



## **Cisco Unified Workforce Optimization**

Recording Controls API Programmer's Guide Version 10.5

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Recording Controls API Programmer's Guide

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# Introduction

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This document describes the Recording Controls application programming interface (API) for Cisco Unified Workforce Optimization Quality Management.

The Recording Controls API allows agents to control which recorded calls are stored, the content of the recorded calls, and even the data associated with the calls



# Recording Controls API

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The Recording Controls API is a client API. The Recording Controls API provides a means for users to create an external application that interfaces with the Cisco Quality Management system and allows agents to perform the following actions:

- Tag calls for recording and retention
- Pause a recording
- Resume a recording
- Restart a recording

**Note:** The Restart command is not supported with Gateway Recording and will be removed in a future release.

- Delete calls marked for recording
- Attach user-defined metadata to calls
- Start and stop call segments
- Log on to phones and log out of phones—only Agent Recording supports this feature. This feature is not supported for Gateway Recording.
- Start and stop screen only recording

## CAD and Finesse

You can integrate the Recording Controls API with the Cisco Agent Desktop (CAD) or Finesse using Hypertext Transfer Protocol (HTTP) actions. HTTP actions pass information in the form of an HTTP request from the agent desktop to a third-party application (in this case, the Recording Controls API) using HTTP methods. For more information on configuring Cisco Agent Desktop, see the *Cisco Quality Management Integration Guide for CAD and Finesse*.

## Hot Desking

Hot Desking is a situation where one desk is shared between several people who use the desk at different times. This work surface can be an actual desk or just a terminal link. Companies use Hot Desking when not all the employees are in the office at the same time, or employees are not regularly in the office for very long.

The Recording Controls API provides a Login and Logout command to the Recording Cluster and Desktop Recording service for hot desking.

You must configure the device for hot desking. See “VoIP Devices” in the *Administrator User Guide* for more information on hot desking.

## Recording Controls API Requirements

Messages are sent to the Recording Controls applet on the Base server. Cisco Recording Controls listens on port 80 or 7001 for incoming recording commands. The messages require the following information:

- Protocol: HTTP
- IP Address: <Base server>
- Port: 80 for HTTP and 7001 for HTTPS
- Agent identifier—when sending API Recording commands to Recording Controls, you need to identify the Cisco Quality Management user associated with the command.

### Agent Identifiers

The agent can be identified in one of the following ways:

- [Userdomain and Username](#)
- [Peripheral\\_id and Sender\\_id](#)

#### Userdomain and Username

You can use userdomain and username when you send an API command.

**Example:** `userdomain=CISCO&username=john.doe`

## Peripheral\_id and Sender\_id

The `peripheral_id` and `sender_id` appear in the User ID column in Quality Management Administrator (Personnel > User Administration node). The User Administration window displays the agent identifier in the following format:

```
<peripheral_id>.<sender_id>
```

**Example:** 5000.1234

You can use `sender_id` and `peripheral_id` when you send an API command.

**Example:** `sender_id=1234&peripheral_id=5000`

## How to Find the Microsoft Windows Login Name

There are two ways to find a login name on a user's PC. The one you use depends on which application the user is using and the available API type.

- SENS events—If the application has access to the Windows API, you can use Windows events to get notification when a user logs in or logs out. The Desktop Recording service uses SENS events.
- Environment variables—When a user logs in, the following environment variables are set:
  - USERDOMAIN
  - USERNAME

Cisco Recording Controls uses environment variables.

## Rules for Recording Controls Commands

- Commands are case-insensitive.
- You can send multiple commands for the same call.

**Example:** You can attach metadata to a call and tag the same call for retention. However, once you delete a call using the delete command, the metadata and tag commands have no effect.

- In a multi-tenancy environment, the sender\_id and extension must be unique across the entire system.
- The following list displays the valid recording commands that you can enter in the recordingcontrols.properties file. The recording commands a Recording Controls user can see and use are the ones that appear in the recordingcontrols.properties file.
  - record
  - pause
  - resume
  - restart

**Note:** The Restart command is not supported with Gateway Recording and will be removed in a future release.

Recording and will be removed in a future release.

- delete
- login
- logout

**Note:** The Recording Controls IP Phone Service does not support the Login and Logout commands.

- metadata
  - start
  - stop
  - start\_screen
  - stop\_screen
- Recording Controls ignores all other words.

Do not enter spaces between the words on these lines. Use commas as separators between the commands.

- You can control the Recording Controls commands available to Cisco Quality Management users who are agents and knowledge workers.

**Example:** You could assign record, pause, resume, restart, delete, start, and stop to agents and assign metadata to knowledge workers.

```
recordingcontrols.agent=record,pause,resume,restart,delete,login,logout,start,stop
recordingcontrols.know=metadata
```

- The order in which commands appear on these lines determines the order in which they appear in the Recording Controls IP Phone Service. The command order does not apply to the Recording Controls Browser application.
- If you remove commands from these lines, the commands no longer appear in either the Recording Controls IP Phone Service or Recording Controls Browser application.

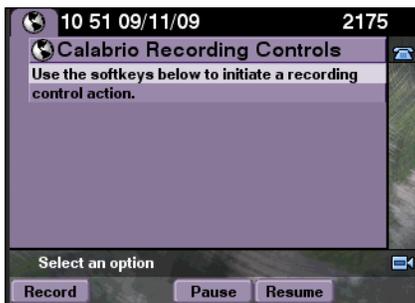
**Example:** When you remove a command in the Recording Controls Browser application, the button no longer appears and the remaining buttons align themselves to fill the space.

