Application Programmer Interface (API) Reference Guide
Cisco TelePresence SX20 Codec
What’s in this guide?

The top menu bar and the entries in the table of contents are all hyperlinks, just click on them to go to the topic.

We recommend you visit our web site regularly for updated versions of the user documentation.

Go to: http://www.cisco.com/go/sx-docs

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Chapter 1

Introduction
About this guide

This guide introduces you to the Application Programmer Interface (API) for the TC software in general, and serve as a reference guide for the command line commands for the following product:

- Cisco TelePresence SX20 Codec

User documentation

The user documentation for the Cisco TelePresence systems, running the TC software, have several guides suitable to various user groups.

- Video conference room primer
- Video conference room acoustics guidelines
- Installation guides for the TelePresence systems
- Software release notes for the TC software
- Getting started guide for the TelePresence systems
- User guide for the TelePresence systems (Touch controller)
- User guide for the TelePresence systems (Remote Control)
- Quick reference guides for the TelePresence systems
- Administrator guides for the TelePresence systems
- Camera user guide for the PrecisionHD cameras
- API reference guide for the SX20 Codec
- Regulatory compliance and safety information guides
- Legal and license information for the TC software

To download the user documentation go to:

What’s new in this version

This section provides an overview of the new and changed system settings and new features in the TC7.3 software version.

Software release notes

For a complete overview of new features and changes, we recommend reading the Software Release Notes (TC7). Go to:


Software download

For software download go to:

http://www.cisco.com/cisco/software/navigator.html

New features and improvements

Local preview of presentation in a call

This allows the user to preview the presentation locally before sharing it with far end. The feature has previously been available for EX systems, and is now available across the portfolio.

New passive mode on the on-screen display

When using a Touch 10 control device, the on-screen display has an updated look and feel to align with the rest of the portfolio.

TC7.3.0-TC7.3.2: Users are notified when snapshots are taken

Both the on-screen display and web interface have warnings when the snapshots feature is enabled. A notification pops up on the on-screen display, when a snapshot is taken. On the web interface the administrator is warned that this notice will show up when the feature is enabled.

The system also logs when snapshots are taken, and which IP address the request was initiated from.

It is possible to allow and disallow snapshots remotely, but not to observe the room without the users being notified.

TC7.3.3 and later: Remote Monitoring option key

Due to security reasons, taking snapshots of local and far end video streams from the call control page on the system’s web interface now requires an option key to be installed on the endpoint.

The remote monitoring option key can only be added to systems that are upgraded to TC7.3.3 and above. Remote monitoring is enabled once the option key is added, and the system rebooted. Once this feature is enabled, the only way to disable it is to remove the option key.

This feature does not display warning messages or indicators on the local system that someone is monitoring the room. Please provide adequate notice to users of the system that the system administrator may monitor and control the camera and screen.

TC7.3.4 and later: Setting an administrator password

The xCommand SystemUnit AdminPassword Set Command will now change the password of the authenticated user (granted it has administrator rights).

In previous software versions, this command changed the password for the default user account (admin).
System configuration changes

New configurations
- Audio Input Line [1] VideoAssociation MuteOnInactiveVideo
- Audio Input Line [1] VideoAssociation VideoInputSource
- Cameras Preset TriggerAutofocus
- H323 Profile [1..1] Encryption KeySize
- NetworkServices CDP Mode
- NetworkServices UPnP Mode (TC7.3.4)
- NetworkServices UPnP Timeout (TC7.3.4)

Configurations that are removed
- H323 Profile [1..1] Encryption MinKeySize
- Video AllowWebSnapshots (TC7.3.3)

Configurations that are modified
- FacilityService Service [1..5] Name
  OLD: <S: 0, 255>
  NEW: <S: 0, 1024>
- FacilityService Service [1..5] Number
  OLD: <S: 0, 255>
  NEW: <S: 0, 1024>
- Video AllowWebSnapshots (removed in TC7.3.3)
  OLD: <Off/On>, default Off
  NEW: <Off/On/LocalDeviceOnly>, default LocalDeviceOnly
- Video Monitors
  OLD: Default: Single
  NEW: Default: Auto
System command changes

New commands
- Camera Preset Snapshot Get
- Camera Preset Snapshot Remove
- Camera Preset Snapshot Store
- SystemUnit OptionKey List (TC7.3.3)
- SystemUnit OptionKey Remove (TC7.3.3)
- Video Matrix Assign
- Video Matrix Reset
- Video Matrix Swap
- Video Matrix Unassign

Commands that are modified
- Audio LocalOutput Add (TC7.3.3)
  NEW: VolumeControlled: <On/Off>
- Audio LocalOutput Update (TC7.3.3)
  NEW: VolumeControlled: <On/Off>
- CallHistory Get
  OLD: Filter: <All/Missed/AnsweredElsewhere/Forwarded/
       Placed/NoAnswer/Received/UnacknowledgedMissed>
  NEW: Filter: <All/Missed/AnsweredElsewhere/
       Forwarded/Placed/NoAnswer/Received/Rejected/
       UnacknowledgedMissed>
- CallHistory Recents
  OLD: Filter: <All/Missed/AnsweredElsewhere/Forwarded/
       Placed/NoAnswer/Received/UnacknowledgedMissed>
  NEW: Filter: <All/Missed/AnsweredElsewhere/
       Forwarded/Placed/NoAnswer/Received/Rejected/
       UnacknowledgedMissed>
- Camera Preset Store
  NEW: TakeSnapshot <False/True>
- Presentation Stop
  NEW: Instance: <New/1/2/3/4/5/6>
- UserInterface ScreenShot Get
  OLD: ScreenShotId: 0 – 35
  NEW: ScreenShotId: 0 – 50
- UserInterface ScreenShot Remove
  OLD: ScreenShotId: 0 – 255
  NEW: ScreenShotId: 0 – 50
- UserInterface ScreenShot Request
  OLD: ScreenShotId: 0 – 35
  NEW: ScreenShotId: 0 – 50
- UserInterface ScreenShot Store
  OLD: ScreenShotId: 0 – 255
  NEW: ScreenShotId: 0 – 50
New statuses

Call [n] AttendedTransferFrom
Conference ActiveSpeaker Manual SiteId
Conference Presentation Instance [n] LocalSendingMode
Conference Presentation Instance [n] LocalSource
MediaChannels Call [n] IncomingAudioChannel [n] Transport RTP Local Protocol
MediaChannels Call [n] IncomingAudioChannel [n] Transport RTP Remote Protocol
MediaChannels Call [n] IncomingVideoChannel [n] Transport RTP Local Protocol
MediaChannels Call [n] IncomingVideoChannel [n] Transport RTP Remote Protocol
MediaChannels Call [n] OutgoingAudioChannel [n] Transport RTP Local Protocol
MediaChannels Call [n] OutgoingVideoChannel [n] Transport RTP Local Protocol
SystemUnit Software OptionKeys RemoteMonitoring (TC7.3.3)
Video OSD Style
Video Output HDMI [n] ConnectedDevice CEC [n] DeviceType
Video Output HDMI [n] ConnectedDevice CEC [n] PowerControl
Video Output HDMI [n] ConnectedDevice CEC [n] PowerStatus

Statuses that are modified

SystemUnit Diagnostics Message [n] Type


Chapter 2

About the API
API fundamentals

This chapter contains a top-level view of the mechanisms supported by the codec API. You can use the API to manage all parts of the TelePresence system.

Here you can read about how to access the API, how to use the command line and what the different parts of the API can be used for. Information on how to use the feedback functions that are available for the codec is included in this chapter.

The API consists of four major groups:

- Commands
- Configurations
- Status
- Events

These four groups are hierarchically organized, which makes it easier to find related functionality. You can find the complete lists of all commands, configurations and statuses in the following chapters.

Connecting to the API

There are several ways to access the codec API. Regardless of which method you choose, the structure of the API is the same. Choose the connection method that suits your application best. Before you start, please read this section about the different methods, as some of those may require additional configuration changes before being enabled.

The following commands can be set from the System configuration menu in the web interface or on the on-screen-display, or from the command line interface. All of the examples are for the command line interface.

Password

Initially, no password is set for the default admin user. We strongly recommend that you set a password for this user, and any other users possessing an ADMIN role, to restrict access to system configuration. The password can be changed by issuing the following command:

```
xCommand SystemUnit AdminPassword Set Password: <password>
```
API output
The xPreferences is used to set preferences for the RS-232, Telnet and SSH sessions.

The output modes
• Terminal: Line based output for use with line based control systems
• XML: XML output for use with control systems that understand XML.

The default output mode is terminal. To change this you have to define your preferences for each session individually. Examples in this guide are in terminal mode.

To set output mode to XML, issue the command:
  xPreferences outputmode xml

To revert to terminal mode, issue the command:
  xPreferences outputmode terminal

Example: Layout command in terminal mode
  xCommand Video Layout AssignCall CallId: 2 LayoutId: 1

Example: Layout command in XML mode
  <Command>
    <Video>
      <Layout>
        <AssignCall command="True">
          <CallId>2</CallId>
          <LayoutId>1</LayoutId>
        </AssignCall>
      </Layout>
    </Video>
  </Command>
## Using the command line

### Help

To get a list of all supported root commands you can type `?` or `help` after connecting to the TelePresence System using RS-232, Telnet or SSH.

### Bye

Typing the bye command closes the command line interface.

### API commands

#### xConfiguration

Configurations are system settings, such as system name and network settings. These are persistent across boots. Refer to "Configurations" on page 15.

#### xCommand

Commands instruct the codec to execute actions, such as to dial a number or to search the phone book. Refer to "Commands" on page 14.

#### xStatus

A status contains the current state of the codec, such as connected calls, the status of the gatekeeper registration, connected inputs and output sources. Refer to "Status" on page 16.

#### xFeedback

The Feedback commands are used to specify what parts of the configuration and status hierarchies to monitor. Feedback is only issued on the Telnet or SSH session for which it is specified. If you are connecting to the codec with multiple sessions, you have to define feedback individually for each session. Refer to "Feedback mechanism" on page 19.

#### xPreferences

The xPreferences command is used to set preferences for the RS-232, Telnet and SSH sessions. Refer to "API output" on page 11.

#### Echo <on/off>

If echo is set to On the key inputs are displayed when entering text in a command line interface.

