



## SIP Video App

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This chapter provides information about the SIP Video app for Cisco IP cameras. This app lets an IP camera send audio to and receive audio from, and send video to an external SIP client device or Cisco Unified Communications Manager (CUCM).

This chapter includes these topics:

- [About the SIP Video App, page 10-1](#)
- [Configuring the SIP Video App on an IP Camera, page 10-1](#)
- [Configuring Cisco Unified Communications Manager for use with the SIP Video App, page 10-4](#)
- [Running the SIP Video App, page 10-6](#)
- [Stopping the SIP Video App, page 10-7](#)

## About the SIP Video App

The SIP Video app enables an IP camera to transmit and receive audio to and from an external SIP client device or Cisco Unified Communications Manager. It also lets you send video to a device. The IP camera plays audio that it receives on external speakers that are connected to it. The IP camera transmits audio through its internal or external microphone.

The SIP Video app provides these operating modes:

- **Standalone mode**—In this mode, the IP camera waits for contact from a device on which a SIP client is operating and establishes a connection with that device when it receives contact. After the connection is established, the IP camera and this SIP client device can engage in full-duplex audio communication, and half-duplex video communication.  
  
This mode supports one connection from a SIP device to the IP camera at a time. When a SIP client device disconnects from the IP camera, the camera is ready to establish another connection.
- **CUCM mode**—In this mode, the IP camera connects to an active Cisco Unified Communications Manager and can engage in full-duplex audio communication, and half-duplex video communication.

## Configuring the SIP Video App on an IP Camera

Before you can use the SIP Video app, you must configure it on each IP camera on which it will run. To configure this app, perform the following steps.

**Before You Begin**

Install the SIP Video app on the IP camera on which it will run. See the [“Related Documentation” section on page 1-1](#) for more information.

**Procedure**

- Step 1** From the IP camera web-based user interface, click the **Setup** link, click **Application Manager** to expand the menu, then click **App Setup**.
- Step 2** Click the **SIPVideo** radio button, then click **Configure**.  
The Cisco SIP Video App configuration page appears.
- Step 3** Enter appropriate values in the Cisco SIP Video App configuration page fields as described in the following table:

Field	Settings for Standalone Mode	Settings for CUCM Mode (Cisco Unified Communications Manager)	Default Setting
Debug Level	<p>Lets you enable logging, which causes the system to write app-related information to a log file. The log file is named SIPVideo_verbose.log and is stored in the /var/log folder on the IP camera.</p> <p>When this file reaches 256 KB in size, it is archived to a file named SIPVideo_verbose.log.1.gz in the /var/log folder and a new SIPVideo_verbose.log file is created. When this new log file reaches 256 KB in size, it is archived to a file named SIPVideo_verbose.log.2.gz and a new SIPVideo_verbose.log file is created again. After that, each time the new SIPVideo_verbose.log file reaches 256 KB in size, an archive file is created that overwrites the oldest existing archive file. In addition, the SIPVideo_verbose.log is overwritten if the IP camera reboots and you restart the app.</p> <p>Options are:</p> <ul style="list-style-type: none"> <li>• <b>None</b>—Disables generation of logging so that no information is written to the log file</li> <li>• <b>Debug</b>—Generates detailed logging information that can assist with debugging</li> <li>• <b>Message</b>—Generates announcements about normal operations of the app, including announcements about SIP exchange, multimedia, and event operations</li> <li>• <b>Warning</b>—Generates information about conditions that are not necessarily errors but that may indicate that the system is not running optimally.</li> <li>• <b>Error</b>—Generates information about conditions that indicate that the app is not operating correctly</li> <li>• <b>Fatal</b>—Generates information about conditions that indicate that the app cannot recover from a failure</li> <li>• <b>Trace</b>—Generates trace-level information messages</li> </ul>		None
App Mode	Standalone	CUCM	—