- The Recording Controls IP Phone Service can display up to four soft buttons at a time (some phones, like the IP Communicator soft phone, can allow as many as five buttons). To see additional commands, the user must press a button to display more commands. For this reason, you should place the most frequently used commands at the beginning of the list. This makes command navigation easier.

**Example:** If you want a blank button to appear on the IP phone service screen, you can simply omit the command name in the string, using two consecutive commas, as follows:

```
recordingcontrols.agent=record,,pause,resume
```

When you enter a string with two consecutive commas, the result on the main page of IP phone service looks like the following figure.



The result on the Recording Controls Browser application looks like the following figure.



For more information about the Recording Controls Browser application, see the *Recording Controls Application User Guide*.

- If you are using reconciliation without Gateway Recording, none of the API commands are supported.
- If you are using reconciliation with Gateway Recording, the following Recording Controls API commands are not supported:
  - Login
  - Logout
  - Start Segment
  - Stop Segment
  - Start Screen
  - Stop Screen
- These commands are generally issued at the time of recording. Gateway Recording only supports commands that can be issued after the call is recorded.
- For Gateway Recording, the use of recording commands is not supported for the extensions in the exclusion list.

## Recording Commands

This section explains the following concepts:

- Syntax of recording commands
- Function of each recording command
- Active and last calls
- Using commands with an outbound dialer

### Command Syntax

The Recording Controls API supports the following HTTP methods:

- GET

```
http://<Base Server IP>/recordingcontrols/rest/<command>?<agent identifier>&<variable>=<variable value>
```

- POST

```
http://<Base Server IP>/recordingcontrols/rest/<command>
{
  "<agent identifier>": "<agent identifier>",
  "metadata": {
    "<variable>": "<variable value>"
  }
}
```

where:

- <Base Server IP> is the IP address of the base server.
- <command> is the recording controls command you want to send. Valid commands are record, pause, resume, restart, delete, login, logout, metadata, start, stop, start\_screen, and stop\_screen.

If you want to send metadata only during active calls add &active\_call\_only=true to the metadata command.

**Example:**

```
http://10.197.234.35/recordingcontrols/rest/metadata?userdomain=&username=janedoe&my_meta=sample&active_call_only=true
```

- <agent identifier> is the peripheral\_id and sender\_id or the username or userdomain of the agent. For more information on agent identifiers, see [Agent Identifiers](#).
- <variable> and <variable value> (optional) are additional information you want to attach to the command.

**Example:** <key>=<value> or <key>:<value>

Commands that require variables are login, logout, metadata, start\_screen, and stop\_screen.

## Command Functions

Recording commands allow you to control a recording.

**Example:** You can use recording commands to record a call, pause the recording, and attach metadata to a recording.

The following table describes how the recording commands interact with each other and the Cisco Quality Management components.

## Recording commands

Command	Function
Record	<p>Records a call and uploads the call to the Cisco Quality Management server at the end of the day.</p> <p>The Record command behaves as follows:</p> <ul style="list-style-type: none"> <li>■ Agent Recording—marks a call for recording, even if archiving is not enabled and the call does not meet the workflow criteria. The Record command overrides both the Don't Record list and the workflow classifiers.</li> <li>■ Gateway/MediaSense Recording—marks a recording as tagged if archiving is enabled and the call meets the workflow criteria. The Record overrides the workflow, but does not override an exclusion list in the Exclusion List window because the root contact does not know the agent's identity when recording. See "Calabrio Recording Controls Considerations for Gateway Recording" in the <i>Administrator User Guide</i> for more information.</li> </ul> <p>Cisco Quality Management stores agent-tagged calls with the Agent Tagged reason code, and saves them for the retention time configured in Quality Management Administrator.</p> <p>Agent Recording:</p> <ul style="list-style-type: none"> <li>■ The Record command is valid for the active call and the last call.</li> <li>■ If Cisco Quality Management is not recording the active call, Cisco Quality Management starts recording the call when you invoke the command and adds the Agent Tagged reason code.</li> <li>■ If Cisco Quality Management is recording two active calls (for example, an inbound ACD call and an outbound consultation call), Cisco Quality Management tags the call that triggered the recording to begin.</li> <li>■ If Cisco Quality Management is not recording two active calls (for example, an inbound ACD call and an outbound consultation call), Cisco Quality Management begins recording the first call sent to the agent, based on the call start times, and tags the first call when you invoke the Record command.</li> </ul> <p>Gateway/MediaSense Recording and Agent Recording:</p>

Command	Function
	<ul style="list-style-type: none"><li data-bbox="430 268 1323 388">■ If Cisco Quality Management is recording an active call, Cisco Quality Management adds the Agent Tagged reason code to the data associated with the call.</li><li data-bbox="430 415 1307 493">■ If Cisco Quality Management recorded the last call, Cisco Quality Management updates the reason code to the Agent Tagged reason.</li><li data-bbox="430 520 1323 640">■ If Cisco Quality Management did not record the last call, nothing happens. Cisco Quality Management cannot update the reason code when no recording is available.</li></ul>

