

Install and Configure IP Communicator with CallManager 4.x

Document ID: 50994

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Introduction

This document outlines the basic steps required to install and configure Cisco IP Communicator with Cisco CallManager 4.x through manual setup. For autoregistration setup or wide-scale deployments, refer to *Preparing to Deploy Cisco IP Communicator* and *Deploying and Updating Cisco IP Communicator*.

Note: Cisco IP Communicator is supported in Cisco CallManager 3.3(4). However, this document focuses on Cisco CallManager 4.x.

Prerequisites

Requirements

Cisco recommends that you have knowledge of Cisco CallManager 4.x.

Components Used

The information in this document is based on these software versions:

- Cisco IP Communicator version 1.1 and 2.x
- Cisco CallManager 4.0(1)sr2

Note: Refer to Release Notes for Cisco IP Communicator 2.1 for more information on how to find Cisco IP Communicator support for Microsoft Windows Vista.

The information in this document was created from the devices in a specific lab environment. All of the devices used in this document started with a cleared (default) configuration. If your network is live, make sure that you understand the potential impact of any command.

Conventions

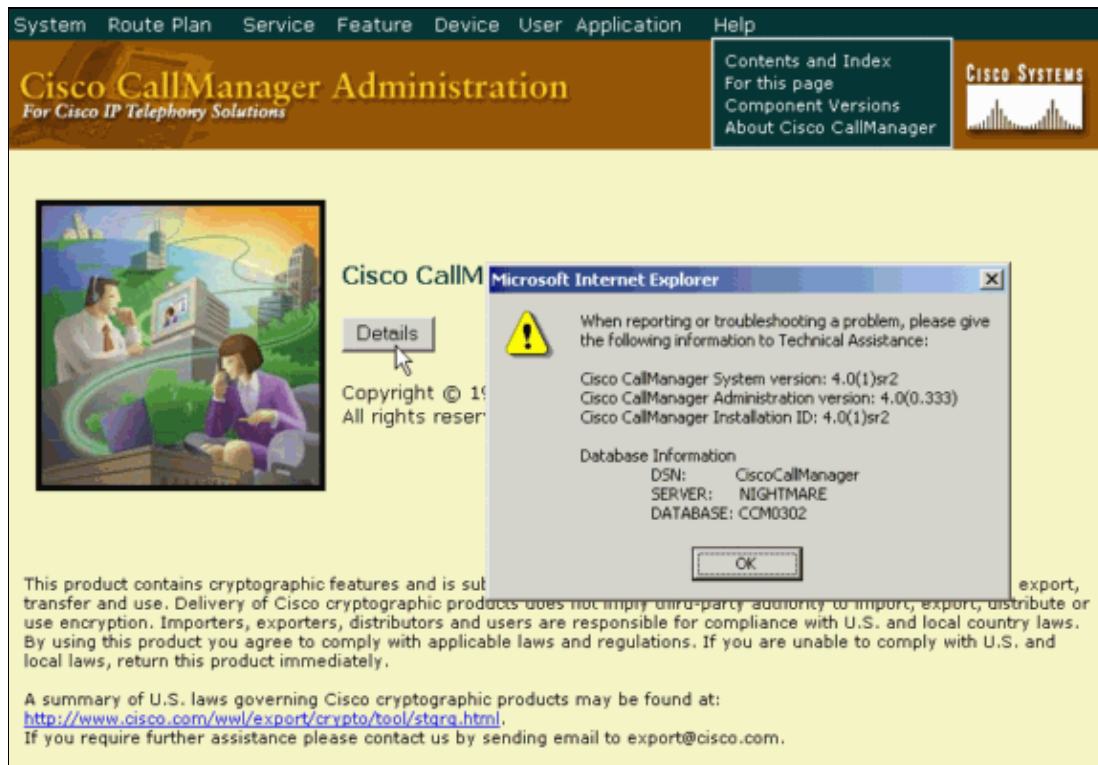
Refer to Cisco Technical Tips Conventions for more information on document conventions.

Prepare and Configure Cisco CallManager 4.x

Verify Cisco CallManager Version

In order to set up Cisco IP Communicator in Cisco CallManager 4.x, you must make sure that your CallManager version is no earlier than 4.0(1)sr2.

Go to the main menu window, choose **Help > About Cisco CallManager**, and then click **Details** to check your Cisco CallManager version.



If your Cisco CallManager version is not at least 4.0(1)sr2, make sure you download the ciscocm.4-0-1-sr2.exe patch from the Cisco CallManager Version 4.0 Software Download Center (registered customers only) and apply it to Cisco CallManager. The Apply sr2 Patch to CallManager 4.x section describes this process.

