



# Preparing to Deploy Cisco IP Communicator

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This chapter outlines the required and recommended tasks involved in deploying Cisco IP Communicator, and provides instructions for adding Cisco IP Communicator devices to the Cisco CallManager database.

This chapter includes the following topics:

- [Installation Prerequisites, page 2-2](#)
- [Deployment and Configuration Checklist, page 2-5](#)
- [Adding Devices to the Cisco CallManager Database, page 2-10](#)
- [Running the Cisco IP Communicator Administration Tool, page 2-14](#)



**Tip**

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Cisco CallManager documentation is available from the Help menu in the Cisco CallManager Administration web application, or on the web:

<http://www.cisco.com/univercd/cc/td/doc/product/voice/index.htm>

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# Installation Prerequisites

Before deploying the Cisco IP Communicator application to users, read the requirements in these sections:

- [Network Requirements, page 2-2](#)
- [Cisco CallManager Configuration Requirements, page 2-3](#)
- [Client PC Requirements, page 2-3](#)

## Network Requirements

For Cisco IP Communicator to successfully operate as an endpoint in your network, your network must meet the following requirements:

- Voice over IP (VoIP) configured on your Cisco routers and gateways
- Cisco CallManager Release 3.3(3) SR 3 or higher installed in your network and configured to handle call processing

If you want Cisco IP Communicator to auto-locate its TFTP server, you also need an IP network that supports DHCP with Cisco Option 150 configured with the address of your TFTP servers.

If you want to use Cisco Emergency Responder (CER), you need an available ethernet port on a Cisco ethernet switch. For details, see the *Cisco Emergency Responder Administrator Guide*.

**Note**

If the computer on which Cisco IP Communicator is running is plugged into the PC port on the back of a Cisco IP Phone, Cisco IP Communicator will not be discovered by Cisco Emergency Responder (CER) software. In this case, Cisco IP Communicator's CDP (Cisco Discovery Protocol) is blocked and cannot be detected by CER. Connecting directly to a switch port prevents this problem.

**Related Topics**

- [How Cisco IP Communicator Interacts with Cisco CallManager, page 1-9](#)
- [Cisco CallManager Configuration Requirements, page 2-3](#)
- [Client PC Requirements, page 2-3](#)
- [Deployment and Configuration Checklist, page 2-5](#)

## Cisco CallManager Configuration Requirements

Cisco IP Communicator requires Cisco CallManager to handle call processing. Before you deploy Cisco IP Communicator to users, refer to the *Cisco CallManager Administration Guide* or context-sensitive help in the Cisco CallManager Administration web application to ensure that Cisco CallManager is set up properly to manage Cisco IP Communicator devices and to route and process calls.

For an overview of configuration and deployment tasks involving Cisco CallManager, see the “[Deployment and Configuration Checklist](#)” section on page 2-5.

**Note**

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If Cisco IP Communicator does not appear in the Phone Type drop-down list in Cisco CallManager Administration, go to the following URL and install the latest support patch for your version of Cisco CallManager:  
<http://www.cisco.com/kobayashi/sw-center/sw-voice.shtml>

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**Related Topics**

- [How Cisco IP Communicator Interacts with Cisco CallManager, page 1-9](#)
- [Network Requirements, page 2-2](#)
- [Client PC Requirements, page 2-3](#)

## Client PC Requirements

Personal computers (PCs) on which you want to install Cisco IP Communicator should meet the requirements outlined in these sections:

- [Platform Requirements, page 2-4](#)
- [Hardware Requirements, page 2-5](#)

## Platform Requirements

Cisco IP Communicator has certain minimum requirements of the PC and operating system on which it runs. In the minimum configuration, Cisco IP Communicator consumes a substantial portion of the PC's CPU during calls. With additional CPU and RAM, the application will be more responsive and launch faster. See [Table 2-1](#) for details.



### Note

- Cisco IP Communicator does not support Windows XP Fast User Switching.
- Cisco IP Communicator requires a 128 Kbps minimum network connection.