If echo is set to Off no user input is displayed when entering text in a command line interface.

#### xEvent

The xEvent command returns information on which events are available for feedback. Refer to "Events" on page 17.

#### xHistory

The xHistory command returns the call log.

#### xGetxml

The xGetxml request returns an XML document based on the location parameter attached to the request. The elements (or a complete document) matching the expression will be returned. Refer to "Feedback mechanism" on page 19.

### Other commands

#### Systemtools

The systemtools commands are used for administrative control of the codec and are only available from the command line interface. Systemtools are not a part of the programming API. Refer to "The SystemTools commands" on page 215.

#### Log

The log command is used to enable advanced logs. It is only used for debugging the system.

### Command line shortcuts

If your client supports it, there are some timesaving shortcuts you can use:

- Tab-completion to complete the commands and arguments.
- Arrow up and arrow down keys to navigate your command history.
- `<CTRL-a>`: Jump to the beginning of the line.
- `<CTRL-e>`: Jump to the end of the line.
- `<CTRL-r>`: Incremental command history search.
- `<CTRL-w>`: Erase the current line.
Searching

You can use // to search for elements anywhere in the status or configuration hierarchy (Example 1).

You can also combine multiple //’s (Example 2).

**WARNING:** The search shortcuts work well for inspecting the API, but should not be used in applications. We recommend that you always use the complete paths to avoid command ambiguity when upgrading to newer firmware releases.

Value types and formats

The system supports the following value types (Example 3):

- **Integer values:** <x..y>
  - Defines the valid range for an integer input. \( x = \text{min value}, y = \text{max value} \).
- **Literal values:** <X/Y/..Z>
  - Defines the possible values for a given configuration.
- **String values:** <S: x, y>
  - Defines that the valid input for this configuration is a string with minimum length of \( x \) and maximum length of \( y \) characters. Strings can have rules that further specify their format and length.

Input values that contain spaces need to be quoted

Any values for configurations and commands containing spaces must be enclosed in quotes. Quotes are not necessary for values without spaces.

**Examples:**
- Correct: xCommand dial number: “my number contains spaces”
  - xCommand dial number: 12345
  - Incorrect: xCommand dial number: my number contains spaces

Case sensitivity

All commands are case-insensitive. All of the following commands will work.

- xCOMMAND DIAL NUMBER: foo@bar.org
- xcommand dial number: foo@bar.org
- xCommand Dial Number: foo@bar.org

Example 1: List all configurations that include a word that starts with DVI:

```plaintext
xConfiguration //dvi
* c xConfiguration Video Input DVI 2 RGBQuantizationRange: Full
* c xConfiguration Video Input DVI 2 Type: AutoDetect
** end
```

Example 2: Get the resolution width of all connected sources for both inputs and outputs:

```plaintext
xStatus //vid//res//wid
*s Video Input Source 1 Resolution Width: 1280
*s Video Input Source 2 Resolution Width: 0
*s Video Output HDMI 1 Resolution Width: 1280
*s Video Output HDMI 2 Resolution Width: 1680
** end
```

Example 3: List the value types and formats

```plaintext
xConfiguration ??
*? xConfiguration Audio DefaultVolume: <0..100>
*? xConfiguration Audio Input HDMI[1] Mode: <Off, On>
*? xConfiguration Audio Input Line[1] VideoAssociation MuteOnInactiveVideo: <Off, On>
*? xConfiguration Audio Input Line[1] VideoAssociation VideoInputSource: <1, 2>
*? xConfiguration Audio Input Microphone[1] EchoControl Dereverberation: <Off, On>
*? xConfiguration Audio Input Microphone[1] EchoControl Mode: <Off, On>
*? xConfiguration Video SelfviewDefault Mode: <Off/Current/On>
*? xConfiguration Video SelfviewDefault OnMonitorRole: <First/Second/Current>
*? xConfiguration Video SelfviewDefault PIPPosition: <Current/UpperLeft/UpperCenter/UpperRight/CenterLeft/CenterRight/LowerLeft/LowerRight>
*? xConfiguration Video SelfviewPosition: <UpperLeft/UpperCenter/UpperRight/CenterLeft/CenterRight/LowerLeft/LowerRight>
*? xConfiguration Video Wallpaper: <None/Custom/Growing/Summersky/Waves/Blue>
OK
```
Commands

Commands instruct the codec to execute actions, such as to dial a number or to search the phone book. All commands start with the prefix `xCommand` followed by a command path. Writing `xCommand ?` on the command line will list all the top level commands.

To view the complete list of commands and their parameters, write `xCommand ??` on the command line.

Command arguments are key-value pairs. The `(r)` behind the argument name indicates that the argument is required for the command.

When issuing a `xCommand`, the command consists of one argument and one required parameter:

Example: **xCommand Dial Number: 123**
- `xCommand` is the command prefix. The command to be executed is Dial.
- The example contains one argument, Number: 123. Number is the key and 123 is its value. The key/value pair is separated with `:`.
Configurations

Configurations are system settings that are persistent across boots. Like commands, also configurations are structured in a hierarchy.

Writing `xConfiguration ?` on the command line lists all the top level configurations.

Writing `xConfiguration ??` lists all configurations and their value spaces.

Writing `xConfiguration` lists all configurations and their current values. To list out only parts of the configuration, write `xConfiguration` followed by one or more parts of the configuration paths.

**Example: Set the H323 Alias ID**

Write in:

```
xConfiguration H323 Profile 1 H323Alias ID: "changed@company.com"
```

**Example: Get the H323 Alias ID**

Write in:

```
xConfiguration H323 Profile 1 H323Alias ID
```

Result:

```
*c xConfiguration H323 Profile 1 H323Alias ID: "changed@company.com"
**end
```
Addressing status information with xStatus

To read the status from the system type the root command (xStatus) followed by a path (address expression):

```
xStatus <address expression>
```

Example 1: Query all ongoing Call information:
```
xStatus Call
*s Call 4 Status: Connected
*s Call 4 AnswerState: Answered
*s Call 4 CallPriority: None
*s Call 4 CallType: Video
*s Call 4 CallbackNumber: "sip:name@company.com"
*s Call 4 DeviceType: Endpoint
*s Call 4 Direction: Outgoing
*s Call 4 DisplayName: "Display Name"
*s Call 4 Duration: 9
*s Call 4 Encryption Type: "None"
*s Call 4 FacilityServiceId: 0
*s Call 4 ModifyState: Idle
*s Call 4 PlacedOnHold: False
*s Call 4 Protocol: "sip"
*s Call 4 ReceiveCallRate: 1920
*s Call 4 RemoteNumber: "name@company.com"
*s Call 4 TransmitCallRate: 1920
** end
```

Example 2: Query the protocol for a call:
```
xStatus Call Protocol
*s Call 4 Protocol: "sip"
OK
```
Events

Event returns information about the events that are available for feedback. This overview presents examples of some the events that are available on the API.

To get an overview of the supported events type `?`, `??` or help after `xEvent`:
- `xEvent ?` Lists the top level events
- `xEvent ??` List all of the available events
- `xEvent help` Lists the top level events

The result for events depends on the state of the codec.

Example 1: Outgoing Call Indication

Outgoing Call Indication is an event reported when an outgoing call is about to be dialled. Returns the CallId the call has been assigned.

```plaintext
*xEvent OutgoingCallIndication CallId: x
** end
```

Example 2: Call Disconnect

Call Disconnect is an event reported when a call is disconnected. Returns the CallId of the disconnected call and reason for the call’s disconnection.

```plaintext
*xEvent CallDisconnected CallId: x CauseValue: 0
  CauseString: "" CauseType: LocalDisconnect
  OrigCallDirection: "outgoing"
** end
```

Example 3: Call Successful

Call Successful is an event reported when a call is connected successfully, that is when all channels are up and established.

```plaintext
*e CallSuccessful CallId: 132 Protocol: "h223"
  Direction: "outgoing" CallRate: 768 RemoteURI: "h223:integratorHQ@company.com" EncryptionIn: "off" EncryptionOut: "off"
** end
```

Example 4: FECC Action request

FECC Action request is an event reported when far end is sending FECC commands.

```plaintext
*e FecActionInd Id: 132 Req: 1 Pan: 1 PanRight: 1 Tilt: 0 TiltUp: 0 Zoom: 0 ZoomIn: 0 Focus: 0 FocusIn: 0 Timeout: 300 VideoSrc: 0 m: 0
** end
```
Call history

The `xHistory` command returns the call logs.

```plaintext
Example with xHistory CallLogs

xHistory
  *h xHistory CallLogs Call 1 BookingId: ""
  *h xHistory CallLogs Call 1 CallId: 2
  *h xHistory CallLogs Call 1 CallPriority: None
  *h xHistory CallLogs Call 1 CallRate: 600000
  *h xHistory CallLogs Call 1 CallType: Video
  *h xHistory CallLogs Call 1 CallbackNumber: "sip:name@company.com"
  *h xHistory CallLogs Call 1 Direction: Incoming
  *h xHistory CallLogs Call 1 DisconnectCause: ""
  *h xHistory CallLogs Call 1 DisconnectCauseCode: 0
  *h xHistory CallLogs Call 1 DisconnectCauseOrigin: Internal
  *h xHistory CallLogs Call 1 DisconnectCauseType: LocalDisconnect
  *h xHistory CallLogs Call 1 DisconnectCauseValue: 1
  *h xHistory CallLogs Call 1 Dismissed: True
  *h xHistory CallLogs Call 1 DisplayName: "Name"
  *h xHistory CallLogs Call 1 Duration: 13
  *h xHistory CallLogs Call 1 Encryption: "aes-128"
  *h xHistory CallLogs Call 1 Protocol: "Sip"
  *h xHistory CallLogs Call 1 RemoteNumber: "sip:name@company.com"
  *h xHistory CallLogs Call 1 StartTime: "2013/11/07 12:37:31"
...
  *h xHistory CallLogs Missed 50 Counter: 2
  *h xHistory CallLogs Missed 50 NewCounter: 0
...
  *h xHistory CallLogs Outgoing 29 Counter: 1
...
  *h xHistory CallLogs Received 40 Counter: 6
...
  *h xHistory CallLogs Recent 6 CounterMissed: 2
  *h xHistory CallLogs Recent 6 Counter: 2
** end
```
Feedback mechanism

To build solutions that can reliably keep the state between the application and the codec synchronized, you need to set up a notification system to report the changes in the state of the codec.