Command	Function
Pause	<p data-bbox="397 268 946 300">Temporarily halts the recording of a contact.</p> <p data-bbox="397 325 1380 575">Use the Pause command to control the screen and audio that appears in the final recording. This command adheres to the Payment Card Industry Data Security Standard (PCI DSS) for protecting consumer data. When you cannot record sensitive information (such as Social Security numbers) for security or liability reasons, use the Pause command to omit sensitive information from the recording.</p> <p data-bbox="397 600 1352 764">When you use the Pause command, silence appears in the final recording where an agent discussed sensitive information. Calls are available for playback prior to reconciliation with silence where an agent issued the Pause command. These calls are accessible by anyone with the archive user role.</p> <p data-bbox="397 777 1057 808">When using the Pause command, note the following:</p> <p data-bbox="397 833 621 865">Agent Recording:</p> <ul data-bbox="427 890 1359 1388" style="list-style-type: none"><li data-bbox="427 890 1065 921">■ The pause command is valid for active calls only.</li><li data-bbox="427 947 1333 1024">■ The pause command affects both the screen and audio portions of the contact.</li><li data-bbox="427 1050 1359 1127">■ If you send a pause command for a call currently in the paused state, the pause command has no effect.</li><li data-bbox="427 1152 1359 1272">■ When you play back a recording that contains a pause, the audio portion is silent and the screen portion displays the following message for the duration of the pause: <pre data-bbox="469 1297 883 1329">Screen recording paused</pre></li><li data-bbox="427 1354 1114 1386">■ The pause command does not affect live monitoring.</li></ul> <p data-bbox="397 1411 1352 1488">Gateway/MediaSense Recording delays the pause. The pause will appear in the recording after the recording is uploaded.</p> <p data-bbox="397 1514 1349 1545">Issue the Resume command when you want to start recording after a pause.</p>

Command	Function
Resume	<p data-bbox="397 268 1372 342">Resumes recording the contact after you issued a Pause command to stop the recording.</p> <p data-bbox="397 369 673 401">For Agent Recording:</p> <ul data-bbox="430 428 1339 772" style="list-style-type: none"><li data-bbox="430 428 1258 459">■ The Resume command affects both voice and screen recording.</li><li data-bbox="430 487 1331 518">■ If the call is not currently paused, the Resume command has no effect.</li><li data-bbox="430 546 1096 577">■ The Resume command is valid for active calls only.</li><li data-bbox="430 604 1339 678">■ If you do not use the Resume command, the point at which you paused the recording is the end of the audio recording.</li><li data-bbox="430 705 1291 779">■ A Resume command does not appear as a mutual silence event or talkover event during post-call processing.</li></ul>

Command	Function
Restart	<p data-bbox="402 268 894 300">Restarts or starts the recording of a call.</p> <div data-bbox="402 323 1377 468" style="background-color: #e1f5fe; padding: 10px;"><p data-bbox="440 359 1328 432"><b>Note:</b> The Restart command is not supported with Gateway Recording and will be removed in a future release.</p></div> <ul data-bbox="428 491 1333 1157" style="list-style-type: none"><li data-bbox="428 491 683 522">■ Agent Recording:<ul data-bbox="500 548 1333 1056" style="list-style-type: none"><li data-bbox="500 548 1333 709">• If Cisco Quality Management is currently recording an active call, the Restart command stops the audio and screen recording, deletes that recording, and restarts recording the call from the point when you issued the Restart command.</li><li data-bbox="500 737 1333 810">• If Cisco Quality Management is not currently recording an active call, the Restart command starts audio and screen recording.</li><li data-bbox="500 837 1146 869">• The Restart command is valid for active calls only.</li><li data-bbox="500 896 1333 1056">• Cisco Quality Management assigns an Agent Tagged reason code to calls recorded using the Restart command. Cisco Quality Management saves the agent tagged calls even if archiving is not enabled and the call does not meet workflow criteria.</li></ul></li><li data-bbox="428 1083 1247 1157">■ Gateway/MediaSense Recording does not support the Restart command.</li></ul> <p data-bbox="402 1184 1377 1346">Use this command if you call someone and you are immediately placed on hold for a long time. Issue the Restart command you leave the hold queue and begin speaking to a person. This eliminates the period when you are on hold (for example, 20 minutes of recorded on-hold music).</p>

Command	Function
Delete	<p data-bbox="397 268 1383 478">Marks a recording for deletion, even if archiving is enabled, the call meets workflow criteria, the extension is in the inclusion list, or it is tagged for retention. The Delete command deletes the recorded files and any metadata, and uploads the basic contact data to Cisco Quality Management to maintain accurate call counts.</p> <ul data-bbox="430 504 1364 997" style="list-style-type: none"><li data-bbox="430 504 1104 535">■ The Delete command is valid for the active call only.</li><li data-bbox="430 556 1258 588">■ The Delete command has precedence over all other commands.</li><li data-bbox="430 609 1258 693">■ Once you delete a call you cannot record it by issuing the Record command.</li><li data-bbox="430 714 1218 798">■ Deleted calls are not available for archive purposes or quality management purposes.</li><li data-bbox="430 819 1258 850">■ You cannot view deleted calls in Unified Workforce Optimization.</li><li data-bbox="430 871 1364 997">■ For Gateway/MediaSense Recording, the recording is deleted for the person who sends the command, but the audio recording might continue to exist in the root call or in other calls associated with this call.</li></ul>
Login	<p data-bbox="397 1035 1339 1119">Sends a login request to associate an agent with the given extension for hot desking.</p> <p data-bbox="397 1140 1339 1266">The Recording Controls IP Phone Service does not have login/logout capabilities. Use Cisco's Extension Mobility IP Phone application to log in by phone.</p> <p data-bbox="397 1287 1274 1371">This command is not supported if you are using Gateway/MediaSense Recording.</p>
Logout	<p data-bbox="397 1402 1356 1486">Sends a logout request to associate an agent with the given extension for hot desking.</p> <p data-bbox="397 1507 1274 1591">This command is not supported if you are using Gateway/MediaSense Recording.</p>