**Table 2-1** Platform requirements for Cisco IP Communicator

Requirements	Operating System	Minimum CPU	Minimum RAM	Screen Resolution
<b>Minimum</b>	<ul style="list-style-type: none"> <li>• Windows 2000 Professional with service pack 3.0 or later</li> <li>• Windows XP Professional with service pack 1.0 or later</li> </ul>	450 MHz Pentium III or equivalent	128 MB for Windows 2000, or 192 MB for Windows XP.	800 x 600
<b>Recommended</b>	<ul style="list-style-type: none"> <li>• Windows 2000 Professional with service pack 3.0 or later</li> <li>• Windows XP Professional with service pack 1.0 or later</li> </ul>	733 MHz Pentium III or equivalent	192 MB.	1,024 x 768

### Related Topics

- [Network Requirements, page 2-2](#)
- [Cisco CallManager Configuration Requirements, page 2-3](#)
- [Hardware Requirements, page 2-5](#)

## Hardware Requirements

Cisco IP Communicator requires the following of the client PC and its peripherals:

- A minimum of 100 MB free disk space
- A Non-ISA full-duplex sound card (integrated or PCI-based) or USB sound device
- A 10/100 Mbit Ethernet network interface card
- SVGA Video Card

### Related Topics

- [Network Requirements, page 2-2](#)
- [Cisco CallManager Configuration Requirements, page 2-3](#)
- [Platform Requirements, page 2-4](#)

## Deployment and Configuration Checklist

[Table 2-2](#) is designed to give you an overview all of the administrative tasks involved in preparing for, deploying, and configuring Cisco IP Communicator.

The table is broken into three sections:

- Gathering information and adding devices to Cisco CallManager
- Configuring features and settings in Cisco CallManager Administration
- Deploying and configuring the Cisco IP Communicator application

Some of the tasks in the table are not specific to Cisco IP Communicator, but apply to any Cisco CallManager-supported phone device. Required tasks are noted.



### Note

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In general, it is preferable to configure the settings in Cisco CallManager Administration before deploying Cisco IP Communicator to ensure that features are set up properly for the user at first launch and will remain consistent thereafter.

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Table 2-2 Pre-Deployment and Configuration Checklist

Task	Notes	For details, see...
<b>Gathering information and adding devices to Cisco CallManager</b>		
<p>1. For each device, gather the following information:</p> <ul style="list-style-type: none"> <li>• User(s) in the Cisco CallManager database to associate with it</li> <li>• Lines and directory numbers to assign to it</li> <li>• Features to be added to and configured for it</li> <li>• The device pool, calling search space, and other data for the Device Information field (if applicable)</li> </ul>	<p>Optional. You can use this information to configure devices in Cisco CallManager Administration web application.</p> <p>The Device Information fields in the Device Configuration page will auto-populate if information is relevant and available. Edit fields only if you want to override system settings on a per-device basis.</p>	<ul style="list-style-type: none"> <li>• <a href="#">Configuring Features and Services, page 5-1</a></li> <li>• <i>Cisco CallManager System Guide</i></li> <li>• <i>Cisco CallManager Administration Guide</i></li> </ul>
<p>2. Decide which method you want to use to add devices to the Cisco CallManager database (see the far right column for details):</p> <ul style="list-style-type: none"> <li>• Auto-registration</li> <li>• Cisco CallManager Administration only</li> <li>• Bulk Administration Tool (BAT) only</li> <li>• BAT and the Tool for Auto-Registered Phones Support (TAPS)</li> </ul>	<p>Adding devices is required. The method that you use to add devices to Cisco CallManager determines how the directory number is assigned and whether you need to obtain a MAC address from a network interface.</p> <p>If you do not use auto-registration or TAPS to add a devices, you must add the device to Cisco CallManager before deploying the application.</p>	<ul style="list-style-type: none"> <li>• <a href="#">Adding Devices to the Cisco CallManager Database, page 2-10</a></li> <li>• <a href="#">Collecting MAC Addresses Before Adding Devices, page 2-14</a></li> <li>• <i>Cisco CallManager Administration Guide</i></li> <li>• <i>Bulk Administration Tool User Guide for Cisco CallManager</i></li> </ul>
<p>3. Gather the MAC address from the appropriate network interface on the client PC, if necessary.</p>	<p>Not necessary if you use auto-registration or TAPS.</p>	<p><a href="#">Collecting MAC Addresses Before Adding Devices, page 2-14</a></p>