The API supports notifications on the following:
- Configuration changes
- Status changes
- Event notifications

These notifications will not be sent unless the user has explicitly told the codec to do so. The user is required to subscribe to all the feedback the application needs. This is done by registering feedback expressions. The way of registering feedback expressions varies according to the connection method used.

When using HTTP, the method of handling feedback differs slightly from what is presented in this section. Refer to "Feedback from codec over HTTP" on page 22.

WARNING: A codec may give very much feedback, especially when calls are connected and disconnected. Therefore, you should only subscribe to the feedback that you need.

Never register for all status feedback by issuing xFeedback register /Status. This may give the control application too much data to handle, which may lead to sluggish or unpredictable behavior.

Feedback expressions

The expression used when registering for feedback is a variant of the XPath language. This language describes a way to select nodes from an XML document. TC software contains three main feedback documents:

- Status
- Configuration
- Event

The syntax for feedback registering is: xFeedback register <path>

<table>
<thead>
<tr>
<th>Document</th>
<th>API command</th>
<th>Path</th>
</tr>
</thead>
<tbody>
<tr>
<td>Status</td>
<td>xStatus</td>
<td>/Status</td>
</tr>
<tr>
<td>Configuration</td>
<td>xConfiguration</td>
<td>/Configuration</td>
</tr>
<tr>
<td>Event</td>
<td>xEvent</td>
<td>/Event</td>
</tr>
</tbody>
</table>

The terminal query

xFeedback register /Status/Audio/Microphones/Mute

The Equivalent feedback expression

xFeedback register /Status/Audio/Microphones/Mute

---

Example 1: Microphones Mute status.

Terminal query

xStatus Audio Microphones Mute
*s Audio Microphones Mute: Off
** end

Example 2: All video input connectors.

Terminal query

xConfiguration Video Input Source Connector
*c xConfiguration Video Input Source 1 Connector: HDMI
*c xConfiguration Video Input Source 2 Connector: DVI
*c xConfiguration Video Input Source 3 Connector: USB
** end

Example 3: Video input connector for source 2.

Terminal query

xConfiguration Video Input Source 2 Connector
*c xConfiguration Video Input Source 2 Connector: DVI
** end
Terminal connections

Managing feedback subscriptions
To register, list and deregister feedback expressions you use the command xFeedback and its corresponding sub commands.

The registered expressions are only valid for the currently active connection. If you open two Telnet sessions and register to get feedback in one session, you do not receive feedback in the other session. This also means that if you disconnect from a session, you have to re-register all expressions after reconnecting.

You can register up to 38 expressions.

Feedback output
The feedback output is exactly the same as you get when querying the system using the xConfiguration and xStatus commands. E.g., if you issue the command xStatus Standby Active on the command line the result is:

*s Standby Active: On
** end

If you have registered for feedback on status changes the feedback you get when the system goes to standby-mode will be exactly the same:

*s Standby Active: On
** end

This means that when you are programming against the device you only need to handle one format.

Example: Managing feedback subscriptions

A: Register feedback expressions.
Write in: xFeedback register /Status/Audio
Result: ** end
OK
Write in: xFeedback register /Event/CallDisconnect
Result: ** end
OK
Write in: xFeedback register /Configuration/Video/MainVideoSource
Result: ** end
OK

B: List out currently registered expressions.
Write in: xFeedback list
Result: /Configuration/Video/MainVideoSource /Event/CallDisconnect /Status/Audio
** end
OK

C: Deregister feedback expressions.
Write in: xFeedback deregister /Event/CallDisconnect
Result: ** end
OK
Write in: xFeedback deregister /Status/Audio
Result: ** end
OK

D: List the new feedback expressions.
Write in: xFeedback list
Result: /Configuration/Video/MainVideoSource
** end
OK
Using HTTP

The codec supports sending commands and configurations over HTTP and HTTPS. It is also possible to retrieve configurations and statuses this way. This interface exposes the same API as the command line, but in XML format.

URL cheat sheet

<table>
<thead>
<tr>
<th>Method</th>
<th>URL</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>GET</td>
<td>http://&lt;ip-address&gt;/status.xml</td>
<td>Complete status document</td>
</tr>
<tr>
<td>GET</td>
<td>http://&lt;ip-address&gt;/configuration.xml</td>
<td>Complete configuration document</td>
</tr>
<tr>
<td>GET</td>
<td>http://&lt;ip-address&gt;/command.xml</td>
<td>Complete command document</td>
</tr>
<tr>
<td>GET</td>
<td>http://&lt;ip-address&gt;/valuespace.xml</td>
<td>Complete valuespace document</td>
</tr>
<tr>
<td>POST</td>
<td>http://&lt;ip-address&gt;/putxml</td>
<td>Configurations and commands in HTTP body</td>
</tr>
<tr>
<td>GET, POST</td>
<td>http://&lt;ip-address&gt;/formputxml?xmldoc=&lt;xml&gt;</td>
<td>Configurations and commands www-urlencoded</td>
</tr>
</tbody>
</table>

Getting status and configurations

Example 1: Get all status entries on the codec.  
http://<ip-address>/getxml?location=/Status

Example 2: Get just the audio statuses of the codec.  
http://<ip-address>/getxml?location=/Status/Audio

Example 3: Get all configurations of the codec.  
http://<ip-address>/getxml?location=/Configuration

Example 4: Get all video configurations of the codec.  
http://<ip-address>/getxml?location=/Configuration/Video

Sending commands and configurations

Using HTTP GET

It is possible to use HTTP GET when sending commands or configurations to the codec. This makes it easy to test commands using your browser.

Example 1: Setting the camera position.
http://<ip-address>/formputxml?xmldoc=
<Command><Camera><PositionSet command="True">
<CameraId>1</CameraId><Pan>200</Pan>
<Tilt>200</Tilt></PositionSet></Camera></Command>

Example 2: Changing the system name.
http://<ip-address>/formputxml?xmldoc=
<Configuration><SystemUnit>
<Name>newName</Name></SystemUnit></Configuration>

Example 3: Changing multiple configurations in one go.
http://<ip-address>/formputxml?xmldoc=
<Configuration><Audio><Volume>80</Volume>
</Audio><Video><OSD><TodaysBookings>On</TodaysBookings></OSD></Video></Configuration>

Using HTTP POST

When sending configurations and commands to the codec, it is important that the HTTP header Content-Type is set to text/xml, i.e. Content-Type: text/xml. The body of the POST should contain the XML content.

Example 1: Changing the system name.

Request
POST /putxml HTTP/1.1  
Content-Type: text/xml  
Connection: close  
<Configuration>  
  <SystemUnit>  
    <Name>newName</Name>  
  </SystemUnit>  
</Configuration>

Response
HTTP/1.1 200 OK  
Date: <date>  
Server: WSGIServer/0.1 Python/2.5.4  
Cache-Control: no-cache  
Content-Type: text/xml  
Content-Length: 91  
Connection: close  
<xml version="1.0"?>  
<Command>  
  <CameraPositionSetResult item="1" status="OK"/>
</Command>

Example 2: Setting the camera position.

Request
POST /putxml HTTP/1.1  
Content-Type: text/xml  
Connection: close  
<Command>  
  <Camera>  
    <PositionSet command="True">  
      <CameraId>1</CameraId>  
      <Pan>200</Pan>  
      <Tilt>200</Tilt>
    </PositionSet>
  </Camera>
</Command>

Response
HTTP/1.1 200 OK  
Date: <date>  
Server: WSGIServer/0.1 Python/2.5.4  
Cache-Control: no-cache  
Content-Type: text/xml  
Content-Length: 91  
Connection: close  
<xml version="1.0"?>  
<Command>  
  <CameraPositionSetResult item="1" status="OK"/>
</Command>
Feedback from codec over HTTP

To get notifications from the codec, you need to register HTTP feedback expressions. The codec will then use HTTP POST to send feedback messages to the supplied IP-address. This means that you have to have a HTTP server running for your application to receive updates from the codec.

Registering for feedback

The command for registering is `xCommand HttpFeedback Register`. The syntax for this command and its arguments are described in this section.

HttpFeedback Register syntax:

```
xCommand HttpFeedback Register
  FeedbackSlot: <1..4>
  ServerUrl(r): <S: 0, 2048>
  Expression: <S: 1, 255>
  Expression: <S: 1, 255>
  Expression: <S: 1, 255>
  Expression: <S: 1, 255>

HttpFeedback Register arguments:

FeedbackSlot: The codec can register up to 4 slots of servers requesting HTTP feedback. Set the registering to one of them.

Note: Avoid using FeedbackSlot 3 in an environment where Cisco TelePresence Management Suite (TMS) is used as TMS uses this feedback slot to register its expressions.

ServerUrl: The URL that you want the codec to post the HTTP feedback messages to.

Expression 1-15: Register the expressions you want to receive feedback on. Refer to "Feedback mechanism" on page 19.

Example: Registering feedback on configuration changes, disconnect events and call status changes.

```
<Command>
  <HttpFeedback>
    <Register command="True">
      <FeedbackSlot>1</FeedbackSlot>
      <ServerUrl>http://127.0.0.1/myhttppostscripturl</ServerUrl>
      <Expression item="1">/Configuration</Expression>
      <Expression item="2">/Event/CallDisconnect</Expression>
      <Expression item="3">/Status/Call</Expression>
    </Register>
  </HttpFeedback>
</Command>
```

Feedback output

When the codec notifies the registered HTTP server about changes, the body contains the same XML as when polling. There is however one small difference. The root-node contains an `Identification` node with children that specify the codec from which the notification originated. This means that you can handle multiple codecs with a single HTTP server URI.

Example: Audio volume changed.