Command	Function
Metadata	<p>The Metadata command attaches metadata to an active call. If Cisco Quality Management does not upload the current call (or previous) for archiving because of workflow criteria, then the metadata will be uploaded to the database but will not appear in the interface.</p> <ul style="list-style-type: none"> <li>■ The Metadata command is valid for the active call and the last call.</li> <li>■ You can associate maximum of 10 metadata items with a call. You can accomplish this with 10 Metadata commands containing one key/value pair each, or one Metadata command containing up to 10 key/value pairs.</li> <li>■ You can only attach metadata defined in Quality Management Administrator (Recordings &gt; Metadata) to a call. If you add an unknown key to a Metadata command, Cisco Quality Management ignores the unknown key.</li> </ul> <p>The Metadata command interacts with the active call, including the time up until the next call starts. If you invoke the Metadata command during a call, Cisco Quality Management uploads the metadata to the database at the same time as the rest of the call data. If you invoke the Metadata command after the call but before the next call, Cisco Quality Management uploads the metadata separately at the time you invoke the command and Cisco Quality Management stores the metadata with the last known call. Calls that occur after a recorded call that do not match the inclusion list are not counted as the next call.</p> <div style="background-color: #e1f5fe; padding: 10px; border: 1px solid #ccc;"> <p><b>Note:</b> Cisco Quality Management resets the last known call at login, so Cisco Quality Management cannot attach metadata to the last known call before logout or shutdown after the next login occurs. Cisco Quality Management attaches metadata to calls that span the configured end of day/upload time.</p> </div> <p>Successive calls to the Metadata command using the same key name update the existing metadata for that call.</p> <p>Specifying an empty value for a key removes that metadata field association for the call.</p>

Command	Function
	<p data-bbox="397 268 917 300">Valid formats for metadata are as follows.</p> <ul data-bbox="430 325 1364 604" style="list-style-type: none"><li data-bbox="430 325 1364 357">■ Dates—Dates must be in yyyy-mm-dd format (for example 2009-09-24).</li><li data-bbox="430 382 1364 546">■ Numbers—Numbers can start with and contain a decimal point (for example, valid numbers are .30, 10.7, and 2500). Numbers cannot end with a decimal point or contain a comma (for example, invalid numbers are 30. and 2,500).</li><li data-bbox="430 571 1364 604">■ Text—Text key values cannot contain the reserved characters.</li></ul> <div data-bbox="467 625 1360 724" style="border: 1px solid #ccc; background-color: #e6f2ff; padding: 5px; margin: 10px 0;"><p data-bbox="506 657 717 688"><b>Example:</b> &amp; or =</p></div> <p data-bbox="397 745 938 777">All other alphanumeric characters are valid.</p> <p data-bbox="397 802 1347 877">You can find the decimal point in the * key menu and the dash in the zero key menu on your phone.</p>

Command	Function
Start Segment	<p data-bbox="402 268 1073 300">Starts the audio and screen recording of an active call.</p> <ul style="list-style-type: none"><li data-bbox="428 327 686 359">■ Agent Recording:<ul style="list-style-type: none"><li data-bbox="500 386 1321 506">• If Cisco Quality Management is not currently recording an active call, the Start Segment command starts audio and screen recording.</li><li data-bbox="500 533 1330 609">• If Cisco Quality Management is currently recording an active call, the Start Segment command has no effect.</li><li data-bbox="500 636 1344 711">• If the active call ends before the recording is stopped by the agent, the recording is saved according to workflow criteria.</li><li data-bbox="500 739 1295 770">• The Start Segment command does not override the workflow.</li><li data-bbox="500 798 1312 917">• The Start Segment command does override the exclusion list in the Exclusion List window, because the root call does not know the agent's identity when recording.</li></ul></li></ul> <div data-bbox="532 932 1344 1293" style="border: 1px solid #ccc; border-radius: 10px; padding: 10px; background-color: #e6f2ff;"><p data-bbox="565 963 1304 1262"><b>Example:</b> If you are using an Outbound Dialer, you can add the Outbound Dialer to the exclusion list to prevent recording from starting when an agent logs in. The agent can use the Start Segment and Stop Segment commands to override the exclusion list and record each outbound call. For more information, refer to <a href="#">Using Commands with an Outbound Dialer</a>.</p></div> <ul style="list-style-type: none"><li data-bbox="428 1318 1336 1394">■ Gateway/MediaSense Recording does not support the Start Segment command.</li></ul>

Command	Function
Stop Segment	<p data-bbox="397 268 1339 342">Stops the audio and screen recording of an active call. The recording is then saved according to workflow criteria as a new contact.</p> <ul data-bbox="430 373 1339 546" style="list-style-type: none"><li data-bbox="430 373 1339 447">■ Agent Recording supports the Stop Segment command only during active calls.</li><li data-bbox="430 472 1339 546">■ Gateway/MediaSense Recording does not support the Stop Segment command.</li></ul> <p data-bbox="397 577 1356 688">The agent can use the Stop Segment command to stop the recording after a sale has been made and before payment information is taken in order to omit customer data in adherence with PCI DSS.</p>

