples:
  - The agent receives a consultation call.
  - The agent receives an outbound call.
- The Connect Tone does not play when the Mobile Agent initiates a call, as in the following examples:
  - The agent makes a call.
  - The agent makes the consultation call.
  - Outbound direct preview call is made.
  - Supervisor barge-in call is made.

#### Related Topics

[Enable Mobile Agent Connect Tone](#), on page 17

## Agent Greeting and Whisper Announcement

The Agent Greeting and Whisper Announcement features are available to Unified Mobile Agents. The following sections explain more about how these features apply to Unified Mobile Agents.

### Agent Greeting

You can use the Agent Greeting feature to record a message that plays automatically to callers when they connect to you. Your greeting message can welcome the caller, identify you, and include other useful information.

#### Limitations

The following limitations apply to the Agent Greeting feature for Mobile Agents.

- A supervisor cannot barge in when an Agent Greeting is playing.
- If a Peripheral Gateway (PG), JTAPI Gateway (JGW), or PIM failover occurs when an Agent Greeting plays for a Mobile Agent, the call fails.
- If a Mobile Agent ends the call when an Agent Greeting plays, the customer still hears the complete Agent Greeting before the call ends.




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**Note** In the Agent Greeting Call Type Report, this call does not appear as a failed agent greeting call.

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For more information about Agent Greeting, see [Capabilities](#).

## Whisper Announcement

With Whisper Announcement, agents can hear a brief prerecorded message just before they connect with each caller. The announcement plays only to the agent; the caller hears ringing (based on existing ringtone patterns) while the announcement plays. The announcement can contain information about the caller, such as language preference or customer status. This information helps the agent prepare for the call.

### Configuration Requirement

For the Whisper Announcement feature for Unified Mobile Agents, you require a Media Termination Point (MTP) resource on an incoming SIP device.

## Feature Requirements

### Phone Requirements

A Unified Mobile Agent can use an analog, digital, or IP phone to handle calls.




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**Note** When Unified Mobile Agent phones are located on a cluster and a SIP Trunk is used to connect the cluster to another cluster under Packaged CCE control, you must either use SIP phones as Mobile Agent phones or select **mtp required** on the Packaged CCE cluster to allow Mobile Agent calls to work.

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### Conference Requirements

To use Agent Greeting for Mobile Agents, you must configure external conference-bridge (hardware) resources. To estimate the number of required resources, you can use the following formula:

*Number of conference bridge resources = Mobile Agent call rate × Average greeting time (in seconds)*

For information about configuring external conference-bridge resources, see the `dspfarm profile 1 for conference` configuration section in the sample configuration gateway, listed in [Media Termination Points Configuration](#), on page 12.

## CTI Port Requirements

You need two CTI ports (local and remote) for every logged-in Mobile Agent.

Unified Mobile Agent uses Unified CM CTI Port as a proxy for the agent's phone. When this proxy is set up, whenever a Mobile Agent is selected to handle a customer call, the following happens:

- The call is directed to the CTI port extension.
- Packaged CCE intercepts the call arriving on the CTI Port and directs Unified CM to connect the call to the Mobile Agent.

For Unified Mobile Agent to work properly, you must configure two CTI ports:

- One port to serve as the agent's virtual extension.
- The other port to initiate calls to the agent.

You must assign these CTI ports to the Packaged CCE application. The ports are recognized by Packaged CCE when receiving the Unified CM configuration.

For these CTI ports in IPv6 enabled deployments, you have to set **IP Addressing Mode** to **IPv4 Only**. You do this by creating a **Common Device Configuration** and referencing it to these CTI ports.

## Important Considerations

Before you proceed, consider the following Unified Mobile Agent limitations and considerations:

### Failover

- During a failover, if an agent in call by call mode answers an alerting call, the call can drop. This occurs because the media cannot be bridged when there is no active PG.
- During a prolonged Peripheral Gateway (PG) failover, if an agent takes call control action for a Unified Mobile Agent-to-Unified Mobile Agent call, the call can drop. This occurs because the activating PG may not have information for all agents and calls at that point.
- Unified Communications Manager failover causes a Mobile Agent call to be lost.
- If a call by call Mobile Agent initiates a call (including a supervisor call) and does not answer the remote leg of the call before PG failover, the call fails. The agent must disconnect the remote agent call leg and reinitiate the call.