```
<Configuration xmlns="http://www.company.com/XML/CUIL/2.0">
  <Identification>
    <SystemName>integrator</SystemName>
    <MACAddress>00:00:de:ad:be:ef</MACAddress>
    <IPAddress>192.168.1.100</IPAddress>
    <ProductType>Cisco Codec</ProductType>
    <ProductID>Cisco Codec C90</ProductID>
    <SWVersion>TC6.0.0.199465</SWVersion>
    <HWBoard>101401-5 [08]</HWBoard>
    <SerialNumber>PH0000000</SerialNumber>
  </Identification>
  <Audio item="1">
    <Volume item="1">60</Volume>
  </Audio>
</Configuration>
```
Translating from terminal mode to XML

Translating commands
The XML commands maintain the same structure as the terminal commands, but they use a parent-child relationship to describe the hierarchy. You can see this structure in the examples below.

Example 1: Setting up a call.
Terminal
xCommand Dial Number: “12345” Protocol: H323

XML
<Command>
  <Dial command="True">
    <Number>12345</Number>
    <Protocol>H323</Protocol>
  </Dial>
</Command>

Example 2: Assigning video layout to a call.
Terminal
xCommand Video Layout AssignCall CallId: 2 LayoutId: 1

XML
<Command>
  <Video>
    <Input>
      <Source item="2">
        <Connector>HDMI</Connector>
      </Source>
      <Protocol>H323</Protocol>
    </Input>
  </Video>
</Command>

Translating configurations
Translating from xConfiguration to XML is similar to commands, but with the addition of a special attribute item="NN" for specifying the index in arrays.

Example: Configuring connector for input source 2.
Terminal
xConfiguration Video Input Source 2
Connector: HDMI

XML
<Configuration>
  <Video>
    <Input>
      <Source item="2">
        <Connector>HDMI</Connector>
      </Source>
    </Input>
  </Video>
</Configuration>
Dos and don’ts

Here are some issues you should consider when programming the Cisco C- and SX-series API.

AVOID remote control emulation

The use of xCommand Key Press and xCommand Key Click commands is highly discouraged. The commands are still available in the API, but we recommend the use of direct commands, as this ensures backwards compatibility in your integrations. Program against the codec, not the on-screen-display.

DO use complete commands

You should always use complete commands when programming, i.e. always use xConfiguration Video instead of xconf vid. The shortcuts can be used for searches in the API on the command line, but not for programming. The reason for this is that you might end up with ambiguous code when additional commands are added to the API.

DO NOT subscribe to unnecessary feedback

Subscribing to too much feedback may congest the control application. Although the amount of feedback may seem fine in the current version, the amount of feedback may grow in future releases.

DO present one screen to the end user

Avoid making the user look at two menus, one on the control panel and one on the video screen. Do not make the control panel a substitute for the remote control. The on-screen-display in is using the exact same API as you have access to through the command interface.

DO NOT use the experimental section in production

Under the listing of commands, status and configurations, you can find subsections that start with Experimental.

- xCommand Experimental
- xStatus Experimental
- xConfiguration Experimental

These sections give access to features that we are still working on and have yet to release for official use. This part of the API will NOT stay backwards compatible and the structure WILL CHANGE.

Do not use the experimental section in production - in future versions of the firmware these sections may be hidden or removed.
Chapter 3

xConfiguration commands
Description of the xConfiguration commands

In this chapter, you can find a complete list of the xConfiguration commands. The examples show either the default value or an example of a value.

We recommend you visit our web site regularly for updated versions of the manual.

Go to:  http://www.cisco.com/go/sx-docs

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Experimental configuration
Audio configuration

xConfiguration Audio Input HDMI [1] Mode

If you are connecting a Cisco camera with an integrated microphone to the codec’s HDMI input, you can enable/disable audio input on the port; if you are using any other camera, the audio input will be disabled regardless of this setting.

If you are going to use the integrated microphone, this setting must be On (default value).

Whenever you are connecting a Cisco Table Microphone 20 to any of the codec’s external microphone inputs, the integrated microphone will be disabled regardless of this setting.

Requires user role: ADMIN

Value space: <Off/On>

Off: Disable audio on the HDMI input.
On: Enable audio on the HDMI input.

Example: xConfiguration Audio Input HDMI 1 Mode: On

xConfiguration Audio Input Line [1] VideoAssociation VideoInputSource

It is possible to associate an audio source with a video source, and further to determine whether to play or mute audio depending on whether the video source is presented or not. By default, audio is not muted.

Use the Audio Input Line [n] VideoAssociation VideoInputSource setting to define which video source to associate the audio source with. Use the Audio Input Line [n] VideoAssociation MuteOnInactiveVideo setting to define whether to play or mute audio when not presenting the video source.

Requires user role: ADMIN

Value space: <1/2>

Range: Select one of the video input sources.

Example: xConfiguration Audio Input Line 1 VideoAssociation VideoInputSource: 2

xConfiguration Audio Input Microphone [1..2] EchoControl Mode

The echo canceller continuously adjusts itself to the audio characteristics of the room and compensates for any changes it detects in the audio environment. If the changes in the audio conditions are very significant the echo canceller may take a second or two to re-adjust.

Requires user role: ADMIN

Value space: <Off/On>

Off: Echo Control should be switched Off if external echo cancellation or playback equipment is used.
On: Echo Control is normally set to On to prevent the far end from hearing their own audio. Once selected, echo cancellation is active at all times.

Example: xConfiguration Audio Input Microphone 1 EchoControl Mode: On

xConfiguration Audio Input Microphone [1..2] EchoControl NoiseReduction

The system has a built-in noise reduction which reduces constant background noise (for example noise from air-conditioning systems, cooling fans etc.). In addition, a high pass filter (Humfilter) reduces very low frequency noise. Requires the Echo Control Mode to be enabled for the microphone.

Requires user role: ADMIN

Value space: <Off/On>

Off: Turn off the Noise Reduction.
On: The Noise Reduction should be enabled in the presence of low frequency noise.

Example: xConfiguration Audio Input Microphone 1 EchoControl NoiseReduction: On
xConfiguration Audio Input Microphone [1..2] EchoControl Dereverberation
The system has built-in signal processing to reduce the effect of room reverberation. Requires the Echo Control Mode to be enabled for the microphone.

Requires user role: ADMIN
Value space: <Off/On>
Off: Turn off the dereverberation.
On: Turn on the dereverberation.
Example: xConfiguration Audio Input Microphone 1 EchoControl Dereverberation: On

xConfiguration Audio Input Microphone [1..2] Level
Define the audio level of the Microphone input connector.

Requires user role: ADMIN
Value space: <0..24>
Range: Select a value between 0 and 24, in steps of 1 dB.
Example: xConfiguration Audio Input Microphone 1 Level: 14

xConfiguration Audio Input Microphone [1..2] Mode
Set the audio input microphone mode.

Requires user role: ADMIN
Value space: <Off/On>
Off: Disable the microphone connector.
On: Enable the microphone connector.
Example: xConfiguration Audio Input Microphone 1 Mode: On

xConfiguration Audio Microphones Mute Enabled
Determine whether audio-mute is allowed or not. The default value is True.

Requires user role: ADMIN
Value space: <True/InCallOnly>
True: Muting of audio is always available.
InCallOnly: Muting of audio is only available when the device is in a call. When Idle it is not possible to mute the microphone. This is useful when an external telephone service/audio system is connected via the codec and is to be available when the codec is not in a call. When set to InCallOnly this will prevent the audio-system from being muted by mistake.
Example: xConfiguration Audio Microphones Mute Enabled: True

xConfiguration Audio SoundsAndAlerts KeyTones Mode
The system can be configured to make a keyboard click sound effect (key tone) when pressing a key on the remote control, or when typing text or numbers on the Touch controller.

Requires user role: USER
Value space: <Off/On>
Off: No key tones will be played when you type.
On: You will hear a key tone when you press a key or type text.
Example: xConfiguration Audio SoundsAndAlerts KeyTones Mode: Off

xConfiguration Audio SoundsAndAlerts RingTone
This setting defines which ringtone to use for incoming calls. You need to enter the exact name of the ringtone. You can find the available ringtones the following ways.
Web interface: On the Configuration > Personalization page.
Touch controller: On the Ringtone & Sound panel of the Settings menu. This panel is either in the open part of the Settings menu, or included in the password protected Administrator menu. The UserInterface UserPreference setting defines which panels will be in the password protected area.
API: Run xCommand Audio SoundsAndAlerts Ringtone.

Requires user role: USER
Value space: <S: 1, 100>
Format: String with a maximum of 100 characters.
Example: xConfiguration Audio SoundsAndAlerts RingTone: "Sunrise"

xConfiguration Audio SoundsAndAlerts RingVolume
Sets the ring volume for an incoming call.

Requires user role: USER
Value space: <0..100>
Range: The value goes in steps of 5 from 0 to 100 (from -34.5 dB to 15 dB). Volume 0 = Off.
Example: xConfiguration Audio SoundsAndAlerts RingVolume: 50
xConfiguration Audio DefaultVolume
Set the default speaker volume. The volume returns to this value when you switch on or restart the video system. You can also run the following API command to return to the default value:
xCommand Audio Volume SetToDefault. Run the xCommand Audio Volume commands, or use the remote control or Touch controller to change the volume while the video system is running.

Requires user role: USER
Value space: <0..100>
Range: The value must be between 0 and 100. The values from 1 to 100 correspond to the range from -34.5 dB to 15 dB (0.5 dB steps). The value 0 means that the audio is switched off.

Example: xConfiguration Audio DefaultVolume: 50

xConfiguration Audio Volume
Set the speaker volume. This setting is obsoleted by the Audio DefaultVolume setting.

Requires user role: USER
Value space: <0..100>
Range: The value must be between 0 and 100. The values from 1 to 100 correspond to the range from -34.5 dB to 15 dB (0.5 dB steps). The value 0 means that the audio is switched off.

Example: xConfiguration Audio Volume: 50

Cameras configuration

xConfiguration Cameras PowerLine Frequency
If your camera supports power line frequency anti-flickering, the camera is able to compensate for any flicker noise from the electrical power supply. You should set this camera configuration based on your power line frequency. If your camera supports auto detection of line frequency, you can select the Auto option in the configuration.