Command	Function
Start Screen	<p data-bbox="399 268 1370 386">Starts screen only recording regardless of whether or not you are participating in an active call. Voice contact recordings and screen only contact recordings can be bracketed or interleaved.</p> <div data-bbox="402 411 1377 772" style="border: 1px solid #ccc; padding: 10px; background-color: #e6f2ff;"> <p data-bbox="440 443 1339 737"><b>Example:</b> You can send the Start Screen command to record your screen while not participating in an active call. If you receive a phone call or make a call during this time, a separate voice and screen contact might be created according to workflow (or you can send the Start Segment and Stop Segment commands to create the contact). After the active call has ended, another screen only contact is created and will continue until you send the Stop Screen command.</p> </div> <ul data-bbox="428 793 1344 1402" style="list-style-type: none"> <li data-bbox="428 793 688 825">■ Agent Recording: <ul data-bbox="500 852 1344 1304" style="list-style-type: none"> <li data-bbox="500 852 1344 926">• The Start Screen command is only supported with the Advanced bundle.</li> <li data-bbox="500 953 1344 1026">• If Cisco Quality Management is not currently recording an active call, the Start Screen command starts screen only recording.</li> <li data-bbox="500 1054 1344 1304">• If Cisco Quality Management is currently recording an active call, the Start Screen command has no effect on the current recording. The screen only recording will begin after the active call has ended (if the Stop Screen command has not been issued). The call recording and the screen only recording are saved as separate contact recordings.</li> </ul> </li> <li data-bbox="428 1331 1344 1402">■ Gateway/MediaSense Recording does not support the Start Screen command.</li> </ul> <p data-bbox="399 1430 1370 1547">After issuing the Start Screen command, you can send other commands. The following list contains the commands that are supported with screen only recording and the expected behavior.</p> <ul data-bbox="428 1575 1344 1766" style="list-style-type: none"> <li data-bbox="428 1575 1089 1606">■ Pause—Pauses the current screen only recording</li> <li data-bbox="428 1633 1344 1707">■ Resume—When sent after the Pause command, resumes the screen only recording</li> <li data-bbox="428 1734 1344 1766">■ Restart—Stops the screen only recording, deletes that recording, and</li> </ul>

Command	Function
	<p>restarts the screen only recording from the point when you issued the Restart command.</p> <div data-bbox="467 365 1360 508" style="background-color: #e1f5fe; padding: 10px; border: 1px solid #ccc;"> <p><b>Note:</b> The Restart command is not supported with Gateway Recording and will be removed in a future release.</p> </div> <ul style="list-style-type: none"> <li>■ Delete—Deletes the screen only recording. You must send the Stop Screen command either before or after the Delete command in order to be able to send the Start Screen command again to start another screen only recording.</li> <li>■ Metadata—Attaches metadata to the active screen only recording</li> </ul> <p>All other commands have no affect on the current screen only recording. Issue the Stop Screen command to stop screen only recording.</p>
Stop Screen	<p>Stops screen only recording.</p> <ul style="list-style-type: none"> <li>■ Agent Recording: <ul style="list-style-type: none"> <li>• The Stop Screen command is only supported with the Advance bundle.</li> <li>• If Cisco Quality Management is currently recording screen only, the Stop Screen command stops the screen recording. The Stop Screen command only has an effect if you previously issued the Start Screen command.</li> <li>• If the Stop Screen command is not sent after the Start Screen command, the maximum contact recording length is 4 hours.</li> </ul> </li> <li>■ Gateway/MediaSense Recording does not support the Stop Screen command.</li> </ul>
Config	<p>Displays configuration information for the specified user. A user is configured for desktop recording if no serverHost is returned. In this case you need to send commands via the applet, not the server.</p>

## Effects of Issuing Recording Control Commands

The following table indicates the effect of issuing a recording command when the call is currently being recorded, and when the call is not being recorded.

### Effect of issuing recording control commands on calls

Command	Currently Recording	Not Currently Recording
Record	Sets Reason Code to TAGGED.	Call recording starts. Sets Reason Code to TAGGED.
Pause	Recording paused.	None.
Pause URL	Recording paused.	None.
Resume	Recording resumes (if previously paused).	None.
Restart	Recording restarts. Sets Reason Code to TAGGED.	Recording starts. Sets Reason Code to TAGGED.
Delete	Call deleted.	None.
Start Segment	None.	Recording starts.
Stop Segment	Recording stops and is saved according to workflow criteria.	None.
Start Screen	If there is a current voice and screen recording, the Start Screen command has no effect on the current recording. The screen only recording will begin after the active call has ended (if the Stop Screen command has not been issued) and will be created as a separate contact recording. If there is a current screen only recording, the Start Screen command has no effect.	Screen only recording starts.

Command	Currently Recording	Not Currently Recording
Stop Screen	If there is a current screen only recording, screen recording stops. The Stop Screen command only has an effect if you previously issued the Start Screen command.	None.

## Active and Last Call

You must understand the difference between the terms *active call* and *last call*. Some commands can apply to either one of these call types. Some commands can apply to a single call type.

An active call occurs when the Cisco Quality Management user is on a call with one or more parties. A call on hold is still an active call. The active call starts when the Cisco Quality Management user receives the call (phone is ringing) or makes a new call. The active call ends when the user hangs up the phone.