Apply sr2 Patch to Cisco CallManager 4.x

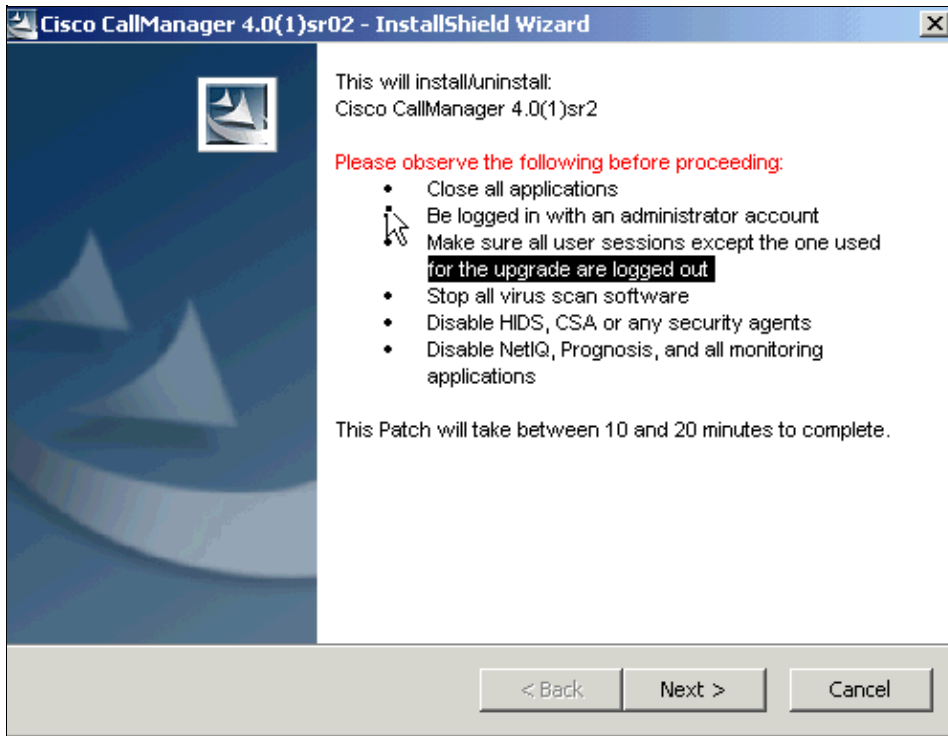


Caution: Application of the sr2 patch to Cisco CallManager should be performed during non-business hours, because this process results in interruption of all CallManager services and a server reboot.

In order to add Cisco IP Communicator as a phone from the device list, you must have Cisco CallManager 4.0(1)sr2. You can apply the sr2 patch directly to 4.0(1) or 4.0(1)sr1 to take you to 4.0(1)sr2.

1. After you download the sr2 patch, copy the file to a temporary directory on your Cisco CallManager server. If you do not have direct access to Cisco CallManager, use the Virtual Network Computing

- (VNC) in order to connect to the Cisco CallManager from a client PC that runs VNC Viewer.
2. From the directory to which you copied sr2, double-click the executable file. This window appears:



3. Click **Next** and follow the instructions on the window to complete the steps to update Cisco CallManager to 4.0(1)sr2. After the server is rebooted, verify that the Cisco CallManager version is 4.0(1)sr2. See the Verify Cisco CallManager Version section.

Configure Cisco CallManager 4.x

Note: Run **CiscoIPCommunicatorAdminToolSetup.exe** and install on the TFTP server or Cisco CallManager Publisher. This tool installs the DirectoryWizard tool for configuring the Quick Search and Dialing Rules features. You can download the CiscoIPCommunicatorAdminToolSetup.exe (registered customers only) .

Note: In this setup, the default Calling Search Space and partitions are used. Only required fields are filled out, which leaves everything else at default except the Owner User ID. In a typical IP phone network, several partitions and Calling Search Spaces are defined.

Complete these steps in order to configure Cisco IP Communicator:

1. Go to the main menu window, choose **Device > Phone > Add a New Phone**, and then select **Cisco IP Communicator** from the Phone type pull-down menu.

System Route Plan Service Feature Device User Application Help

Cisco CallManager Administration
For Cisco IP Telephony Solutions

CISCO SYSTEMS

Add a New Phone

Select the type of the phone you would like to create:

Phone type* Cisco IP Communicator

Status: Ready

* indicates required items

- Cisco IP Communicator
- Cisco 7912
- Cisco 7920
- Cisco 7935
- Cisco 7936
- Cisco 7940
- Cisco 7960
- Cisco 7970
- Cisco ATA 186
- Cisco IP Communicator
- CTI Port
- H.323 Client

2. Click **Next** in order to get to the Phone Configuration window. Fill out the required details, such as the MAC address of the phone. This address should typically be a fixed network interface card (NIC) where Cisco IP Communicator is installed.

System Route Plan Service Feature Device User Application Help

Cisco CallManager Administration
For Cisco IP Telephony Solutions

CISCO SYSTEMS

Phone Configuration

[Add a new phone](#)
[Back to Find/List Phones](#)

Directory Numbers

Lines can be added after the new phone is inserted in the database.