**Table 2-2 Pre-Deployment and Configuration Checklist (continued)**

Task	Notes	For details, see...
<b>Configuring features and settings in Cisco CallManager Administration</b>		
<p>1. Configure Cisco CallManager telephony features such as call waiting, call forward, Call Park, Call Pickup; establish a voice messaging system.</p>	<p>As needed. Provides enhanced telephony functionality.</p>	<ul style="list-style-type: none"> <li>• <a href="#">Telephony Features Available for Cisco IP Communicator, page 5-2</a></li> <li>• <i>Cisco CallManager Administration Guide</i></li> <li>• <i>Cisco CallManager Features and Services Guide</i></li> </ul>
<p>2. Modify button templates.</p>	<p>As needed. Provides softkeys.</p>	<p><a href="#">Modifying Phone Button Templates, page 5-15</a></p>
<p>3. Configure Cisco IP Phone services.</p>	<p>Recommended. Gives users access to information such as stock quotes and weather reports, which are displayed on the phone as interactive content with text and graphics.</p>	<ul style="list-style-type: none"> <li>• <a href="#">Setting Up Services, page 5-16</a></li> <li>• <i>Cisco CallManager Administration Guide</i></li> <li>• <i>Cisco CallManager Features and Services Guide</i></li> </ul>
<p>4. Run the Cisco IP Communicator Administration Tool and optionally enable HTTP access.</p>	<p>You must run the tool in order to install the Directory Wizard (used to configure the Quick Search and Dialing Rules features). Additionally, you must select the option to enable HTTP access if any users in your network rely on unsupported VPN clients (the tool sets up an IP reflector web page to resolve audio IP auto-detection problems). Enabling HTTP access also improves AutoUpdate performance for remote users.</p>	<ul style="list-style-type: none"> <li>• <a href="#">Running the Cisco IP Communicator Administration Tool, page 2-14</a></li> <li>• <a href="#">Updating the Application, page 3-7</a></li> <li>• <a href="#">Resolving Audio IP Address Auto-Detection Problems, page 4-11</a></li> <li>• <a href="#">Configuring Corporate and Personal Directories, page 5-5</a></li> </ul>

Table 2-2 Pre-Deployment and Configuration Checklist (continued)

Task	Notes	For details, see...
5. Set up directories, including configuration files for the Quick Search and Dialing Rules features.	Recommended. Quick Search can search both corporate and personal directories; use Dialing Rules to apply a dialing plan. If you are integrating with a Cisco CallManager directory, you can use the Directory Wizard to set up configuration files. First, run the Administration Tool (see the previous step).	<ul style="list-style-type: none"> <li>• <a href="#">Running the Cisco IP Communicator Administration Tool, page 2-14</a></li> <li>• <a href="#">Configuring Corporate and Personal Directories, page 5-5</a></li> <li>• <i>Cisco CallManager Administration Guide</i></li> </ul>
6. Add users to Cisco CallManager.	Recommended. Associates users with device IDs to enable access to the User Options web pages; includes users and their phone numbers in relevant Quick Search results (when integrating with a Cisco CallManager directory).	<ul style="list-style-type: none"> <li>• <a href="#">Adding Users to Cisco CallManager, page 5-17</a></li> <li>• <i>Cisco CallManager Administration Guide</i></li> </ul>