### Performance

- For the total number of supported Unified Mobile Agents and more information about Unified Mobile Agent capability, see *Solution Design Guide for Cisco Packaged Contact Center Enterprise* at <https://www.cisco.com/c/en/us/support/customer-collaboration/packaged-contact-center-enterprise/products-technical-reference-list.html>.
- Because Unified Mobile Agent adds processing steps to Unified CCE default functionality, Mobile Agents may experience some delay in screen popup windows.
- From a caller's perspective, the call by call delivery mode has a longer ring time compared with the nailed connection delivery mode. This is because Unified CCE does not start to dial the Mobile Agent's phone

number until *after* the call information is routed to the agent desktop. In addition, the customer call media stream is not connected to the agent until after the agent answers the phone.

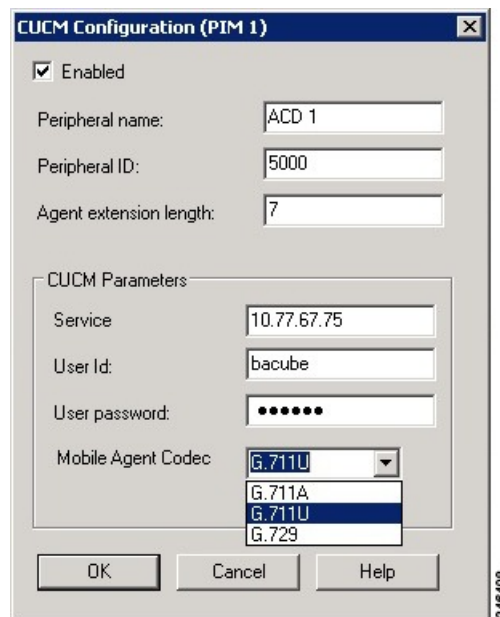
The caller hears a repeated ringtone while Unified CCE makes these connections.

## Codec

The codec settings on the Peripheral Gateway and Voice Gateway must match. Perform the following procedure:

1. Launch the Peripheral Gateway Setup.
2. In the Peripheral Gateway Component Properties, select the UCM PIM and click **Edit**.
3. In the CallManager Parameters section, select the appropriate codec from the Mobile Agent Codec drop down list.

**Figure 2: Mobile Agent Codec Selection**



## Unsupported Features

The following is a list of unsupported features for Mobile Agent:

- Web Callback
- Unified CM-based Silent Monitoring
- Agent Request

## Unified Mobile Agent Reporting

Unified Mobile Agent-specific call data is contained in the following Cisco Unified Intelligence Center reports: Agent Team Historical, Agent Real Time, and Agent Skill Group Historical. These “All Field” reports contain

information in multiple fields that show what kind of call the agent is on (nonmobile, call by call, nailed connection) and the Unified Mobile Agent phone number.



**Note** The service level for Unified Mobile Agent calls might be different than the service level for local agent calls, because it takes longer to connect the call to the agent.

For example, a call by call Mobile Agent might have a longer Answer Wait Time Average than a local agent. This is because Packaged CCE does not start to dial the Mobile Agent phone number until *after* the call information is routed to the agent desktop. In addition, the customer call media stream is not connected to the agent until after the agent answers the phone.

## Initial Setup

### Summary of Unified Mobile Agent System Configuration Tasks

The following table describes system configuration tasks for Unified Mobile Agent.

**Table 1: Unified Mobile Agent System Configuration Tasks**

Task	See
Configure Unified CM CTI Port pools	<a href="#">Unified CM CTI Port Configuration and Mapping for Unified Mobile Agent, on page 8</a>
Configure Unified CM Call Duration Timer	<a href="#">Maximum Call Duration Timer configuration, on page 11</a>
Configure Agent Desk Settings	<a href="#">Agent Desk Setting Configuration for Unified Mobile Agent, on page 11</a>
Configure Media Termination Points	<a href="#">Media Termination Points Configuration, on page 12</a>

### Unified CM CTI Port Configuration and Mapping for Unified Mobile Agent

Unified Mobile Agent must have two CTI ports configured on Unified CM:

- A *local* CTI port, which Unified Mobile Agent uses as the agent's virtual extension.
- A *remote* CTI port, which Unified Mobile Agent uses to initiate a call to the Mobile Agent's phone.

#### Naming Conventions for Local and Network Ports

- The local port *must* begin with the string LCP.
- The remote port *must* begin with the string RCP.
- The remaining characters in the device names for the LCP and RCP pair *must match*. For example an LCP port named LCP0000 has a corresponding RCP port named RCP0000.