Field	Settings for Standalone Mode	Settings for CUCM Mode (Cisco Unified Communications Manager)	Default Setting
Connection Check Time	<p>Enter a time interval in seconds at which the IP camera periodically contacts the SIP client to ensure that a live connection is in place.</p> <p>If the IP camera detects that the connection to the SIP client is lost, the camera tries three times to reestablish a connection. If the connection cannot be reestablished, the SIP Video app stops automatically.</p> <p>Valid values are <b>10</b> through <b>600</b> (10 seconds through 10 minutes).</p>	<p>Enter a time interval in seconds at which the IP camera periodically contacts Cisco Unified Communications Manager to ensure that a live connection is in place.</p> <p>If the IP camera detects that the connection to Cisco Unified Communications Manager is lost, the camera tries three times to reestablish a connection. If the connection cannot be reestablished, the SIP Video app stops automatically.</p> <p>Valid values are <b>10</b> through <b>600</b> (10 seconds through 10 minutes).</p>	10
SIP Server	—	Enter the IP address of the Cisco Unified Communications Manager server.	0
Video Calling	Choose <b>Enabled</b> enable the app to send video in addition to sending and receiving audio. If you choose Disabled, the app sends and receives audio only.		Enabled
Video Resolution	<p>Available only if the Video Calling field is set to <b>Enabled</b>. Choose the resolution at which the video is sent to a device.</p> <p>The options that appear depend on the model of IP camera that you are using.</p>		Depends on the IP camera model
Audio Gain	<p>Enter the volume in decibels (dB) at which the IP camera plays on its external speakers audio that it receives from a remote SIP device or Cisco Unified Communications Manager.</p> <p>Valid values are <b>0</b> through <b>20</b>.</p>		15
Username	—	<p>Enter the camera username that the camera uses to register with Cisco Unified Communications Manager.</p> <p>This value is the User ID that you configure in Cisco Unified Communications Manager as described in the <a href="#">“Adding and Associating an End User”</a> section on page 10-5.</p>	—

Field	Settings for Standalone Mode	Settings for CUCM Mode (Cisco Unified Communications Manager)	Default Setting
Password	—	Enter the camera password that the camera uses to register with Cisco Unified Communications Manager.  This value is the password that you configure in Cisco Unified Communications Manager as described in the <a href="#">“Adding and Associating an End User”</a> section on page 10-5.	—

**Step 4** Click the **Save** button in the Cisco SIP Video App configuration page, and then click **OK** in the confirmation dialog box.

If you want to reset the options in the Cisco SIP Video App configuration page to their default values, click the **Reset** button, click **OK** in the two dialog boxes that appear, click the **Save** button, and then click **OK** in the confirmation dialog box.

If you change configuration values while the SIP Video app is running, you must stop and then restart the app before the changes take effect.

## Configuring Cisco Unified Communications Manager for use with the SIP Video App

You configure Cisco Unified Communications Manager for use with the SIP Video app by using the Cisco Unified Communications Manager Administration Console. For more detailed configuration information, see your Cisco Unified Communications Manager documentation.

This configuration involves the procedures that the following sections describe:

- [Adding a Camera to Cisco Unified Communications Manager, page 10-4](#)
- [Adding and Associating an End User, page 10-5](#)

### Adding a Camera to Cisco Unified Communications Manager

Adding a camera to Cisco Unified Communications Manager enables that application to support the camera. When you add a camera, you add the device as a phone. You must add each camera that will run the SIP Video app.

To add a camera to Cisco Unified Communications Manager, follow these steps from the Cisco Unified Communications Manager Administration Console:

#### Procedure

**Step 1** Log in to the Cisco Unified Communications Manager Administration Console.

- Step 2** Choose **Device > Phone**.  
The Add a New Phone page appears.
- Step 3** Click **Add New** near the top left side of the page.  
The Add a New Phone page appears.
- Step 4** From the Phone Type drop-down list, choose **Third-party SIP device (Advanced)**.
- Step 5** Click **Next**.  
The Phone Configuration page appears.
- Step 6** In the Device Information area, take these actions:
- In the MAC Address field, enter the MAC address of the IP camera.
  - From the Device Pool drop-down list, choose **Default**.
  - From the **Phone Button Template** drop-down list, choose **Third-party SIP Device (Advanced)**.
- Step 7** In the Protocol Specific Information area, take these actions:
- From the Device Security Profile drop-down list, choose **Third-party SIP Device Advanced**.
  - From the **SIP Profile** drop-down list, choose **Standard SIP Profile**.
  - Check the **Media Transmission Point Required** check box.
- Step 8** Click **Save** near the bottom of the Phone Configuration page to save and load the new phone configuration, and then click **OK** in the dialog box that appears.
- Step 9** Click **Line[1]-Add a new DN** in the Association Information area on left side of the window.  
The Directory Number Configuration page appears.
- Step 10** In the Directory Number field near the top of the page, enter a valid four-digit directory number that is within your dial plan.
- Step 11** (Optional) In the Description field, enter a description of the camera.  
For example, Hallway Camera.
- Step 12** (Optional) In the Alerting Name field, enter the name of the camera that appears on telephones when the camera is called.
- Step 13** Click **Save** near the bottom of the Directory Number Configuration page to associate the directory number with the device that you added.
- Step 14** Click **Apply Config** near the top of the screen.
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## Adding and Associating an End User

Adding end user to Cisco Unified Communications Manager and associating an end user with a camera allows cameras that run the SIP Video app to register with Cisco Unified Communications Manager. Cisco recommends that you create one end user and associate that end user with each camera.

To add an end user in Cisco Unified Communications Manager, follow these steps from the Cisco Unified Communications Manager Administration Console:

### Procedure

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- Step 1** Choose **User Management > End User**.  
The Find and List Users page appears
- Step 2** Click **Add New** near the top left side of the page.  
The End User Configuration page appears.
- Step 3** In the User ID field, enter an identifier for the user.  
For example, enter **camera**.
- Step 4** In the Password field, enter a password that the IP camera uses to register with Cisco Unified Communications Manager.
- Step 5** In the Confirm Password field, reenter the password that you entered in the Password field.
- Step 6** In the Last name field, enter a name to identify the user.  
For example, enter **IP camera**.
- Step 7** Click **Save** near the bottom of the End User Configuration page.
- Step 8** Associate the device added with the end user by selecting a device from the Device association tab in the Device Information block.
- Step 9** In the Device Information area in the End User Configuration page, click **Device Association**.
- Step 10** Take these actions:
- Locate one or more devices that you added as described in the [“Adding a Camera to Cisco Unified Communications Manager”](#) section on page 10-4, click the check box that corresponds to that device.
  - In the Protocol Specific Information area, uncheck the **Media Termination Point Required** check box.
  - Click **Save Selected Changes** at the bottom of the page.
- You can repeat this step as needed.
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## Running the SIP Video App

When you run the SIP Video app, the IP camera does the following:

- If the SIP Video app is configured for Standalone mode, begins to wait for contact from a SIP Video device
- If the SIP Video app is configured for CUCM mode, an incoming call to the camera is established through Cisco Unified Communication Manager

To run the SIP Video on an IP camera, follow these steps:

### Procedure

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- Step 1** Take these actions to enable audio on the IP camera, if it is not enabled already:
- From the IP camera web-based user interface, click the **Setup** link, click **Application Manager** to expand the menu, then click **Configuration**.

- b. Check the **Enable Audio** check box in the Audio area.
  - c. Click **Save**.
- Step 2** From the IP camera web-based user interface, click the **Setup** link, click **Application Manager** to expand the menu, then click **App Setup**.
- Step 3** Click the **SIPClient** radio button.
- Step 4** (Optional) If you want the SIP Video app to run automatically each time the IP camera reboots, in the Installed Application List area, check the **Start on Boot** check box that corresponds to this app.  
If you do not check this check box, you must run the app manually each time the IP camera reboots.
- Step 5** Click the **Run** button.
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## Stopping the SIP Video App

When you stop the SIP Video app, the IP camera does the following:

- Gracefully terminates any existing connection to a SIP video device
- If the SIP Video app is configured for standalone mode, stops waiting for contact from a SIP client device

To stop the SIP Video app on an IP camera, follow these steps:

### Procedure

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- Step 1** From the IP camera web-based user interface, click the **Setup** link, click **Application Manager** to expand the menu, then click **App Setup**.
- Step 2** Click the **SIPClient** radio button.
- Step 3** Click the **Stop** button.
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