### Deploying and configuring the Cisco IP Communicator application

<p>1. Decide which of the following methods you want to use to deploy Cisco IP Communicator:</p> <ul style="list-style-type: none"> <li>• Place an installer package on a shared location where you or a user can run it</li> <li>• Perform installation for an entire enterprise by using a software distribution tool</li> <li>• Deploy directly on an individual's computer</li> </ul>	<p>Users must have administrative privileges on their PCs in order for you to deploy software using the first option.</p> <p>If you use a Microsoft Windows installer package, you can provide command line options to specify values during deployment. See the topic at right for details.</p>	<p><a href="#">Deploying the Application, page 3-2</a></p>
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**Table 2-2 Pre-Deployment and Configuration Checklist (continued)**

Task	Notes	For details, see...
2. Set up a web site or use another method to tell users how to: install and configure the application, obtain user documentation, and access the User Options web pages.	Recommended. Providing users with this information can improve their success with the product.	<a href="#">Providing Information to Users Via a Website, page A-1</a>
3. Install audio devices on each client PC or provide installation information to users.	You or the user will need to install audio devices that rely on drivers such as a USB headset and USB handset. Ideally, this task should be performed before the application is installed on the client PC.	<ul style="list-style-type: none"> <li>• <a href="#">Installing Headsets and Other Audio Devices, page 3-1</a></li> <li>• <a href="#">Selecting and Tuning Audio Devices, page 4-6</a></li> </ul>
4. Configure, or help users configure, the installed application as necessary.	Some configuration tasks may be required before the application will function at initial startup.	<a href="#">Configuring the Application, page 4-1</a>

**Related Topics**

- [Adding Devices to the Cisco CallManager Database, page 2-10](#)
- [Deploying the Application, page 3-2](#)
- [Updating the Application, page 3-7](#)
- [An Overview of Post-Installation Configuration Tasks, page 4-2](#)

# Adding Devices to the Cisco CallManager Database

Before installing the Cisco IP Communicator application, you must decide how you want to add devices to the Cisco CallManager database.

Choose one of the methods described in the sections below:

- [Adding Devices with Auto-Registration, page 2-11](#)
- [Adding Devices with Auto-Registration and TAPS, page 2-11](#)
- [Adding Devices with Cisco CallManager Administration, page 2-12](#)
- [Adding Devices with BAT, page 2-13](#)

[Table 2-3](#) provides an overview of your options for adding devices to the Cisco CallManager database. These options are described in detail in the topics listed above.

**Table 2-3** An overview of options for adding devices to Cisco CallManager

Method for Adding Devices	Requires MAC Address?	Notes
Auto-registration	No	Results in automatic assignment of directory numbers.
Auto-registration with TAPS	No	Requires auto-registration and the Bulk Administration Tool (BAT); updates information in both the Cisco IP Communicator application and in the Cisco CallManager Administration.
Using the Cisco CallManager Administration	Yes	Requires devices to be added individually; you must add the device to Cisco CallManager before installing the application on the client PC.
Using BAT	Yes	Allows for bulk registration of devices; you must add the device to Cisco CallManager before installing the application on the client PC.

## Adding Devices with Auto-Registration

You can use this method without first gathering MAC addresses from client PCs.

When auto-registration is enabled, Cisco CallManager provides a directory number as soon as you run the Cisco IP Communicator application after installation. During auto-registration, Cisco CallManager automatically assigns the next available sequential directory number to the device.

You can use auto-registration to quickly submit devices into the Cisco CallManager database. You can then modify settings, such as the directory numbers, from Cisco CallManager. Additionally, you can move auto-registered devices to new locations and assign them to different device pools without affecting their directory numbers.

For information about enabling and configuring auto-registration, refer to *Cisco CallManager Administration Guide*.

### Related Topics

- [Adding Devices with Auto-Registration and TAPS, page 2-11](#)
- [Adding Devices with Cisco CallManager Administration, page 2-12](#)
- [Adding Devices with BAT, page 2-13](#)
- [Deployment and Configuration Checklist, page 2-5](#)

## Adding Devices with Auto-Registration and TAPS

You can use this method without first gathering MAC addresses from client PCs.