## Music on Hold Design

If you want callers to hear music when a Mobile Agent places the caller on hold, you must assign Music on Hold (MoH) resources to the ingress voice gateway or trunk that is connected to the *caller* (as you do with traditional agents). In this case, the user or network audio source is specified on the local CTI port configuration. Similarly, if a Mobile Agent must hear music when the system puts the agent on hold, you must assign MoH resources to the ingress voice gateway or trunk that is connected to the *Mobile Agent*. In this case, the user or network audio source is specified on the remote CTI port configuration.

Do not assign MoH resources to local ports and remote CTI ports, because it might affect the system performance.

If a remote Mobile Agent calls over a nailed connection and if there is no active call to the agent, the agent is put on hold. Enable MoH to the Mobile Agent phone for nailed connection calls. If MoH resources are an issue, consider multicast MoH services.

If a remote Mobile Agent calls over a nailed connection, and if MoH is disabled, the hold tone plays to the agent phone during the hold time. Because the hold tone is similar to the connect tone, it is difficult for the agent to identify if a call arrived from listening to the Mobile Agent connect tone. The hold tone prevents the agent from hearing the connect tone. You must disable the hold tone.

Perform the following steps to disable the hold tone:

1. Log in to Unified CM Administration and navigate to **System > Service Parameters**.
2. Scroll down to the **Tone on Hold Time** field and set the value to **0**.
3. Click **Save**.




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**Note** Because Tone on Hold Time is a cluster-wide setting, it will be applied to all nodes, not just the currently selected node.

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## Configure Unified CM CTI Ports for Unified Mobile Agent

Perform the following steps to configure CTI Ports.

### Procedure

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- Step 1** In Unified CM Administration, select **Device > Phone**.
  - Step 2** Click **Add a New Phone**.
  - Step 3** From Phone Type, select **CTI Port**.
  - Step 4** Click **Next**.
  - Step 5** In Device Name, enter a unique name for the local CTI Port name; click **OK** when finished.

Using the naming convention format LCPyyyy:

- LCP identifies the CTI Port as a local device.
- yyyy is the local CTI Port.

The name LCP0000 represents the local port.

- Step 6** In Description, enter text that identifies the local CTI port.
- Step 7** Use the **Device Pool** drop-down list to choose where you want to assign the network CTI port. Do not select Default. ( The device pool defines sets of common characteristics for devices.)
- Step 8** For Device Security Profile, select **Cisco CTI Port - Standard SCCP Non-Secure Profile**.
- Step 9** Click **Save**.
- Step 10** Click **Apply config**.
- Step 11** In the Association section, select **Add a New DN**.
- Step 12** Add a unique directory number for the CTI port you just created.
- Step 13** In Maximum Number of Calls, enter **2**.
- Step 14** In Busy Trigger, enter **1**.
- Step 15** When finished, click **Save**, and click **Apply config**.
- Step 16** Repeat the preceding steps to configure the network CTI port.
- In Device Name, using the naming convention format RCPyyyy, where:
- RCP identifies the CTI port as the Remote CTI port where the call between the agent's remote device and the Unified CM Port is nailed up at agent login time.
  - yyyy is the network CTI port.
- The name RCP0000 represents the local port.
- Note** The port number for both LCP and RCP must be the same even though the directory numbers are different.
- Step 17** In Description, enter text that identifies the network CTI port.
- Step 18** Use the **Device Pool** drop-down list to choose where you want to assign the network CTI port. Do not select Default.. (The device pool defines sets of common characteristics for devices.)
- Step 19** Click **Save**.
- Step 20** In the Association Information section, select **Add a New DN**.
- Step 21** Add a unique directory number for the CTI port you just created.
- The extension length can be different from the extension length of the LCP Port if your dial plan requires it.
- Step 22** When finished, click **Save**, and click **Close**.

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## Map Local and Remote CTI Ports with Peripheral Gateway User

After you define the CTI Port pool, you must associate the CTI Ports with PG users.

### Procedure

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- Step 1** In Unified CM Administration, select **Application User**.
- Step 2** Select a username and associate ports with it.
- Step 3** When finished, click **Save**.

**Note** If CTI ports for Unified Mobile Agent are disassociated at the Unified CM while a Mobile Agent is on an active call, the call can drop.