All Cisco Precision cameras support both anti-flickering and auto detection of line frequency. Auto is the default value, so you should change this setting if you have a camera that does not support auto detection.

Requires user role: ADMIN
Value space: <Auto/50Hz/60Hz>
Auto: Allow the camera to detect the power frequency automatically.
50Hz: Use this value when the power line frequency is 50 Hz.
60Hz: Use this value when the power line frequency is 60 Hz.

Example: xConfiguration Cameras PowerLine Frequency: Auto

xConfiguration Cameras Preset TriggerAutofocus
The current position (pan and tilt), zoom and focus are stored with a preset. Use this setting to determine if the camera should refocus or use the focus value that is stored with the preset.

Requires user role: ADMIN
Value space: <Auto/Off/On>
Auto: Whether the camera refocuses or not when selecting a preset, depends on the camera type.
Off: The focus value that is stored with the preset will be used. The camera will not refocus when selecting a preset.
On: The camera will refocus when selecting a preset. The focus value that is stored with the preset may be overridden.

Example: xConfiguration Cameras Preset TriggerAutofocus: Auto
xConfiguration Cameras Camera [1] Backlight
This configuration turns backlight compensation on or off. Backlight compensation is useful when there is much light behind the persons in the room. Without compensation the persons will easily appear very dark to the far end.

Requires user role: ADMIN
Value space: <Off/On>
  Off: Turn off the camera backlight compensation.
  On: Turn on the camera backlight compensation.
Example: xConfiguration Cameras Camera 1 Backlight: Off

xConfiguration Cameras Camera [1] Brightness Mode
Set the camera brightness mode.

Requires user role: ADMIN
Value space: <Auto/Manual>
  Auto: The camera brightness is automatically set by the system.
  Manual: Enable manual control of the camera brightness. The brightness level is set using the Cameras Camera Brightness Level setting.
Example: xConfiguration Cameras Camera 1 Brightness Mode: Auto

xConfiguration Cameras Camera [1] Brightness Level
Set the brightness level. Requires the Camera Brightness Mode to be set to Manual.

Requires user role: ADMIN
Value space: <1..31>
  Range: Select a value between 1 and 31.
Example: xConfiguration Cameras Camera 1 Brightness Level: 20

xConfiguration Cameras Camera [1] Flip
With Flip mode (vertical flip) you can flip the image upside down. Flipping applies both to the self-view and the video that is transmitted to the far end.

Requires user role: USER
Value space: <Auto/Off/On>
  Auto: If the camera detects that it is mounted upside down, the image is automatically flipped. If the camera cannot auto-detect whether it is mounted upside down or not, the image is not changed.
  Off: Display the image on screen the normal way.
  On: Display the image flipped upside down. This setting is used when a camera is mounted upside down, but cannot automatically detect which way it is mounted.
Example: xConfiguration Cameras Camera 1 Flip: Auto

xConfiguration Cameras Camera [1] Focus Mode
Set the camera focus mode.

Requires user role: ADMIN
Value space: <Auto/Manual>
  Auto: The camera will auto focus once a call is connected, as well as after moving the camera (pan, tilt, zoom). The system will use auto focus only for a few seconds to set the right focus; then auto focus is turned off to prevent continuous focus adjustments of the camera.
  Manual: Turn the autofocus off and adjust the camera focus manually.
Example: xConfiguration Cameras Camera 1 Focus Mode: Auto

xConfiguration Cameras Camera [1] Gamma Mode
This setting enables gamma corrections, and applies only to cameras which support gamma mode. Gamma describes the nonlinear relationship between image pixels and monitor brightness.

Requires user role: ADMIN
Value space: <Auto/Manual>
  Auto: Auto is the default and the recommended setting.
  Manual: In manual mode the gamma value is changed with the gamma level setting, ref: Cameras Camera [1..n] Gamma Level.
Example: xConfiguration Cameras Camera 1 Gamma Mode: Auto
xConfiguration Cameras Camera [1] Gamma Level
By setting the Gamma Level you can select which gamma correction table to use. This setting may be useful in difficult lighting conditions, where changes to the brightness setting does not provide satisfactory results. Requires the Gamma Mode to be set to Manual.

Requires user role: ADMIN
Value space: <0..7>
Range: Select a value between 0 and 7.
Example: xConfiguration Cameras Camera 1 Gamma Level: 0

xConfiguration Cameras Camera [1] IrSensor
A Precision camera has an IR sensor that is used when you operate the codec with a remote control. The IR sensor is located at the camera front, and the LED flickers when the IR sensor is activated by the remote control.

Requires user role: ADMIN
Value space: <Off/On>
Off: Disable the IR sensor of the camera.
On: Enable the IR sensor of the camera.
Example: xConfiguration Cameras Camera 1 IrSensor: On

xConfiguration Cameras Camera [1] Mirror
With Mirror mode (horizontal flip) you can mirror the image on screen. Mirroring applies both to the self-view and the video that is transmitted to the far end.

Requires user role: ADMIN
Value space: <Auto/Off/On>
Auto: If the camera detects that it is mounted upside down, the image is automatically mirrored. If the camera cannot auto-detect whether it is mounted upside down or not, the image is not changed.
Off: Display the image as other people see you.
On: Display the image as you see yourself in a mirror.
Example: xConfiguration Cameras Camera 1 Mirror: Auto

This setting applies only when using a Cisco TelePresence PrecisionHD 1080p12x camera. If adjusting the camera position by hand you can configure whether the camera should keep its new position or return to the preset or position it had before.

Requires user role: ADMIN
Value space: <Off/On>
Off: When the camera position is adjusted manually the camera will keep this position until adjusted again. WARNING: If moving the camera by hand, the camera will not register the new pan and tilt values since there is no position feedback. This will result in wrong pan and tilt values when recalling the camera presets subsequently.
On: When the camera position is adjusted manually, or the camera detects that the motors have moved, it will first re-initialize (i.e. go to default position) then return to the preset/position it had before the camera was adjusted.
Example: xConfiguration Cameras Camera 1 MotorMoveDetection: Off

xConfiguration Cameras Camera [1] Whitebalance Mode
Set the camera white balance mode.

Requires user role: ADMIN
Value space: <Auto/Manual>
Auto: The camera will continuously adjust the white balance depending on the camera view.
Manual: Enables manual control of the camera white balance. The white balance level is set using the Cameras Camera Whitebalance Level setting.
Example: xConfiguration Cameras Camera 1 Whitebalance Mode: Auto

xConfiguration Cameras Camera [1] Whitebalance Level
Set the white balance level. Requires the Camera Whitebalance Mode to be set to manual.

Requires user role: ADMIN
Value space: <1..16>
Range: Select a value between 1 and 16.
Example: xConfiguration Cameras Camera 1 Whitebalance Level: 1
Conference configuration

**xConfiguration Conference [1..1] ActiveControl Mode**
Active control is a feature that allows conference participants to administer a conference on Cisco TelePresence Server using the video system's interfaces (not available from the TRC5 remote control and on-screen display). Each user can see the participant list, change video layout, disconnect participants, etc. from the interface. The active control feature is enabled by default, provided that it is supported by the infrastructure (Cisco Unified Communications Manager (CU/C) version 9.1.2 or newer, Cisco TelePresence Video Communication Server (VCS) version X8.1 or newer). Change this setting if you want to disable the active control features.

**Requires user role:** ADMIN

**Value space:** <Auto/Off>

*Auto:* Active control is enabled when supported by the infrastructure.

*Off:* Active control is disabled.

**Example:** xConfiguration Conference 1 ActiveControl Mode: Auto

**xConfiguration Conference [1..1] CallProtocolIPStack**
Select if the system should enable IPv4, IPv6, or dual IP stack on the call protocol (SIP, H323).

**Requires user role:** ADMIN

**Value space:** <Dual/IPv4/IPv6>

*Dual:* Enables both IPv4 and IPv6 for the call protocol.

*IPv4:* When set to IPv4, the call protocol will use IPv4.

*IPv6:* When set to IPv6, the call protocol will use IPv6.

**Example:** xConfiguration Conference 1 CallProtocolIPStack: Dual

**xConfiguration Conference [1..1] AutoAnswer Mode**
Set the auto answer mode. Use the Conference AutoAnswer Delay setting if you want the system to wait a number of seconds before answering the call, and use the Conference AutoAnswer Mute setting if you want your microphone to be muted when the call is answered.

**Requires user role:** ADMIN

**Value space:** <Off/On>

*Off:* You must answer incoming calls manually by pressing the OK key or the green Call key on the remote control, or by tapping Answer on the Touch controller.

*On:* The system automatically answers incoming calls, except if you are already in a call. You must always answer or decline incoming calls manually when you are already engaged in a call.

**Example:** xConfiguration Conference 1 AutoAnswer Mode: Off
xConfiguration Conference [1..1] AutoAnswer Mute
Determine if the microphone shall be muted when an incoming call is automatically answered.
Requires that AutoAnswer Mode is switched on.

Requires user role: ADMIN
Value space: <Off/On>

Off: The incoming call will not be muted.
On: The incoming call will be muted when automatically answered.

Example: xConfiguration Conference 1 AutoAnswer Mute: Off

xConfiguration Conference [1..1] AutoAnswer Delay
Define how long (in seconds) an incoming call has to wait before it is answered automatically by the system. Requires that AutoAnswer Mode is switched on.

Requires user role: ADMIN
Value space: <0..50>
Range: Select a value between 0 and 50 seconds.

Example: xConfiguration Conference 1 AutoAnswer Delay: 0

xConfiguration Conference [1..1] MicUnmuteOnDisconnect Mode
Determine if the microphones shall be unmuted automatically when all calls are disconnected. In a meeting room or other shared resources this may be done to prepare the system for the next user.

Requires user role: ADMIN
Value space: <Off/On>

Off: If muted during a call, let the microphones remain muted after the call is disconnected.
On: Unmute the microphones after the call is disconnected.

Example: xConfiguration Conference 1 MicUnmuteOnDisconnect Mode: On

xConfiguration Conference [1..1] DoNotDisturb Mode
Determine whether to allow incoming calls.

Requires user role: USER
Value space: <Off/On/Timed>

Off: The incoming calls will come through as normal.
On: All incoming calls will be rejected and they will be registered as missed calls. The calling side will receive a busy signal. A message telling that Do Not Disturb is switched on will display on the Touch controller or main display. NOTE: This setting is not recommended as all calls will be rejected until the setting is manually turned off. The recommended option is Timed.
Timed: When set to timed (default), the system will revert back and allow incoming calls after the specified timeout, defined by the setting: Conference DoNotDisturb DefaultTimeout.