Phone: New

Status: Ready

Phone Configuration (Model = Cisco IP Communicator)

Device Information

MAC Address*

Description

Owner User ID [\(Select User ID\)](#)

Device Pool* Default [\(View details\)](#)

Calling Search Space < None >

AAR Calling Search Space < None >

Media Resource Group List < None >

User Hold Audio Source < None >

Network Hold Audio Source < None >

Location < None >

User Locale < None >

Network Locale < None >

Built In Bridge Default

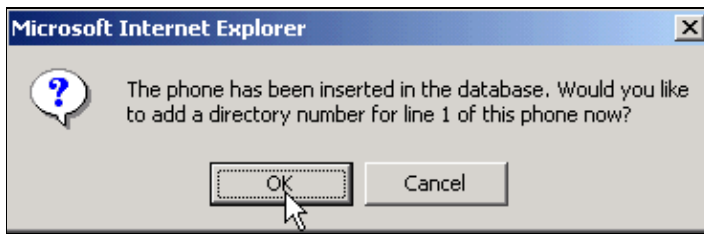
Retry Video Call as Audio

Phone Button Template Information

Phone Button Template* Default IP Communicator Template [\(View button list\)](#)

Softkey Template Information

3. Click **Insert**. This message appears:



4. Click **OK** in order to get to the Directory Number Configuration window. Fill out the required fields.

Directory Number Configuration Configure Device (SEP000347898888)

Associated With

Directory Number: New
 Status: Ready
 Note: Any update to this Directory Number automatically resets the associated devices

Directory Number

Directory Number*
 Partition

Directory Number Settings

Voice Mail Profile
 (Choose <None> to use default)

Calling Search Space
 AAR Group
 User Hold Audio Source
 Network Hold Audio Source
 Auto Answer

Call Forward and Pickup Settings

	Forward	Voice Mail Destination	Calling Search Space
Forward All	<input type="checkbox"/>	<input type="text"/>	<input type="text" value=" < None >"/>
Forward Busy	<input type="checkbox"/>	<input type="text"/>	<input type="text" value=" < None >"/>
Forward No Answer	<input type="checkbox"/>	<input type="text"/>	<input type="text" value=" < None >"/>

No Answer Ring Duration (seconds)
 Call Pickup Group

MLPP Alternate Party Settings

Target (Destination)
 Calling Search Space
 No Answer Ring Duration (seconds)

Line Settings for this Device

Display (Internal Caller ID)
 Line Text Label
 External Phone Number Mask
 Message Waiting Lamp Policy
 Ring Setting (Phone Idle)
 Ring Setting (Phone Active)**

Multiple Call / Call Waiting Settings

Maximum Number of Calls* (1 - 200)
 Busy Trigger* (<= Max. Calls)

Forwarded Call Information Display

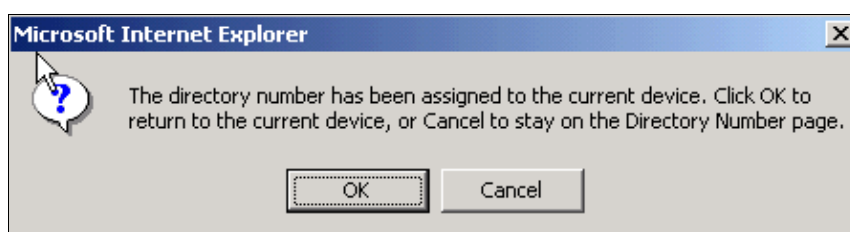
Caller Name Caller Number
 Redirected Number Dialed Number

* indicates required item; changes to Line or Directory Number settings require restart.
 ** Ring Setting (Phone Active) applies to this line when any line on the phone has a call in progress.

Note:
 If you are using a language other than English for Display (Internal Caller ID) or Line Text Label text, make sure the correct character set (shown below) is selected. Text displays incorrectly if the wrong character set is selected. (English characters are included in all character sets.)

Character Set

5. Click **Add**. This message appears:



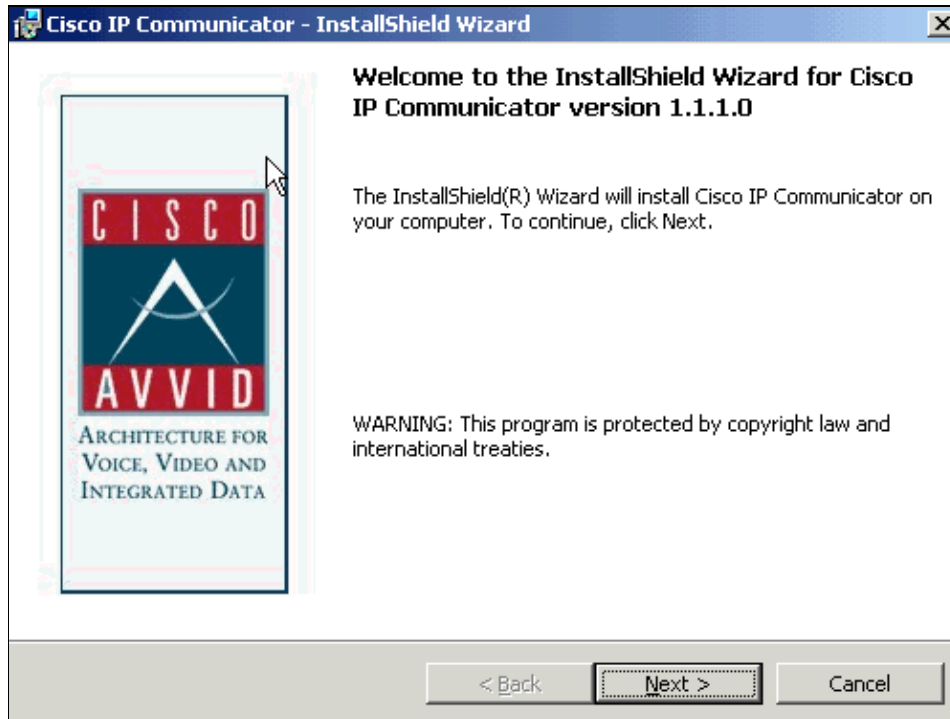
6. Click **OK**.