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## Maximum Call Duration Timer configuration

By default, Mobile Agents in nailed connection mode log out after 12 hours. This happens because a Unified CM Service Parameter—the Maximum Call Duration Timer—determines the amount of time an agent phone can remain in the Connected state after login.

If you anticipate that Unified Mobile Agent will be logged in *longer than* 12 hours, use the following instructions to either one of the following:

- Increase the Maximum Call Duration Timer setting.
- Disable the timer entirely.

If your Mobile Agent deployment uses intercluster trunks between your CTI ports and your mobile agent's phone, you must set these service parameters on both the local and remote Unified CM clusters.

### Procedure

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- Step 1** In Unified CM Administration, choose **System > Service Parameters**.
- Step 2** In the Server drop-down list, choose a server.
- Step 3** In the Service drop-down list, choose **Cisco CallManager Service**.  
The **Service Parameters Configuration** page appears.
- Step 4** In the Cluster-wide Parameters (Feature - General) section, specify a **Maximum Call Duration Timer** setting.
- Step 5** Click **Save**.
- 

## Agent Desk Setting Configuration for Unified Mobile Agent

You can configure Agent Desk Settings through the PCCE Administration tool.

### Configure Desk Settings with Unified CCE Administration

This section describes how to configure Desk Settings in Unified CCE Administration to accommodate Unified Mobile Agent features.

The following procedure describes how to configure one desk setting. Repeat this process for each different desk setting in your deployment.

### Procedure

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- Step 1** In Unified CCE Administration, choose **Overview > Desktop Settings > Desk Settings**.
- Step 2** Click **New** to create a new desk setting or click the name of an existing desk setting to edit it.

- Step 3** Complete the required fields.
- Step 4** From the Mobile Agent drop-down list, select one of the following options:
- **Call by Call**—In this mode, the agent's phone is dialed for each incoming call. When the call ends, the agent's phone is disconnected before being made ready for the next call.
  - **Nailed Up**—In this mode, the agent is called at login time and the line stays connected through multiple customer calls.
  - **Agent Chooses**—In this mode, an agent can select the call delivery mode at login.
- Step 5** Click **Save**.
- 

## Associate Desk Setting with a Mobile Agent

After you have configured agent desk settings, you need to associate the desk setting with a mobile agent.

### Procedure

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- Step 1** Access Unified CCE Administration.
- Step 2** Select **Overview > User Setup > Agents**.  
The List of Agents window appears.
- Step 3** Select the agent that you want to associate.  
The Edit <agent> window appears.
- Step 4** In the Desk Settings box, select the desk setting that has the Mobile Agent enabled.
- Step 5** Click **Save**.
- 

## Media Termination Points Configuration

If you use SIP trunks, you must configure Media Termination Points (MTPs). You must also configure MTPs if you use TDM trunks to create an interface with service providers.

Additionally, MTPs are required for Mobile Agent call flows that involve a Cisco Unified Customer Voice Portal (CVP) solution. Because in DTMF signaling mode the Mobile Agent uses out-of-band signaling, whereas Unified CVP supports in-band signaling, the conversion from out-of-band to in-band signaling requires an MTP resource.

MTPs may be allocated as required in deployments that use a mix of IPv4 and IPv6 connections. MTP resources are allocated provided that the Media Resource Group List is configured on the IPV4 endpoint.

MTPs are available in the following forms, but not all are supported in Mobile Agent environments:

- Software-based MTPs in Cisco IOS gateways—use these MTPs for Mobile Agent as they provide codec flexibility and improved scalability compared with other MTP options. The following is a sample configuration on a gateway.

```

sccp local GigabitEthernet0/0
sccp ccm 10.10.10.31 identifier 1 priority 1 version 7.0
sccp ccm 10.10.10.131 identifier 2 priority 2 version 7.0
sccp
!
sccp ccm group 1
  associate ccm 1 priority 1
  associate ccm 2 priority 2
  associate profile 3 register gw84xcode
  associate profile 1 register gw84conf
  associate profile 2 register gw84mtp
!
dspfarm profile 3 transcode
  codec g729abr8
  codec g729ar8
  codec g711alaw
  codec g711ulaw
  codec g729r8
  codec g729br8
  maximum sessions 52
  associate application SCCP
!
dspfarm profile 1 conference
  codec g729br8
  codec g729r8
  codec g729abr8
  codec g729ar8
  codec g711alaw
  codec g711ulaw
  maximum sessions 24
  associate application SCCP
!
dspfarm profile 2 mtp
  codec g711ulaw
  maximum sessions software 500
  associate application SCCP

```

- Hardware-based MTPs in Cisco IOS gateways—These MTPs are supported. If you choose these, consider the extra cost, codec restrictions, and scalability constraints.
- Software-based MTPs using the Cisco IP Voice Media Streaming Application—These MTPs are not supported with Mobile Agents.