Example: xConfiguration Conference 1 DoNotDisturb Mode: Timed

xConfiguration Conference [1..1] DoNotDisturb DefaultTimeout
This setting determines the default duration of a Do Not Disturb session, i.e. the period when incoming calls are rejected and registered as missed calls. The session can be terminated earlier by using the user interface (remote control or Touch controller) or the Conference DoNotDisturb Mode setting. The default value is 60 minutes.

Requires user role: ADMIN
Value space: <0..1440>
Range: Select the number of minutes (between 0 and 1440, i.e. 24 hours) before the Do Not Disturb session times out automatically.

Example: xConfiguration Conference 1 DoNotDisturb DefaultTimeOut: 60

xConfiguration Conference [1..1] FarEndControl Mode
Lets you decide if the remote side (far end) should be allowed to select your video sources and control your local camera (pan, tilt, zoom).

Requires user role: ADMIN
Value space: <Off/On>

Off: The far end is not allowed to select your video sources or to control your local camera (pan, tilt, zoom).
On: Allows the far end to be able to select your video sources and control your local camera (pan, tilt, zoom). You will still be able to control your camera and select your video sources as normal.

Example: xConfiguration Conference 1 FarEndControl Mode: On
xConfiguration Conference [1..1] FarEndControl SignalCapability
Set the far end control (H.224) signal capability mode.

- **Requires user role:** ADMIN
- **Value space:** <Off/On>
  - Off: Disable the far end control signal capability.
  - On: Enable the far end control signal capability.
- **Example:** `xConfiguration Conference 1 FarEndControl SignalCapability: On`

xConfiguration Conference [1..1] Encryption Mode
Define the conference encryption mode. A padlock with the text "Encryption On" or "Encryption Off" displays on screen for a few seconds when the conference starts.

- **NOTE:** If the TC-NC software (no crypto) is installed on the video system, the encryption mode is always Off.
- **Requires user role:** ADMIN
- **Value space:** <Off/On/BestEffort>
  - Off: The system will not use encryption.
  - On: The system will only allow calls that are encrypted.
  - BestEffort: The system will use encryption whenever possible.
  - *In Point to point calls:* If the far end system supports encryption (AES-128), the call will be encrypted. If not, the call will proceed without encryption.
  - *In MultiSite calls:* In order to have encrypted MultiSite conferences, all sites must support encryption. If not, the conference will be unencrypted.
- **Example:** `xConfiguration Conference 1 Encryption Mode: BestEffort`

xConfiguration Conference [1..1] DefaultCall Protocol
Set the Default Call Protocol to be used when placing calls from the system.

- **Requires user role:** ADMIN
- **Value space:** <Auto/H323/Sip/H320>
  - Auto: Enables auto-selection of the call protocol based on which protocols are available. If multiple protocols are available, the order of priority is: 1) SIP; 2) H323; 3) H320. If the system cannot register, or the call protocol is not enabled, the auto-selection chooses H323.
  - H323: All calls are set up as H.323 calls.
  - Sip: All calls are set up as SIP calls.
  - H320: All calls are set up as H.320 calls (only applicable if connected to a Cisco TelePresence ISDN Link gateway).
- **Example:** `xConfiguration Conference 1 DefaultCall Protocol: Auto`

xConfiguration Conference [1..1] DefaultCall Rate
Set the Default Call Rate to be used when placing calls from the system.

- **Requires user role:** ADMIN
- **Value space:** <64..6000>
  - *Range:* Select a value between 64 and 6000 kbps.
- **Example:** `xConfiguration Conference 1 DefaultCall Rate: 1920`

xConfiguration Conference [1..1] MaxTransmitCallRate
Specify the maximum transmit bit rate to be used when placing or receiving calls. Note that this is the maximum bit rate for each individual call; use the Conference MaxTotalTransmitCallRate setting to set the aggregated maximum for all simultaneous active calls.

- **Requires user role:** ADMIN
- **Value space:** <64..6000>
  - *Range:* Select a value between 64 and 6000 kbps.
- **Example:** `xConfiguration Conference 1 MaxTransmitCallRate: 6000`

xConfiguration Conference [1..1] MaxReceiveCallRate
Specify the maximum receive bit rate to be used when placing or receiving calls. Note that this is the maximum bit rate for each individual call; use the Conference MaxTotalReceiveCallRate setting to set the aggregated maximum for all simultaneous active calls.

- **Requires user role:** ADMIN
- **Value space:** <64..6000>
  - *Range:* Select a value between 64 and 6000 kbps.
- **Example:** `xConfiguration Conference 1 MaxReceiveCallRate: 6000`
xConfiguration Conference [1..1] MaxTotalTransmitCallRate
This configuration applies when using a video system's built-in MultiSite feature (optional) to host a multipoint video conference.
Specify the maximum overall transmit bit rate allowed. The bit rate will be divided fairly among all active calls at any time. This means that the individual calls will be up-speeded or down-speeded as appropriate when someone leaves or enters a multipoint conference, or when a call is put on hold (suspended) or resumed.
The maximum transmit bit rate for each individual call is defined in the Conference MaxTransmitCallRate setting.

Requires user role: ADMIN
Value space: <64..10000>
Range: Select a value between 64 and 10000.
Example: xConfiguration Conference 1 MaxTotalTransmitCallRate: 10000

xConfiguration Conference [1..1] MaxTotalReceiveCallRate
This configuration applies when using a video system's built-in MultiSite feature (optional) to host a multipoint video conference.
Specify the maximum overall receive bit rate allowed. The bit rate will be divided fairly among all active calls at any time. This means that the individual calls will be up-speeded or down-speeded as appropriate when someone leaves or enters a multipoint conference, or when a call is put on hold (suspended) or resumed.
The maximum receive bit rate for each individual call is defined in the Conference MaxReceiveCallRate setting.

Requires user role: ADMIN
Value space: <64..10000>
Range: Select a value between 64 and 10000.
Example: xConfiguration Conference 1 MaxTotalReceiveCallRate: 10000

xConfiguration Conference [1..1] VideoBandwidth Mode
Set the conference video bandwidth mode.

Requires user role: ADMIN
Value space: <Dynamic/Static>

- Dynamic: The available transmit bandwidth for the video channels are distributed among the currently active channels. If there is no presentation, the main video channels will use the bandwidth of the presentation channel.
- Static: The available transmit bandwidth is assigned to each video channel, even if it is not active.

Example: xConfiguration Conference 1 VideoBandwidth Mode: Dynamic

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xConfiguration Conference [1..1] VideoBandwidth MainChannel Weight
The available transmit video bandwidth is distributed on the main channel and presentation channel according to "MainChannel Weight" and "PresentationChannel Weight". If the main channel weight is 2 and the presentation channel weight is 1, then the main channel will use twice as much bandwidth as the presentation channel.

Requires user role: ADMIN
Value space: <1..10>
Range: 1 to 10.
Example: xConfiguration Conference 1 VideoBandwidth MainChannel Weight: 5

xConfiguration Conference [1..1] VideoBandwidth PresentationChannel Weight
The available transmit video bandwidth is distributed on the main channel and presentation channel according to "MainChannel Weight" and "PresentationChannel Weight". If the main channel weight is 2 and the presentation channel weight is 1, then the main channel will use twice as much bandwidth as the presentation channel.

Requires user role: ADMIN
Value space: <1..10>
Range: 1 to 10.
Example: xConfiguration Conference 1 VideoBandwidth PresentationChannel Weight: 5

xConfiguration Conference [1..1] Presentation RelayQuality
This configuration applies to video systems that are using the built-in MultiSite feature (optional) to host a multipoint video conference. When a remote user shares a presentation, the video system (codec) will transcode the presentation and send it to the other participants in the multipoint conference. The RelayQuality setting specifies whether to give priority to high frame rate or to high resolution for the presentation source.

Requires user role: ADMIN
Value space: <Motion/Sharpness>

- Motion: Gives the highest possible frame rate. Used when there is a need for higher frame rates, typically when there is a lot of motion in the picture.
- Sharpness: Gives the highest possible resolution. Used when you want the highest quality of detailed images and graphics.

Example: xConfiguration Conference 1 Presentation RelayQuality: Sharpness
xConfiguration Conference [1..1] Presentation OnPlacedOnHold
Define whether or not to continue sharing a presentation after the remote site has put you on hold.

Requires user role: ADMIN
Value space: <Stop/NoAction>
Stop: The video system stops the presentation sharing when the remote site puts you on hold. The presentation will not continue when the call is resumed.
NoAction: The video system will not stop the presentation sharing when put on hold. The presentation will not be shared while you are on hold, but it will continue automatically when the call is resumed.

Example: xConfiguration Conference 1 Presentation OnPlacedOnHold: NoAction

xConfiguration Conference [1..1] Multipoint Mode
Define how the video system handles multiparty video conferences.
If registered to a Cisco TelePresence Video Communication Server (VCS), the video system can either use its own built-in MultiSite feature, or it can rely on the MultiWay network solution. MultiWay requires that the video network includes a multipoint control unit (MCU).
If registered to a Cisco Unified Communications Manager (CUCM) version 8.6.2 or newer, the video system can use either the CUCM conference bridge, or the video system’s own built-in MultiSite feature. Which one to use is set-up by CUCM.
Both MultiWay and the CUCM conference bridge allows you to set up conferences with many participants. The built-in MultiSite allows up to four participants (yourself included).
Note that the built-in MultiSite is optional and may not be available on all video systems.

Requires user role: ADMIN
Value space: <Auto/Off/MultiSite/MultiWay/CUCMMediaResourceGroupList>
Auto: The multipoint method available will be chosen automatically; if none are available the Multipoint Mode will automatically be set to Off. If both MultiWay and MultiSite are available, the MultiWay service takes priority over the built-in MultiSite.
Off: Multiparty conferences are not allowed.
MultiSite: Multiparty conferences are set up using the built-in MultiSite feature. If MultiSite is chosen when the MultiSite feature is not available, the Multipoint Mode will automatically be set to Off.
MultiWay: Multiparty conferences are set up using the MultiWay service. If MultiWay is chosen when the MultiWay service is not available, the Multipoint Mode will automatically be set to Off. This may occur when the NetworkServices MultiWay Address setting is empty or not properly set.