TAPS, the Tool for Auto-Registered Phones Support, works in conjunction with the Bulk Administration Tool (BAT) to update devices that were previously added to the Cisco CallManager database using dummy MAC addresses. Use TAPS to update MAC addresses and download pre-defined configurations for Cisco IP Communicator devices.

To implement TAPS, you or the user dial a TAPS directory number and follow voice prompts. When the process is complete, the Cisco IP Communicator device downloads its directory number and other settings, and the device is updated in Cisco CallManager Administration with the correct MAC address.

You must make sure that Auto-registration is enabled in Cisco CallManager Administration (**System > Cisco CallManager**) for TAPS to function.

Refer to the *Bulk Administration Tool User Guide for Cisco CallManager* for detailed instructions about both BAT and TAPS.

### Using a Version of TAPS that is Included with Cisco CallManager 3.3.3

If you want to use a version of TAPS that is included with Cisco CallManager 3.3.3 to add a Cisco IP Communicator device to the database for a user who already has a hardware Cisco IP Phone, and if the Cisco IP Communicator device will use the same phone number as the hardware phone, then you need to take the following steps:

1. Use a different external phone mask to add Cisco IP Communicator.
2. After TAPS registration is complete, change back to the original external phone mask.

#### Related Topics

- [Adding Devices with Auto-Registration, page 2-11](#)
- [Adding Devices with Cisco CallManager Administration, page 2-12](#)
- [Adding Devices with BAT, page 2-13](#)
- [Deployment and Configuration Checklist, page 2-5](#)

## Adding Devices with Cisco CallManager Administration

Use this method to add devices individually to the Cisco CallManager database using Cisco CallManager Administration web pages.

To do so, you need to first collect the appropriate MAC address from the network interface for each client on which you want the Cisco IP Communicator application installed. See the “[Collecting MAC Addresses Before Adding Devices](#)” section on [page 2-14](#) for more information.

After you have collected MAC addresses, choose **Device > Add a New Device** in Cisco CallManager Administration. For complete instructions and conceptual information about Cisco CallManager, refer to the *Cisco CallManager Administration Guide* and the *Cisco CallManager System Guide*.

**Tip**

To get context-sensitive help in Cisco CallManager, choose **Help > For this page** from the main menu bar.

**Related Topics**

- [Adding Devices with Auto-Registration, page 2-11](#)
- [Adding Devices with Auto-Registration and TAPS, page 2-11](#)
- [Adding Devices with BAT, page 2-13](#)
- [Deployment and Configuration Checklist, page 2-5](#)

## Adding Devices with BAT

The Cisco Bulk Administration Tool (BAT) is a plug-in application for Cisco CallManager that enables system administrators to perform batch operations, including registration, on large numbers of devices, including Cisco IP Phones and Cisco IP Communicator devices.

To add devices using BAT only (meaning, not in conjunction with TAPS), you need to first collect the appropriate MAC address from the network interface for each client on which you want the Cisco IP Communicator application installed. See the “[Collecting MAC Addresses Before Adding Devices](#)” section on [page 2-14](#) for more information.

For detailed instructions about using BAT, refer to *Cisco CallManager Administration Guide* and the *Bulk Administration Tool User Guide for Cisco CallManager*.

**Related Topics**

- [Adding Devices with Auto-Registration, page 2-11](#)
- [Adding Devices with Auto-Registration and TAPS, page 2-11](#)
- [Adding Devices with Cisco CallManager Administration, page 2-12](#)
- [Deployment and Configuration Checklist, page 2-5](#)

## Collecting MAC Addresses Before Adding Devices

You need to collect MAC addresses before adding devices to the database individually, using Cisco CallManager Administration, or in bulk, using BAT only (not in conjunction with Tool for Auto-Registered Phones Support).

You do *not* need to collect MAC addresses before adding devices with auto-registration only or when using BAT in conjunction with TAPS.