**Note** Because Unified CM-based software MTPs are used implicitly, you must add a special configuration to avoid using thcce-in10360-01-pcceuceipv6support-1101em. Create a new Media Resource Group (MRG) as a place holder, and place the software MTPs in that MRG. For instructions, refer to the Unified CM help documentation.

The following table lists the steps in configuring MTPs in Unified CM. Make sure you have completed the tasks in the checklist.

**Table 2: Checklist for Unified CM SIP Trunk Configuration**

Check when done	Task
	<a href="#">Add MTP resources to Unified CM, on page 14</a>

Check when done	Task
	<a href="#">Configure MTP resources in Unified CM</a> , on page 14
	<a href="#">Associate a Media Resource Group List with Device Pools</a> , on page 15
	<a href="#">Quarantine Unified CM software-based resources</a> , on page 15
	<a href="#">Configure MTPs with SIP Trunks</a> , on page 15
	<a href="#">Enable Call Progress Tones for Agent-Initiated Calls</a> , on page 16
	<a href="#">Verify MTP Resource Utilization</a> , on page 16

## Add MTP resources to Unified CM

Perform these steps to add MTPs to Unified CM.

### Procedure

- 
- Step 1** In Unified CM Administration click **Media Resources > Media Termination Point**.
  - Step 2** Click **Add New**.
  - Step 3** Choose **Cisco IOS Enhanced Software Media Termination Point** from the Media Termination Point Type drop-down list.
  - Step 4** Enter an MTP name. This name must match the device name you chose in IOS. In the example in the previous section, the MTP was called gw84mtp, as from the configuration line: `associate profile 2 gw84mtp`.
  - Step 5** Choose the appropriate device pool.
  - Step 6** Click **Save** and then click **Apply config**.
  - Step 7** Navigate back to Media Termination Point and ensure that the newly added MTP is listed as being registered with `<Unified CM subscriber IP address>` in the Status column.
  - Step 8** Repeat Steps 1 through 7 for each Cisco Call Manager server group you configured on each of your gateways.
- 

## Configure MTP resources in Unified CM

The following section explains how to create media resource groups and media resource group lists.

### Procedure

- 
- Step 1** Navigate to **Media Resources > Media Resource Group** in Unified CM Administration.
  - Step 2** Click **Add New**.
  - Step 3** Specify a name and description.
  - Step 4** From the Available Media Resources that you just created, move the devices from the Available to the Selected list by clicking the down arrow. Ensure that you do *not* include Unified CM Software resources. For example, type anything that starts with ANN\_, MTP\_, or MOH\_.

- Step 5** Navigate to **Media Resources > Media Resource Group List**.
  - Step 6** Click **Add New**.
  - Step 7** Move the Media Resource Group you just created from the Available Media Resource Groups to the Selected Media Resource Groups.
  - Step 8** Click **Save**.
- 

## Associate a Media Resource Group List with Device Pools

The following procedure shows how to associate a media resource group list (MRGL) with device pools.

### Procedure

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- Step 1** Navigate to **System > Device Pool** and click on the device pool that contains the CTI ports for Mobile Agent. If there are multiple pools, perform the next step for each device pool that applies.
  - Step 2** In the Media Resource Group List drop-down list, select the Media Resource Group List that you just created, click **Save**, and then click **Apply config**.
- 

## Quarantine Unified CM software-based resources

Unified CM-based software MTPs are used by default. However, Cisco contact center deployments do not support these resources because they may cause performance problems in call processing. You must quarantine them with a special configuration. Perform the following steps:

### Procedure

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- Step 1** Create a new Media Resource Group (MRG) as a place holder.
  - Step 2** Place the software MTPs in that MRG.
- For further instructions, refer to the Unified CM help documentation.
- 

## Configure MTPs with SIP Trunks

If you use SIP trunks, you must configure MTPs. Mobile Agent cannot use an MTP with codec pass-through. When you configure the MTP, you must select No pass through. KPML is not supported with Mobile Agent.