The last call is the previously recorded call. Any valid recording commands sent after a call ends, and until another call, that matched the inclusion list, is received or made by the user, apply to the last call.

The following table indicates whether the recording command applies to the active call, the last call, or both.

### Recording commands that support Active Calls or Last Calls

Command	Active Call	Last Call
Pause	Yes	No
Pause URL	Yes	No
Resume	Yes	No
Record	Yes	No
Restart	Yes	No
Delete	Yes	No
Login	No—The recording command applies to the next active call.	No

Command	Active Call	Last Call
Logout	Yes—An active call stop recording.	No
Metadata	Yes	No
Metadata and &active_call_only=true	Yes	No
Start Segment	Yes	No
Stop Segment	Yes	No
Start Screen	Yes—And when there is no active call.	No
Stop Screen	Yes—And when there is no active call.	No

## Command Examples

### Login Command Examples

- GET

```
http://<Base server IP>
/recordingcontrols/rest/login?sender_id=1234&peripheral_
id=5000&extension=1234
```

- POST

```
http://<Base server IP>/recordingcontrols/rest/login
{
  "sender_id": "1234"
  "peripheral_id": "5000"
  "extension": "1234"
}
```

### Metadata Command Examples

- GET

```
http://<Base Server IP>
/recordingcontrols/rest/metadata?userdomain=acme&username=jan
edoe&<key>=<value>&<key>=<value>
```

- POST

```
http://<Base server IP>/recordingcontrols/rest/metadata
{
  "userdomain": "acme"
  "username": "janedoe"
  "metadata": {
    "<key>": "<value>",
    "<key>": "<value>"
  }
}
```

### Pause Command Examples

- GET

```
http://<Base server IP>/recordingcontrols/rest/pause?sender_
id=1234&peripheral_id=5000
```

- POST

```
http://<Base server IP>/recordingcontrols/rest/pause
{
  "sender_id": "1234"
  "peripheral_id": "5000"
}
```

### Resume Command Examples

- GET

```
http://<Base server IP>
/recordingcontrols/rest/resume?userdomain=acme&username=janed
oe
```

- POST

```
http://<Base server IP>
/recordingcontrols/rest/resume
{
  "userdomain": "acme"
  "username": "janedoe"
}
```

## Start Segment Command Examples

- GET

```
http://<Base server IP>/recordingcontrols/rest/start?sender_
id=1234&peripheral_id=5000
```

- POST

```
http://<Base server IP>/recordingcontrols/rest/start
{
  "sender_id": "1234"
  "peripheral_id": "5000"
}
```

## Using Commands with an Outbound Dialer

An outbound dialer creates a single “nailed up” call for the entire time you are logged in. This results in all of your outbound calls being combined into one large recording, even though you might make numerous outbound calls during your session. Use the Start Segment and Stop Segment commands to break this large nailed up call into multiple contact recordings.

Send the Start Segment command at the beginning and the Stop Segment command at the end of each outbound call to create a unique contact recording for each outbound call. The Start Segment command starts the audio and screen recording of an active call. The Stop Segment command stops the recording. The recording is then saved according to workflow criteria as a new contact. Send the Start Segment command again at the beginning of your next outbound call to start another unique contact recording.

You can also add the Outbound Dialer to the exclusion list to prevent recording from starting when an agent logs in. The agent can use the Start Segment and Stop Segment commands to override the exclusion list and record each outbound call.

For information about commands, refer to [Command Functions](#).

## Integrating Recording Commands with CAD and Finesse

For more information on integrating CAD and Finesse with the Recording Controls API, refer to the *Cisco Quality Management Integration Guide for CAD and Finesse*.

## Configuring Calabrio Recording Controls

Calabrio Recording Controls is installed on the Calabrio Recording Services Base server when you install Calabrio Recording Services.

Recording Controls software has a configuration file called `recordingcontrols.properties`. This configuration file controls the behavior of the Recording Controls browser application and user applications.

This file resides on the Cisco Quality Management Base server where you installed the Recording Controls browser application. The default folder is one of the following:

```
C:\Program Files\Calabrio\WFO_QM\config
```

```
C:\Program Files\Cisco\WFO_QM\config
```

The following example displays a typical `recordingcontrols.properties` file.

```
#log4j.rootLogger=INFO, LOG, DBG log4j.rootLogger=DEBUG, LOG, DBG
#log4j.rootLogger=CALL#com.calabrio.util.log.SplkLevel, LOG, DBG
#log4j.rootLogger=TRACE, LOG, DBG
#log4j.rootLogger=DUMP#com.calabrio.util.log.SplkLevel, LOG, DBG
log4j.appender.LOG=com.calabrio.util.log.SplkRollingFileAppender
log4j.appender.LOG.layout=org.apache.log4j.PatternLayout
log4j.appender.LOG.Threshold=INFO#com.calabrio.util.log.SplkLevel

log4j.appender.LOG.File=../log/recordingcontrols.loglog4j.appende
r.LOG.MaxFileSize=3MB log4j.appender.LOG.MaxBackupIndex=2
log4j.appender.LOG.layout.ConversionPattern=%d %-5p %X{EC}%m%n
log4j.appender.DBG=com.calabrio.util.log.SplkRollingFileAppender
log4j.appender.DBG.layout=org.apache.log4j.PatternLayout
log4j.appender.DBG.Threshold=DUMP#com.calabrio.util.log.SplkLevel
```

```
log4j.appender.DBG.File=../log/recordingcontrols.dbglog4j.appender.DBG.MaxFileSize=10MB log4j.appender.DBG.MaxBackupIndex=20
log4j.appender.DBG.layout.ConversionPattern=%d %-5p %X{EC} [%t|%X{CML}] %m%n

splk4j.appender.DBG.accept=STACK#com.calabrio.util.log.SplkLevel
splk4j.watch.check.sec=5 splk4j.watch.error.sec=600
```

```
recordingcontrols.agent=record,pause,resume,restart,delete,metadata,login,logout
recordingcontrols.know=record,pause,resume,restart,delete,metadata
recordingcontrols.title=Calabrio Recording Controls
recordingcontrols.pauseurl=http://www.abc.com/us
```