CUCMMediaResourceGroupList: Multiparty conferences (ad hoc conferences) are hosted by the CUCM configured conference bridge. This setting is provisioned by CUCM in a CUCM environment and should never be set manually by the user.

Example: xConfiguration Conference 1 Multipoint Mode: Auto

xConfiguration Conference [1..1] IncomingMultisiteCall Mode
Select whether or not to allow incoming calls when already in a call/conference.

Requires user role: ADMIN
Value space: <Allow/Deny>
Allow: You will be notified when someone calls you while you are already in a call. You can accept the incoming call or not. The ongoing call may be put on hold while answering the incoming call; or you may merge the calls (requires MultiSite or MultiWay support).
Deny: An incoming call will be rejected if you are already in a call. You will not be notified about the incoming call. However, the call will appear as a missed call in the call history list.

Example: xConfiguration Conference 1 IncomingMultisiteCall Mode: Allow
FacilityService configuration

xConfiguration FacilityService Service [1..5] Type
Up to five different facility services can be supported simultaneously. With this setting you can select what kind of services they are. A facility service is not available unless both the FacilityService Service Name and the FacilityService Service Number settings are properly set. Only FacilityService Service 1 with Type Helpdesk is available on the Touch controller; the other options are available for system integrators using the API (Application Programming Interface) command set. Facility services are not available when using the remote control and on-screen menu.

Requires user role: ADMIN

Value space: <Other/Concierge/Helpdesk/Emergency/Security/Catering/Transportation>
Other: Select this option for services not covered by the other options.
Concierge: Select this option for concierge services.
Helpdesk: Select this option for helpdesk services.
Emergency: Select this option for emergency services.
Security: Select this option for security services.
Catering: Select this option for catering services.
Transportation: Select this option for transportation services.

Example: xConfiguration FacilityService Service 1 Type: Helpdesk

xConfiguration FacilityService Service [1..5] Name
Enter the name of the facility service. Up to five different facility services are supported. A facility service is not available unless both the FacilityService Service Name and the FacilityService Service Number settings are properly set. Only FacilityService Service 1 is available on the Touch controller; the other options are available for system integrators using the API (Application Programming Interface) command set. The facility services are not available when using the remote control and on-screen menu.

Requires user role: ADMIN

Value space: <S: 0, 1024>
Format: String with a maximum of 1024 characters.

Example: xConfiguration FacilityService Service 1 Name: ""

xConfiguration FacilityService Service [1..5] CallType
Set the call type for each facility service. Up to five different facility services are supported. A facility service is not available unless both the FacilityService Service Name and the FacilityService Service Number settings are properly set. Only FacilityService Service 1 is available on the Touch controller; the other options are available for system integrators using the API (Application Programming Interface) command set. Facility services are not available when using the remote control and on-screen menu.

Requires user role: ADMIN

Value space: <Video/Audio>
Video: Select this option for video calls.
Audio: Select this option for audio calls.

Example: xConfiguration FacilityService Service 1 CallType: Video
H323 configuration

**xConfiguration H323 NAT Mode**
The firewall traversal technology creates a secure path through the firewall barrier, and enables proper exchange of audio/video data when connected to an external video conferencing system (when the IP traffic goes through a NAT router). NOTE: NAT does not work in conjunction with gatekeepers.

**Requires user role:** ADMIN

**Value space:** <Auto/Off/On>
- **Auto:** The system will determine if the H323 NAT Address or the real IP address should be used in signaling. This makes it possible to place calls to endpoints on the LAN as well as endpoints on the WAN. If the H323 NAT Address is wrong or not set, the real IP address will be used.
- **Off:** The system will signal the real IP address.
- **On:** The system will signal the configured H323 NAT Address instead of its real IP address in Q.931 and H.245. The NAT Server Address will be shown in the startup-menu as: "My IP Address: 10.0.2.1". If the H323 NAT Address is wrong or not set, H.323 calls cannot be set up.

**Example:** xConfiguration H323 NAT Mode: Off

**xConfiguration H323 NAT Address**
Enter the external/global IP address to the router with NAT support. Packets sent to the router will then be routed to the system. Note that NAT cannot be used when registered to a gatekeeper.

In the router, the following ports must be routed to the system’s IP address:
- Port 1720
- Port 5555-6555
- Port 2326-2487

**Requires user role:** ADMIN

**Value space:** <S: 0, 64>
- **Format:** String with a maximum of 50 characters.

**Example:** xConfiguration H323 NAT Address: ""

**xConfiguration H323 Profile [1..1] Authentication Mode**
Set the authentication mode for the H.323 profile.

**Requires user role:** ADMIN

**Value space:** <Off/On>
- **Off:** If the H.323 Gatekeeper Authentication Mode is set to Off the system will not try to authenticate itself to a H.323 Gatekeeper, but will still try a normal registration.
- **On:** If the H.323 Gatekeeper Authentication Mode is set to On and a H.323 Gatekeeper indicates that it requires authentication, the system will try to authenticate itself to the gatekeeper. Requires the Authentication LoginName and Authentication Password to be defined on both the codec and the Gatekeeper.

**Example:** xConfiguration H323 Profile 1 Authentication Mode: Off

**xConfiguration H323 Profile [1..1] Authentication LoginName**
The system sends the Authentication Login Name and the Authentication Password to a H.323 Gatekeeper for authentication. The authentication is a one way authentication from the codec to the H.323 Gatekeeper, i.e. the system is authenticated to the gatekeeper. If the H.323 Gatekeeper indicates that no authentication is required, the system will still try to register. Requires the H.323 Gatekeeper Authentication Mode to be enabled.

**Requires user role:** ADMIN

**Value space:** <S: 0, 50>
- **Format:** String with a maximum of 50 characters.

**Example:** xConfiguration H323 Profile 1 Authentication LoginName: ""

**xConfiguration H323 Profile [1..1] Authentication Password**
The system sends the Authentication Login Name and the Authentication Password to a H.323 Gatekeeper for authentication. The authentication is a one way authentication from the codec to the H.323 Gatekeeper, i.e. the system is authenticated to the gatekeeper. If the H.323 Gatekeeper indicates that no authentication is required, the system will still try to register. Requires the H.323 Gatekeeper Authentication Mode to be enabled.

**Requires user role:** ADMIN

**Value space:** <S: 0, 50>
- **Format:** String with a maximum of 50 characters.

**Example:** xConfiguration H323 Profile 1 Authentication Password: ""
xConfiguration H323 Profile [1..1] CallSetup Mode
The H.323 Call Setup Mode defines whether to use a Gatekeeper or Direct calling when establishing H323 calls.
NOTE: Direct H.323 calls can be made even though the H.323 Call Setup Mode is set to Gatekeeper.

Requires user role: ADMIN
Value space: <Direct/Gatekeeper>

Direct: An IP address must be used when dialing in order to make the H323 call.
Gatekeeper: The system will use a Gatekeeper to make a H.323 call. When selecting this option the H323 Profile Gatekeeper Address and H323 Profile Gatekeeper Discovery settings must also be configured.

Example: xConfiguration H323 Profile 1 CallSetup Mode: Gatekeeper

xConfiguration H323 Profile [1..1] Encryption KeySize
Define the minimum or maximum key size for the Diffie-Hellman key exchange method, which is used when establishing the Advanced Encryption Standard (AES) encryption key.

Requires user role: ADMIN
Value space: <Min1024bit/Max1024bit/Min2048bit>
Min1024bit: The minimum size is 1024 bit.
Max1024bit: The maximum size is 1024 bit.
Min2048bit: The minimum size is 2048 bit.

Example: xConfiguration H323 Profile 1 Encryption MinKeySize: Max1024bit

xConfiguration H323 Profile [1..1] Gatekeeper Discovery
Determine how the system shall register to a H.323 Gatekeeper.

Requires user role: ADMIN
Value space: <Manual/Auto>
Manual: The system will use a specific Gatekeeper identified by the Gatekeeper’s IP address.
Auto: The system will automatically try to register to any available Gatekeeper. If a Gatekeeper responds to the request sent from the codec within 30 seconds this specific Gatekeeper will be used. This requires that the Gatekeeper is in auto discovery mode as well. If no Gatekeeper responds, the system will not use a Gatekeeper for making H.323 calls and hence an IP address must be specified manually.

Example: xConfiguration H323 Profile 1 Gatekeeper Discovery: Manual

xConfiguration H323 Profile [1..1] Gatekeeper Address
Enter the IP address of the Gatekeeper. Requires the H.323 Call Setup Mode to be set to Gatekeeper and the Gatekeeper Discovery to be set to Manual.

Requires user role: ADMIN
Value space: <S: 0, 255>
Format: A valid IPv4 address, IPv6 address or DNS name.

Example: xConfiguration H323 Profile 1 Gatekeeper Address: "192.0.2.0"

xConfiguration H323 Profile [1..1] H323Alias E164
The H.323 Alias E.164 defines the address of the system, according to the numbering plan implemented in the H.323 Gatekeeper. The E.164 alias is equivalent to a telephone number, sometimes combined with access codes.

Requires user role: ADMIN
Value space: <S: 0, 30>
Format: Compact string with a maximum of 30 characters. Valid characters are 0-9, *, and #.

Example: xConfiguration H323 Profile 1 H323Alias E164: "90550092"

xConfiguration H323 Profile [1..1] H323Alias ID
Lets you specify the H.323 Alias ID which is used to address the system on a H.323 Gatekeeper and will be displayed in the call lists. Example: "firstname.lastname@company.com", "My H.323 Alias ID"

Requires user role: ADMIN
Value space: <S: 0, 49>
Format: String with a maximum of 49 characters.

Example: xConfiguration H323 Profile 1 H323Alias ID: "firstname.lastname@company.com"
xConfiguration H323 Profile [1..1] PortAllocation

The H.323 Port Allocation setting affects the H.245 port numbers used for H.323 call signaling.

Requires user role: ADMIN

Value space: <Dynamic/Static>

Dynamic: The system will allocate which ports to use when opening a TCP connection. The reason for doing this is to avoid using the same ports for subsequent calls, as some firewalls consider this as a sign of attack. When Dynamic is selected, the H.323 ports used are from 11000 to 20999. Once 20999 is reached they restart again at 11000. The ports are automatically selected by the system within the given range. Firewall administrators should not try to deduce which ports are used when, as the allocation schema within the mentioned range may change without any further notice.

Static: When set to Static the ports are given within a static predefined range [5555-6555].

Example: xConfiguration H323 Profile 1 PortAllocation: Dynamic
Network configuration