When collecting a MAC address, you need to get it from the network interface of the client PC on which you want the Cisco IP Communicator application installed.

If there is more than one network interface on the client PC, use the MAC address from the interface that is most likely to provide permanent connectivity, or from the interface that is always enabled—even if it is inactive. (For example, use the integrated Ethernet card rather than the wireless card, docking station, or PC card.)

This criteria also pertains to choosing a network interface to associate with the application during initial startup (if such a choice is necessary.) For more information about choosing an interface if prompted at startup, see the [“Selecting a Device Name” section on page 4-9](#).

### Related Topics

- [Deployment and Configuration Checklist, page 2-5](#)
- [Adding Devices with Cisco CallManager Administration, page 2-12](#)
- [Adding Devices with BAT, page 2-13](#)

## Running the Cisco IP Communicator Administration Tool

As part of your deployment preparations, it is highly recommended that you:

- Run the Cisco IP Communicator Administration Tool on the Cisco CallManager publisher
- Select the option in the Tool to enable HTTP access—Required if you have any users in your network who rely on an unsupported VPN client. (See the [“What Software VPN Clients are Supported?” section on page 4-12](#).)

You can get the Administration Tool from the same Cisco IP Communicator software download web site:

<http://www.cisco.com/cgi-bin/tablebuild.pl/ip-comm>

Table 2-4 summarizes the benefits of running the Administration Tool.

**Tip**

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- Typically, the Cisco CallManager publisher is the TFTP server where phone loads will be installed. Running the Administration Tool on the publisher allows the Directory Wizard to auto-detect configuration values. (See the “[How to Configure Quick Search Using the Directory Wizard](#)” section on [page 5-8](#) for details.)
  - If you have already run the Cisco IP Communicator Administration Tool but have not enabled the HTTP option, you can run the tool again and select the option in order to enable this feature. (However, in order to *disable* HTTP access once selected, you must uninstall and re-install the tool.)
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Table 2-4 Using the Cisco IP Communicator Administration Tool

Use the Administration Tool to...	How to do this	Notes
Install the Directory Wizard on your server	Run the Administration Tool on the Cisco CallManager publisher.	<p>The Administration Tool installs DirectoryWizard.exe and LdapDirectories.README.txt in this folder: &lt;TFTPPath&gt;\Communicator.</p> <p>Running the Tool on the Cisco CallManager publisher allows the Directory Wizard to auto-detect configuration values. See the <a href="#">“How to Configure Quick Search Using the Directory Wizard”</a> section on page 5-8 for details.</p> <p>Use the Directory Wizard to configure Quick Search and Dialing Rules. See the <a href="#">“Configuring Corporate and Personal Directories”</a> section on page 5-5.</p>
Enable HTTP access	Run the Administration Tool and select the <b>Enable HTTP Access</b> setting.	<p>Enabling HTTP access can:</p> <ul style="list-style-type: none"> <li>• Improve the performance of AutoUpdate for remote users.</li> </ul> <p>Note that users must have administrator privileges on their PCs to use AutoUpdate. See the <a href="#">“Updating the Application”</a> section on page 3-7.</p> <ul style="list-style-type: none"> <li>• Resolve audio IP address auto-detection problems for users who rely on unsupported VPN clients.</li> </ul> <p>Note that if you are enabling HTTP for this purpose, you also need to specify the URL of getIP.asp web page in Cisco CallManager Administration. See the <a href="#">“Resolving Audio IP Address Auto-Detection Problems”</a> section on page 4-11.</p>
Access the Directory Wizard and the Administration Tool ReadMe file	Run the Administration Tool and select the appropriate check boxes.	Alternately, you can launch the Directory Wizard and ReadMe file from the Cisco IP Communicator program group.

**Related Topics**

- [Deployment and Configuration Checklist, page 2-5](#)
- [An Overview of Post-Installation Configuration Tasks, page 4-2](#)
- [Configuring Features and Services, page 5-1](#)