Use the recordingcontrols.properties file to:

- Control the debug levels for the Recording Controls browser application
- Change the title that appears at the top of the browser application and IP Phone service
- Control the Recording Controls buttons available to Calabrio Recording Services users who are agents and knowledge workers
- Change the order in which the Recording Controls buttons appear in the IP Phone service
- Specify the URL used when pausing and resuming a screen recording

For more information on files with the PROPERTIES extension, see the *Cisco Quality Management Troubleshooting Guide*.

## Changing the Debugging Level

The first 25 lines in the recordingcontrols.properties file start with “log4j” or “splk4j.” These lines control the type and amount of debugging information generated by the Recording Controls webapp when it is running. This topic explains how to change debugging levels in the properties file.

See “Logs and Debugging” in the *Cisco Quality Management Troubleshooting Guide* for additional debugging information.

## Pausing Audio and Screen Recording

Recording Controls allows the agent to pause audio and screen recording while the agent is working on a pop-up browser window or browser tab.

**Example:** You might decide that you do not want to include a credit card number or social security number in a recording when the agent goes to a specific URL.

You have two configuration options for pausing a recording while working on another pop-up browser window or browser tab:

- Single pause URL—if you only want to pause recording on one URL, you can configure that URL in the `recordingcontrols.properties` file, and provide a pause link for that page to your agents.
- Multiple pause URLs—if you want to pause recording on more than one URL, you can provide a pause URL link for each URL to your agents.

Recording Controls pauses the recording when the agent enters the Pause URL command in their web browser. The URL specified in the Pause URL command is displayed in a pop-up browser window and Recording Controls pauses recording. Recording resumes when the agent closes the pop-up browser window.

### Single Pause URL

The format for specifying a Pause URL in the `recordingcontrols.properties` file is:

```
recordingcontrols.pauseurl=<URL>
```

Where `<URL>` is the web address you want to use.

**Example:** `http://www.calabrio.com`

You can only specify one URL in the `recordingcontrols.properties` file.

While on a call, the agent must use the following URL format to pause the recording when visiting the Pause URL specified in the `recordingcontrols.properties` file.

```
http://<Base server>/recordingcontrols/pause.html
```

Where `<Base server>` is the IP address of the Calabrio Recording Services Base server.

When this Pause URL is entered into a web browser, a pop-up browser window or browser tab appears displaying the web address that was specified in the `recordingcontrols.properties`

files, and Recording Controls pauses the recording. When the pop-up window or browser tab is closed, the recording resumes.

**Example:** If the URL specified in the recordingcontrols.properties file is `www.calabrio.com`, then Recording Controls stops recording when you enter the Pause URL command (`http://<Base server>/recordingcontrols/pause.html`), and `www.calabrio.com` appears in the pop-up browser window or browser tab.

## Multiple Pause URLs

If you want agents to access multiple Pause URLs, there is no need to specify a Pause URL in the recordingcontrols.properties file.

While on a call, the agent must use the following format for each URL to pause the recording:

```
http://<Base server>/recordingcontrols/pause.html?url=<URL>
```

Where `<Base server>` is the IP address of the Calabrio Recording Services Base server and `<URL>` is the web address you want to use.

**Example:** `http://www.calabrio.com`

If you want your agents to use the Pause URLs for `www.calabrio.com` and `www.acme.com`, the format for each Pause URL command is as follows:

**Example:**

```
http://<Base server>/recordingcontrols/pause.html?url=http://www.calabrio.com
```

```
http://<Base server>/recordingcontrols/pause.html?url=http://www.acme.com
```

## Assigning Pause URLs to Agents

After you create one or more Pause URLs, you need to send the Pause URLs to your agents and tell the agents to:

- Bookmark each Pause URL so they have the Pause URLs when they need to pause a recording
- Always allow pop-ups for each Pause URL in the web browser
- Use the Pause URLs to open a pop-up browser window to a specific website and pause recording
- Close the pop-up browser window or browser tab when you are done entering information to resume recording

**Note:** Recording does not resume until you close the pop-up browser window or browser tab.

### Changing the Title

You can change the title that appears at the top of the Browser application or IP Phone service in the `recordingcontrols.properties` file.

**Example:** You could change the title to Acme Recording Controls.

```
recordingcontrols.title=Acme Recording Controls
```

## Configuring the IP Phone Service

The IP Phone service runs as a Phone XML application on Cisco phones. This section describes how to configure Unified CM for the IP Phone service.

After you configure the IP phone service for Recording Controls IP Phone Service in Unified CM (see [Configuring Unified CM for IP Phone Service](#)) and assign the IP phone service to the Cisco Quality Management users' IP phones, they can access it just like any other IP phone service by pressing the Services button on their phone.