You have now completed the configuration for Cisco CallManager.

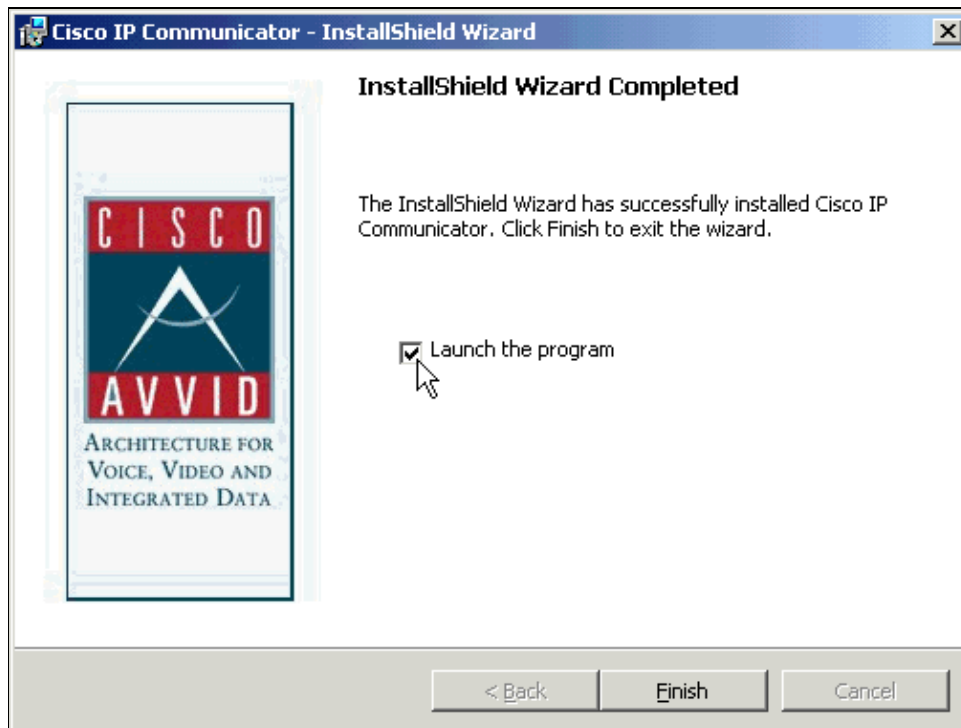
Install Cisco IP Communicator version 1.1.x or 2.x

Complete these steps:

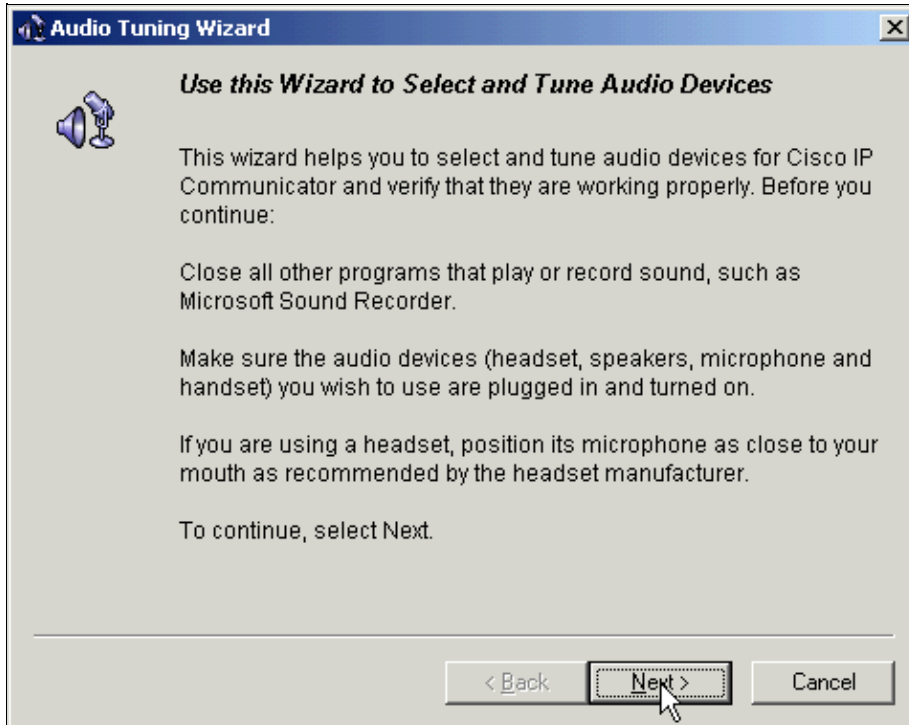
1. Double-click the **CiscoIPCommunicatorSetup.exe** icon to run the Install Wizard. This window appears:



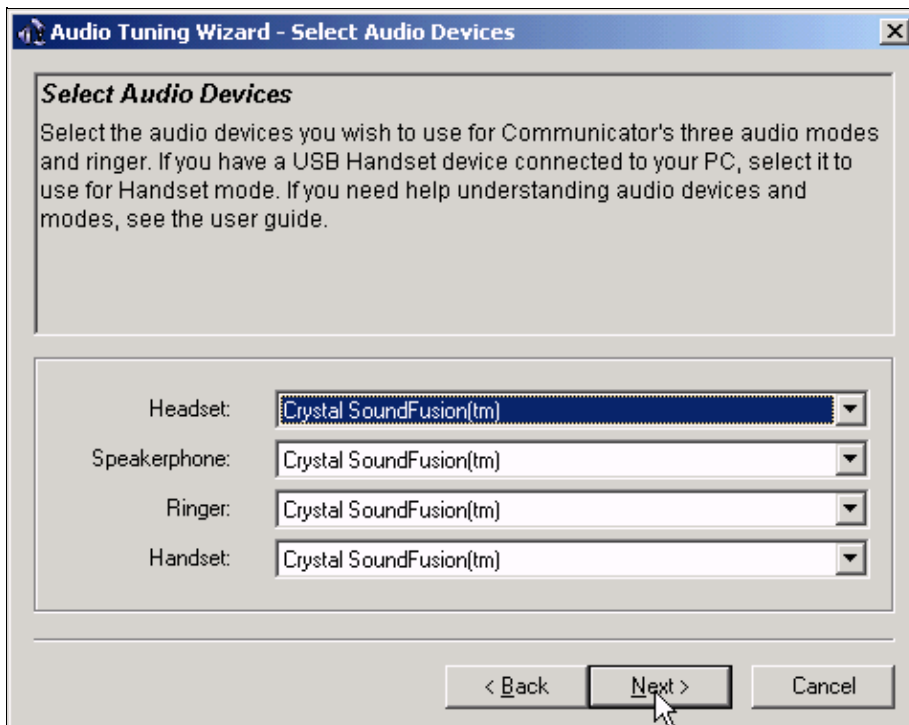
2. Click **Next** and follow the instructions.
3. Once the installation is complete, this window appears:



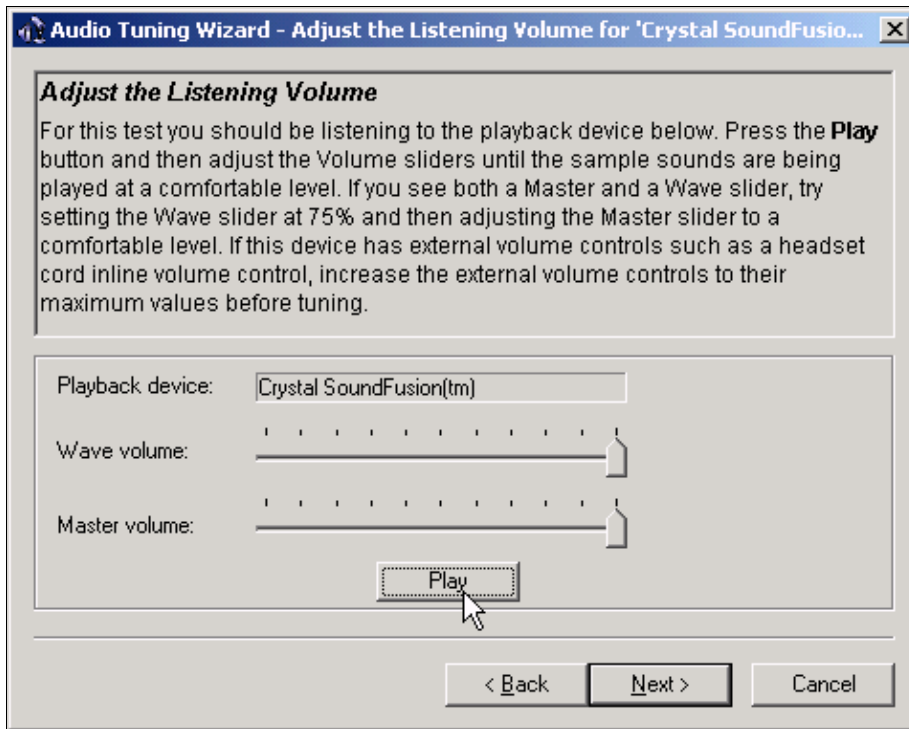
4. Check the **Launch the program** check box and click **Finish**. The Audio Tuning Wizard window appears:



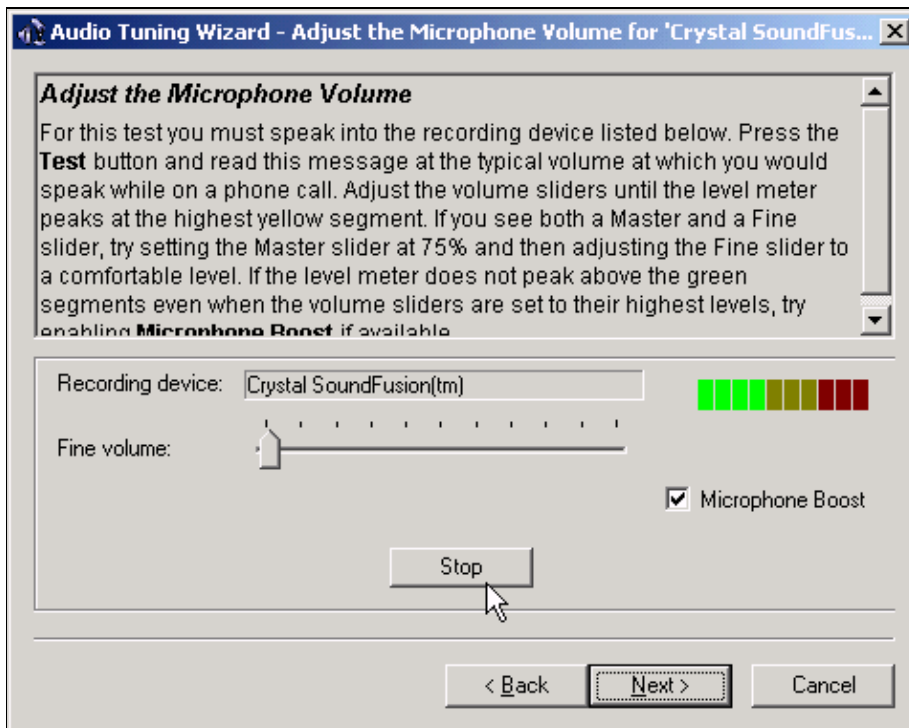
5. Click **Next**. The Select Audio Devices window appears:



6. Choose the appropriate devices from the pull-down lists and click **Next**. Now you must adjust the listening volume.



7. Complete the instructions in order to adjust the listening volume, and then click **Next**. The Adjust the Microphone Volume window appears:



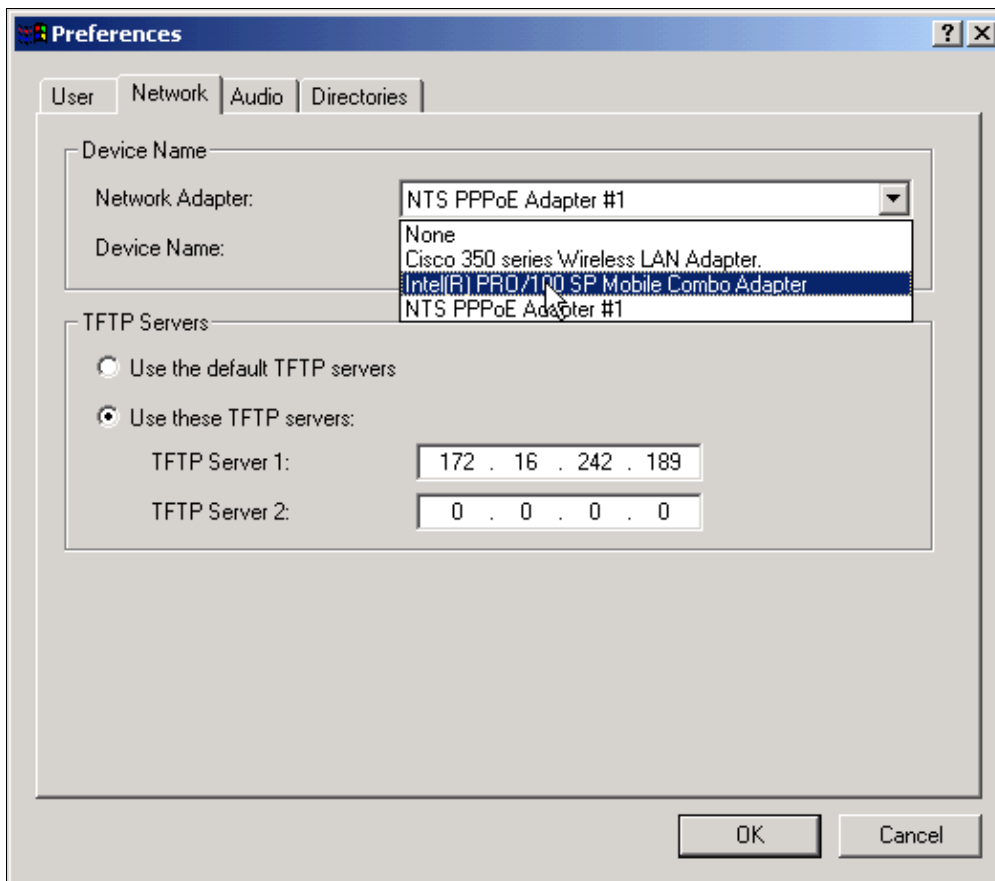
8. Complete the instructions in order to adjust the Microphone Volume, and then click **Next**. The last window appears:



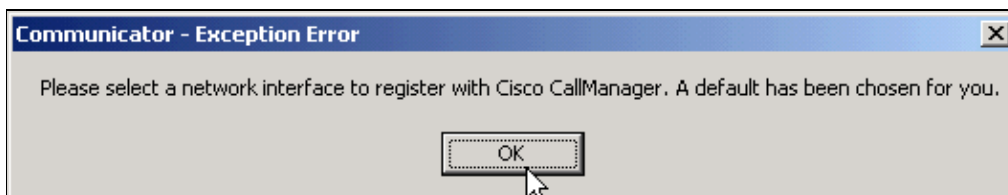
9. Click **Finish**. If your TFTP setup is incorrect, you get this error:



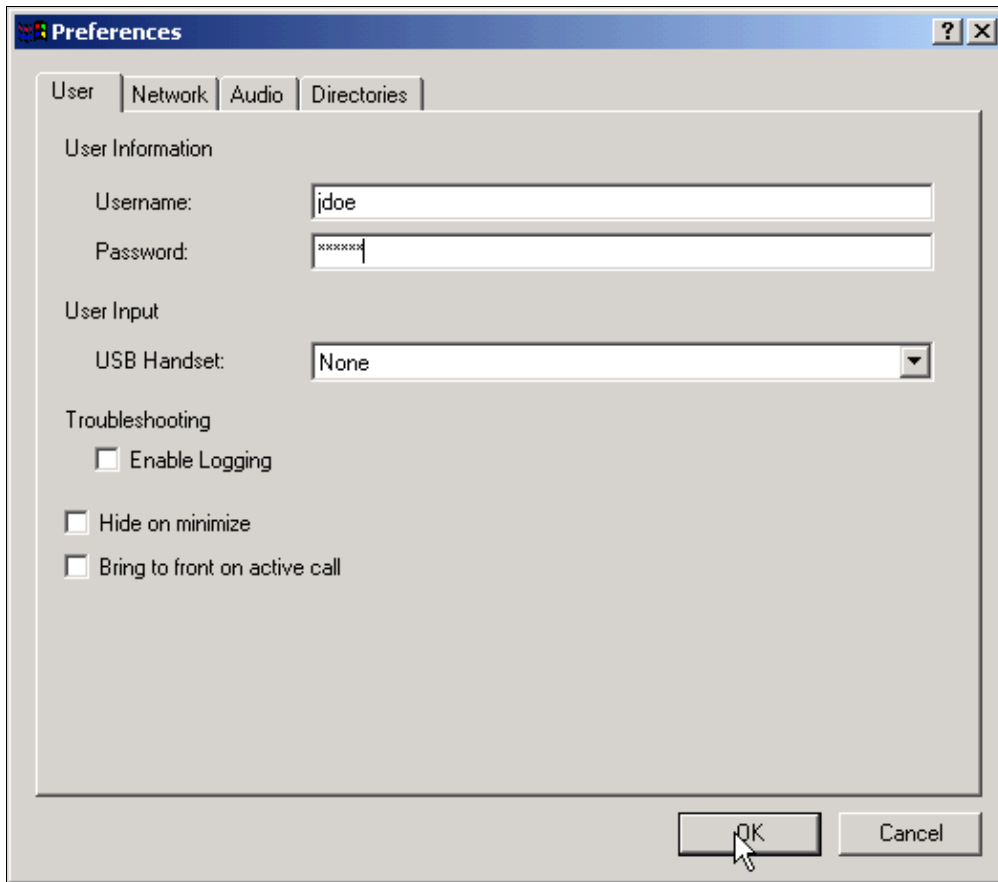
10. Click **OK**. This window appears automatically:



11. Click **Use these TFTP servers** and type in the IP address of the Cisco CallManager if you use a TFTP server on the Cisco CallManager. You must also choose the correct **Network Adaptor** and **Device Name**, or this error appears:



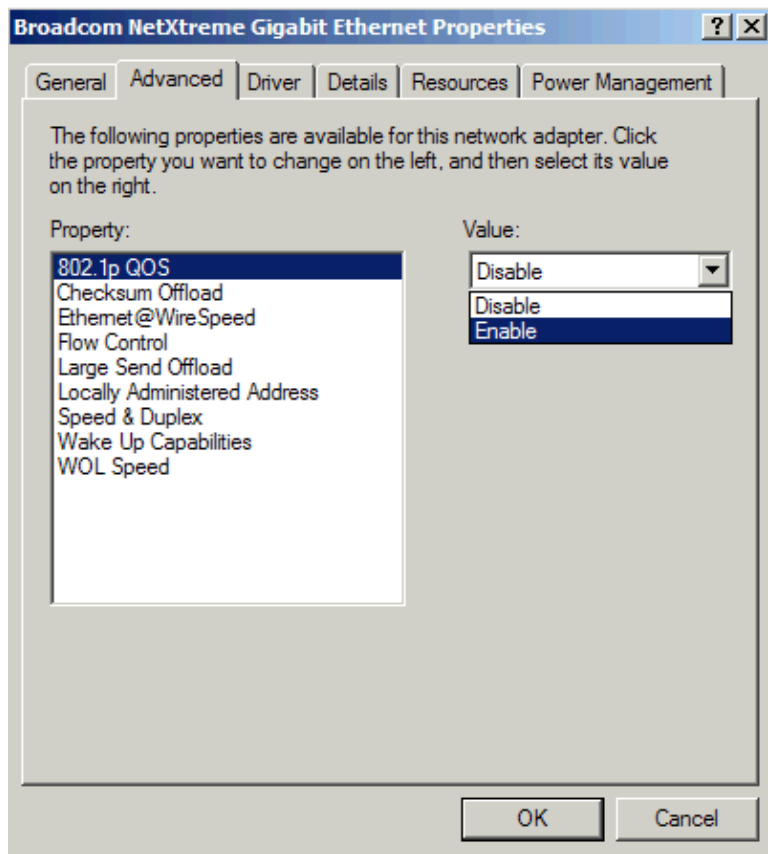
12. The next window asks for your username and password.



13. Enter your username and password and click **OK**. After a few seconds, the Cisco IP Communicator Launch window appears:



In order to avoid choppy voice issues, you need to make sure that you have enabled 802.1p QOS on the PC Network Adapter. Right-click on the connection that you use and choose **Properties**. For the PC Network Adapter, click **Configure** and choose the **Advanced** tab. Choose **802.1p QOS** and then choose **Enable** The default value for the **802.1p QOS** is **Disable**.



Note: The Cisco CallManager sends keepalive acknowledge messages to the registered devices once every 30 seconds. If Cisco IP Communicator is behind a firewall, or if there is some Access Control List(ACL) configured in the network, the keepalive traffic between the Cisco CallManager and IP Communicator is blocked. In this case, make sure that the firewall/ACL is configured to pass TFTP and RTP traffic using the appropriate port range.

Additional Features Supported in Cisco IP Communicator 2.x

- Drag-and-drop dialing
- Copy-and-paste dialing
- Alphanumeric translation
- Keyboard shortcuts for starting and ending calls
- Non-intrusive call notification
- Support for Cisco CallManager Express
- Cisco CallManager 4.0/4.1 call features (privacy line key, extended services on line keys, multiple calls per line appearance, and so forth)

Use Optimize for Low Bandwidth with Cisco Conference Connection

Remote users who use IP Communicator with low bandwidth connections can experience better audio quality with a low-bandwidth codec.

- Choose **Preferences > Audio** from the Cisco IP Communicator right-click menu, and check **Optimize for low bandwidth** in order to specify low-bandwidth codec (G.729).

Note: When you use **Optimize for low bandwidth**, it is difficult to connect to some applications that use a different codec other than G.729. For example, Cisco Conference Connection can only use G.711 codec, thus Cisco IP Communicator is unable to dial a MeetMe Conference number.

You should see a similar IP phone bootup sequence, followed shortly by the phone lines that you configured. Your phone is now ready to dial or receive calls.

Configuring All Eight Lines with IP Communicator

The default Cisco IP Communicator template uses buttons one and two for lines and assigns buttons three through eight as speed dial. Modify your phone button template for IP Communicator in order to configure all eight lines. Complete these steps in order to modify a template:

1. Choose **Device > Device Settings > Phone Button Template** from the Cisco CallManager Administration web application.
2. Click **Find**.
3. Click on the copy sign next to Default IP Communicator Template.
4. Fill in a new Button Template Name, for example, IP Communicator eight lines..
5. Change buttons three through eight to **Line**.

Change the template to IP Communicator eight lines in the Phone Button Template field in the Cisco CallManager Administration Phone Configuration page in order to assign a template to a device.

Ports Used by Cisco IP Communicator

IP Communicator is the same as normal IP phone, so it uses these ports:

- **TFTP** (UDP 69) In order to obtain phone configuration and software
- **SCCP** (TCP 2000) For skinny (SCCP) signaling
- **HTTP** (TCP 80) In order to access IP Phone services
- **RTP** (UDP 16384–32768) For audio

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NetPro Discussion Forums – Featured Conversations for Voice
Service Providers: Voice over IP
Voice & Video: Voice over IP
Voice & Video: IP Telephony
Voice & Video: IP Phone Services for End Users
Voice & Video: Unified Communications
Voice & Video: IP Phone Services for Developers
Voice & Video: General

Related Information

- **Cisco IP Communicator Q&A**
- **Cisco IP Communicator Administration Guide (1.1)**
- **Cisco IP Communicator Release 2.0**
- **Phone Button Template Configuration**

- **Voice Technology Support**
 - **Voice and Unified Communications Product Support**
 - **Recommended Reading: Troubleshooting Cisco IP Telephony**
 - **Technical Support & Documentation – Cisco Systems**
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