### Procedure

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- Step 1** Log in to Unified CM Administration and select **Device > Trunk**.
- Step 2** Select the trunk on which you want to configure MTPs.

At a minimum all trunks whose destination is unified CVP need to have this configuration. This requirement also applies to all TDM trunks that are used to connect to Mobile Agent phones through service providers.

- Step 3** Depending on the scenario listed below, perform the corresponding step. Note that if you configure trunk groups to dynamically insert MTPs, only the calls that require MTPs use them.
- Insert MTPs for inbound and outbound calls through a given trunk: In the Trunk Configuration settings, check the **Media Termination Point Required** check box.
  - Dynamically allocate MTPs when Cisco Unified Intelligent Contact Management detects media or signaling incompatibility between the caller and called endpoints: In the Trunk Group Configuration settings, for the DTMF Signaling Method, select **RFC2833**.

## Enable Call Progress Tones for Agent-Initiated Calls

For an agent to hear call progress tones for agent-initiated calls, additional configuration is required if **MTP Required** is not enabled. If instead you have dynamic MTP allocation by forcing mismatched DTMF settings, then you should configure the Unified CM to enable Early Offer.

For information on configuring the Unified CM, see the Unified CM product documentation at <https://www.cisco.com/c/en/us/support/unified-communications/unified-communications-manager-callmanager/tsd-products-support-series-home.html>. Ringback and other call progress tones are not generated by the Cisco Annunciator, as is the case for regular phones and softphones. Instead, Mobile Agent relies on these tones being generated by the called party (and the Early Offer setting triggers these tones to be sent to the agent).



**Note** This selection does not affect MTP sizing for IP phones and other endpoints that support RFC 2833 signaling, as is the case for many Cisco phones (including the 6900 series and the 794x and 796x phones).

## Verify MTP Resource Utilization

Because Unified CM comes preconfigured with software MTP resources, these resources may sometimes be used to provide MTP for Unified Mobile Agent calls without proper configuration. Cisco does not support the use of Unified CM-based software MTPs. You can quarantine the Unified CM-based MTPs. (See [Quarantine Unified CM software-based resources, on page 15](#).) To ensure that the IOS-based MTPs are being used for Unified Mobile Agents, perform the following verification steps:

### Procedure

- Step 1** Install the Unified CM Realtime monitoring tool. This tool can be downloaded under **Application > Plugins** within Unified CM Administration.
- Step 2** Place a call to a logged-in Mobile Agent.
- Step 3** Open the Unified CM Realtime monitoring tool and navigate to **System > Performance > Open Performance Monitoring**.
- Step 4** Expand the nodes that are associated with your IOS-based MTP resources and choose **Cisco MTP Device**.
- Step 5** Double-click **Resources Active** and choose all of the available resources to monitor. This includes both IOS and Unified CM-based resources. Ensure that only the IOS-based resources are active during the Mobile Agent phone call. Also, ensure that all Unified UC-based MTP resources are *not* active.
- Step 6** Repeat the previous step for each node that has MTP resources associated with it.



## Enabled Connect Tone Feature

In a nailed connection, the system can play a tone to the Unified Mobile Agent through the agent headset to let the agent know when a new call is connected. In the default Installation, the Mobile Agent Connect Tone feature is disabled.

## Enable Mobile Agent Connect Tone

If you require Unified Mobile Agent Connect Tone, you must make the following change in the Windows Registry for the key PlayMAConnectTone under the JTAPI GW PG registry entries.

Perform the following procedure to allow a Mobile Agent in the nailed connection mode to hear a tone when a new call is connected.

### Before you begin

MTP resources must be associated with the CUCM trunk that connects to the Agent Gateway.

### Procedure

- 
- Step 1** On the PG machine, open the Registry Editor (regedit.exe).
  - Step 2** Navigate to HKEY\_LOCAL\_MACHINE\SOFTWARE\Cisco Systems, Inc.\ICM\<InstanceName>\PG1A\PG\CurrentVersion\JGWS\jgw1\JGWData\Config\PlayMAConnectTone. The Edit DWORD Value dialog box appears.
  - Step 3** In the Value data: field, enter **1** to enable Mobile Agent Connect Tone and click **OK**.
  - Step 4** Exit the Registry Editor to save the change, and cycle the PG service.
- 

## Administration and Usage

### Cisco Finesse

Finesse provides a browser-based desktop for agents and supervisors. Mobile agents can perform the same call control functions as Packaged CCE agents. Mobile supervisors can perform all call control functions except for silent monitoring.