### Recording Controls IP Phone Service Considerations

When configuring Recording Controls for the IP Phone service, consider the following:

- The Recording Controls IP Phone service only runs in a Cisco environment.
- The Recording Controls IP Phone service only supports Network Recording and Server Recording (SPAN). If a user configured for Desktop Recording (Endpoint) tries to access the IP Phone service, an error appears.
- To use the Recording Controls IP Phone service, you must configure an IP phone service and assign agents to the IP phone service in Cisco Unified CM.
- The Recording Controls IP Phone Service supports all Cisco IP phones that can support services, as well as the Cisco IP Communicator soft phone.
- The Recording Controls IP Phone Service does not have login/logout capabilities. Use Cisco's Extension Mobility IP Phone application to log in by phone.

## Configuring Unified CM for IP Phone Service

Before you can use the Recording Controls IP Phone service, you must configure an IP phone service and assign the service to Cisco Quality Management users' phones in Unified CM to support the Recording Controls IP Phone Service. The information provided in this section applies to Unified CM 5.1. Other Unified CM versions might differ. Please refer to the appropriate Unified CM Administration documentation for your version of Unified CM for the most accurate information.

Regardless of the Unified CM version, there are two basic steps required to create an IP phone service:

1. Create an IP phone service definition with a name and URL.
2. Assign the IP phone service to one or more IP phones.

### Creating an IP Phone Service Definition

1. Log into Cisco Unified CM Administration.
2. From Cisco Unified CM Administration, choose Device > Device Settings > Phone Services. The Find and List IP Phone Services window appears.  
The Find and List IP Phone Services window appears.
3. Click Add New. The IP Phone Services Configuration window appears.
4. Enter the information in the Service Information pane for the Recording Controls IP Phone Service, select the Enable check box, and click Save.

When you enter information in these fields, note the following:

- You can assign any name you want to the Recording Controls IP Phone Service in the Service Name field. You can also assign the same name to the ASCII Service Name and Service Description fields. This name appears on the user's phone when the user presses the Services button on the phone. In this document, the examples use Recording Control as the service name.
- You must enter the Service URL using the following format:  

```
http://<IP address>/recordingcontrols/ipp/main
```

Where <IP address> is the IP address or hostname for the Cisco Quality Management Base server.
- Choose XML Service as the Service Category.
- Choose Standard IP Phone Service as the Service Type.

The Service Parameter Information pane appears on the IP Phone Services Configuration window. No additional parameters or information is required.

### Assigning the IP Phone Service to Agents' Phones

The agent phones must comply with the following requirements before you can perform this task.

- The phone must be associated with a Recording Cluster in the VoIP Device table in Quality Management Administrator
- The agent must be assigned to the phone, or logged into the phone with a configured Extension Mobility (EM) profile in Quality Management Administrator
- The Cisco Quality Management base server must be able to open the IP phone's configuration page (<http://<Device IP>/DeviceInformationX>)

This task shows you how to assign the IP phone service to Cisco Quality Management agent phones. The agent phones configured in this step are the phones that can use the Recording Controls IP Phone Service.

1. From Cisco Unified CM Administration, choose Device > Phone.  
The Find and List IP Phone Services window appears.
2. Use the search options to locate the phone you want to assign the IP phone service to.
3. Choose the phone you want from the Search Results list.  
The Phone Configuration window appears.

4. Choose Subscribe/Unsubscribe Services from the Related Links drop-down list, and then click Go.

The Subscribed Cisco IP Phone Services dialog box appears.

5. Choose the service you created in from the Select a Service drop-down list, and then click Next.

The Subscribed Cisco IP Phone Services window displays the information associated with the selected service.

6. Click Next.

7. Click Subscribe to add the service to the list of services assigned to the agent's phone.

The Subscribed Cisco IP Phone Services dialog box displays all subscribed services.

8. Click Save.

The new IP phone service appears in the service list when the agent presses the Services button on their hard or soft phone.

9. Repeat steps 1-8 for each Cisco Quality Management agent you want to assign this service to.

The Calabrio IP Phone Service can only be used by Calabrio Recording Services agents who are using the Network Recording service.

### Verifying that the Recording Controls IP Phone Service is Working

If you are using the Recording Controls IP phone service, verify the service is configured correctly.

Only users who are properly configured to use Network Recording service can use the Recording Controls IP Phone Service. If you configure a user to use Desktop Recording service, they must use the Recording Controls Browser application to control their recordings.

1. From your Cisco IP phone or Cisco IP Communicator soft phone, press the Services button. The Services menu appears.



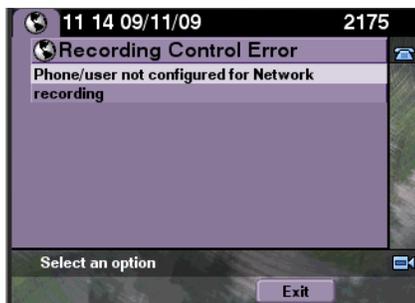
2. Select the IP phone service for the Recording Controls.

You can assign any name to this service. In this example, the name of Recording Controls IP Phone Service is Recording Control.

If the Recording Controls IP Phone Service is working, the Recording Controls IP Phone Service base screen appears.



If the Cisco Quality Management user is not configured correctly for Network Recording, the Recording Controls IP Phone Service displays an error message.



3. If this error message appears, check the user's configuration settings in Quality Management Administrator and try again.

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