### Sign in to Cisco Finesse Desktop

#### Procedure

- 
- Step 1** Enter the following URL in your browser: <https://FQDN of Finesse server>, where FQDN is the fully-qualified domain name of the Finesse server.

In an IPv6-enabled environment, you must include the port number in the URL (<https://<FQDN of Finesse server>:8445/desktop>).

**Step 2** In the ID field, enter your agent ID.

**Step 3** In the Password field, enter your password.

**Step 4** In the Extension field, enter your extension.

For a mobile agent, the extension represents the virtual extension for the agent, also known as the local CTI port (LCP).

**Step 5** Check the **Sign in as a Mobile Agent** check box.

The Mode and Dial Number fields appear.

**Step 6** From the Mode drop-down list, choose the mode you want to use.

In **Call by Call** mode, your phone is dialed for each incoming call and disconnected when the call ends.

In **Nailed Connection** mode, your phone is called when you sign in and the line stays connected through multiple customer calls.

**Step 7** In the Dial Number field, enter the number for the phone you are using.

Option	Description
ID	The agent ID.
Password	Your supervisor assigns this password.
Extension	The agent's extension.
Sign in as Unified Mobile Agent	Select to sign in as a Unified Mobile Agent.
Mode	Call by Call or Nailed Connection
Dial Number	The number of the phone being used.

**Step 8** Click **Sign In**.

**Note** In Nailed Connection mode, the desktop must receive and answer a setup call before sign-in is complete.

In Call by Call mode, the dial number provided is not verified. To ensure that the number is correct, verify the number in the header on the Agent Desktop after sign-in is complete.

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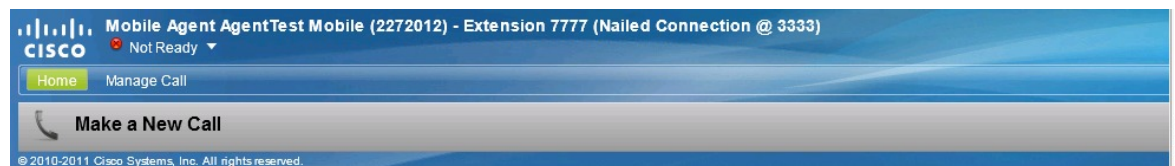
## Verify Sign-In to Cisco Finesse

### Procedure

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Check to be sure the Finesse Agent Desktop displays the following in the header:

- *Mobile Agent* before your agent name
- The mode used (Call by Call or Nailed Connection)
- The dial number you provided



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## Enable Ready State

You must be in Ready state to process incoming calls.

### Procedure

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Choose **Ready** from the drop-down list below the agent name.

**Note** If you are in call-by-call mode, you must answer and end each incoming call on your physical phone. After you answer a call, you must perform all other call control functions (such as Conference, Transfer, Hold, Retrieve) using the desktop.

With call-by-call connection, an agent cannot end one leg of a transfer without terminating it at the other end. The transfer must either be fully completed or both legs completely dropped.

If you are in Nailed Connection mode, after you answer the initial setup call, you must perform all other call control functions using the desktop.

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## Make a Call

### Procedure

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**Step 1** From the drop-down list below the agent name, choose **Not Ready**.

**Note** You must be in Not Ready state to make a call.

**Step 2** Click **Make a New Call**.

**Step 3** Enter the number you want to call on the keypad, and then click **Call**.

If you are in Call by Call mode, the CTI server sends a setup call to your phone. A message appears on the keypad that states the following:

A call will be initiated to your phone which must be answered before an outbound call to your destination can be made.

After the setup call is answered, the system establishes the outbound call to the destination specified.

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## Serviceability

On a Mobile Agent call flow, CUCM may return a 404 error due to the absence of a agent greeting, leading to call failure. To fix this issue, do the following:

1. Create a new Run External Script node. Map the backup media of the script to the agent greeting recording (media file).
2. Add the Run External Script node between the failure path of the AgentGreeting Run External Script node and the End node.
3. Connect the Run External Script node's success path to the existing Release Call node and failure path to the existing End node.



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**Note** This fix may add a short delay of one to two seconds to the call flow.

For information about [Agent Greeting Play Script](#).

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