xConfiguration Network [1..1] IPStack
Select if the system should use IPv4, IPv6, or dual IP stack, on the network interface. NOTE: After changing this setting you may have to wait up to 30 seconds before it takes effect.

Requires user role: ADMIN

Value space: <Dual/IPv4/IPv6>

- Dual: When set to Dual, the network interface can operate on both IP versions at the same time, and can have both an IPv4 and an IPv6 address at the same time.
- IPv4: When set to IPv4, the system will use IPv4 on the network interface.
- IPv6: When set to IPv6, the system will use IPv6 on the network interface.

Example: xConfiguration Network 1 IPStack: Dual

xConfiguration Network [1..1] IPv4 Assignment
Define how the system will obtain its IPv4 address, subnet mask and gateway address. This setting only applies to systems on IPv4 networks.

Requires user role: ADMIN

Value space: <Static/DHCP>

- Static: The addresses must be configured manually using the Network IPv4 Address, Network IPv4 Gateway and Network IPv4 SubnetMask settings (static addresses).
- DHCP: The system addresses are automatically assigned by the DHCP server.

Example: xConfiguration Network 1 IPv4 Assignment: DHCP

xConfiguration Network [1..1] IPv4 Address
Enter the static IPv4 network address for the system. This setting is only applicable when Network Assignment is set to Static.

Requires user role: ADMIN

Value space: <S: 0, 64>

Format: A valid IPv4 address.

Example: xConfiguration Network 1 IPv4 Address: "192.0.2.2"

xConfiguration Network [1..1] IPv4 Gateway
Define the IPv4 network gateway. This setting is only applicable when the Network Assignment is set to Static.

Requires user role: ADMIN

Value space: <S: 0, 64>

Format: A valid IPv4 address.

Example: xConfiguration Network 1 IPv6 Gateway: "192.0.2.1"

xConfiguration Network [1..1] IPv4 SubnetMask
Define the IPv4 network subnet mask. This setting is only applicable when the Network Assignment is set to Static.

Requires user role: ADMIN

Value space: <S: 0, 64>

Format: The valid IPv4 address format.

Example: xConfiguration Network 1 IPv4 SubnetMask: "255.255.255.0"

xConfiguration Network [1..1] IPv6 Assignment
Define how the system will obtain its IPv6 address and the default gateway address. This setting only applies to systems on IPv6 networks.

Requires user role: ADMIN

Value space: <Static/DHCPv6/Autoconf>

- Static: The codec and gateway IP addresses must be configured manually using the Network IPv6 Address, Network IPv6 Gateway and Network IPv6 SubnetMask settings (static addresses).
- DHCPv6: All IPv6 addresses, including options, will be obtained from a DHCPv6 server. See RFC 3315 for a detailed description. The Network IPv6 DHCPOptions setting will be ignored.
- Autoconf: Enable IPv6 stateless autoconfiguration of the IPv6 network interface. See RFC 4862 for a detailed description. The options, for example NTP and DNS server addresses, must be set manually or obtained from a DHCPv6 server. The Network IPv6 DHCPOptions setting determines which method to use.

Example: xConfiguration Network 1 IPv6 Assignment: Autoconf
xConfiguration Network [1..1] IPv6 Address

Enter the static IPv6 network address for the system. This setting is only applicable when the Network IPv6 Assignment is set to Static.

Requires user role: ADMIN

Value space: <S: 0, 64>

Format: A valid IPv6 address.

Example: xConfiguration Network 1 IPv6 Address: "2001:0DB8:0000:0000:0000:0000:0000:0002"

xConfiguration Network [1..1] IPv6 Gateway

Define the IPv6 network gateway address. This setting is only applicable when the Network IPv6 Assignment is set to Static.

Requires user role: ADMIN

Value space: <S: 0, 64>

Format: A valid IPv6 address.

Example: xConfiguration Network 1 IPv6 Gateway: "2001:0DB8:0000:0000:0000:0000:0000:0001"

xConfiguration Network [1..1] IPv6 DHCPOptions

Retrieve a set of DHCP options, for example NTP and DNS server addresses, from a DHCPv6 server.

Requires user role: ADMIN

Value space: <Off/On>

Format: A valid IPv6 address.

Example: xConfiguration Network 1 IPv6 DHCPOptions: On

xConfiguration Network [1..1] DHCP Request TFTP Server Address

This setting is used only for video systems that are registered to a Cisco Unified Communications Manager (CUCM).

The setting determines whether the endpoint should ask the DHCP server for DHCP option 150, so that it can discover the address of the TFTP server (provisioning server) automatically.

If this setting is Off or the DHCP server does not support option 150, the TFTP server address must be set manually using the Provisioning ExternalManager Address setting.

If the Network VLAN Voice Mode setting is Auto and the Cisco Discovery Protocol (CDP) assigns an ID to the voice VLAN, then a request for option 150 will always be sent. That is, the Network DHCP Request TFTP Server Address setting will be ignored.

Requires user role: ADMIN

Value space: <Off/On>

Off: The video system will not send a request for DHCP option 150 and the address of the TFTP server must be set manually. See the note above for any exception to this rule.

On: The video system will send a request for option 150 to the DHCP server so that it can automatically discover the address of the TFTP server.

Example: xConfiguration Network 1 DHCP Request TFTP Server Address: On

xConfiguration Network [1..1] DNS Domain Name

DNS Domain Name is the default domain name suffix which is added to unqualified names.

Example: If the DNS Domain Name is "company.com" and the name to lookup is "MyVideoSystem", this will result in the DNS lookup "MyVideoSystem.company.com".

Requires user role: ADMIN

Value space: <S: 0, 64>

Format: A valid IPv4 address or IPv6 address.

Example: xConfiguration Network 1 DNS Domain Name: ""
Cisco TelePresence SX20 Codec

xConfiguration Network [1..1] QoS Mode

The QoS (Quality of Service) is a method which handles the priority of audio, video and data in the network. The QoS settings must be supported by the infrastructure. Diffserv (Differentiated Services) is a computer networking architecture that specifies a simple, scalable and coarse-grained mechanism for classifying, managing network traffic and providing QoS priorities on modern IP networks.

Requires user role: ADMIN

Value space: <Off/Diffserv>

Off: No QoS method is used.

Diffserv: When you set the QoS Mode to Diffserv, the Network QoS Diffserv Audio, Network QoS Diffserv Video, Network QoS Diffserv Data, Network QoS Diffserv Signalling, Network QoS Diffserv ICMPv6 and Network QoS Diffserv NTP settings are used to prioritize packets.

Example: xConfiguration Network 1 QoS Mode: Diffserv

xConfiguration Network [1..1] QoS Diffserv Audio

This setting will only take effect if Network QoS Mode is set to Diffserv.

Define which priority Audio packets should have in the IP network.

The priority for the packets ranges from 0 to 63 - the higher the number, the higher the priority. The recommended class for Audio is CS4, which equals the decimal value 32. If in doubt, contact your network administrator.

The priority set here might be overridden when packets are leaving the network controlled by the local network administrator.

Requires user role: ADMIN

Value space: <0..63>

Range: Select a value between 0 to 63 - the higher the number, the higher the priority. The default value is 0 (best effort).

Example: xConfiguration Network 1 QoS Diffserv Audio: 0

xConfiguration Network [1..1] QoS Diffserv Video

This setting will only take effect if Network QoS Mode is set to Diffserv.

Define which priority Video packets should have in the IP network. The packets on the presentation channel (shared content) are also in the Video packet category. The priority for the packets ranges from 0 to 63 - the higher the number, the higher the priority. The recommended class for Video is CS4, which equals the decimal value 32. If in doubt, contact your network administrator.

The priority set here might be overridden when packets are leaving the network controlled by the local network administrator.

Requires user role: ADMIN

Value space: <0..63>

Range: Select a value between 0 to 63 - the higher the number, the higher the priority. The default value is 0 (best effort).

Example: xConfiguration Network 1 QoS Diffserv Video: 0

xConfiguration Network [1..1] QoS Diffserv Data

This setting will only take effect if Network QoS Mode is set to Diffserv.

Define which priority Data packets should have in the IP network.

The priority for the packets ranges from 0 to 63 - the higher the number, the higher the priority. The recommended value for Data is 0, which means best effort. If in doubt, contact your network administrator.

The priority set here might be overridden when packets are leaving the network controlled by the local network administrator.

Requires user role: ADMIN

Value space: <0..63>

Range: Select a value between 0 to 63 - the higher the number, the higher the priority. The default value is 0 (best effort).

Example: xConfiguration Network 1 QoS Diffserv Data: 0
This setting will only take effect if Network QoS Mode is set to Diffserv.
Define which priority Signalling packets that are deemed critical (time-sensitive) for the real-time operation should have in the IP network.
The priority for the packets ranges from 0 to 63 - the higher the number, the higher the priority. The recommended class for Signalling is CS3, which equals the decimal value 24. If in doubt, contact your network administrator.
The priority set here might be overridden when packets are leaving the network controlled by the local network administrator.

**Requires user role:** ADMIN

**Value space:** <0..63>

**Range:** Select a value between 0 to 63 - the higher the number, the higher the priority. The default value is 0 (best effort).

**Example:** `xConfiguration Network 1 QoS Diffserv Signalling: 0`

This setting will only take effect if Network QoS Mode is set to Diffserv.
Define which priority ICMPv6 packets should have in the IP network.
The priority for the packets ranges from 0 to 63 - the higher the number, the higher the priority. The recommended value for ICMPv6 is 0, which means best effort. If in doubt, contact your network administrator.
The priority set here might be overridden when packets are leaving the network controlled by the local network administrator.

**Requires user role:** ADMIN

**Value space:** <0..63>

**Range:** Select a value between 0 to 63 - the higher the number, the higher the priority. The default value is 0 (best effort).

**Example:** `xConfiguration Network 1 QoS Diffserv ICMPv6: 0`

This setting will only take effect if Network QoS Mode is set to Diffserv.
Define which priority NTP packets should have in the IP network.
The priority for the packets ranges from 0 to 63 - the higher the number, the higher the priority. The recommended value for NTP is 0, which means best effort. If in doubt, contact your network administrator.
The priority set here might be overridden when packets are leaving the network controlled by the local network administrator.

**Requires user role:** ADMIN

**Value space:** <0..63>

**Range:** Select a value between 0 to 63 - the higher the number, the higher the priority. The default value is 0 (best effort).

**Example:** `xConfiguration Network 1 QoS Diffserv NTP: 0`

The system can be connected to an IEEE 802.1X LAN network, with a port-based network access control that is used to provide authenticated network access for Ethernet networks.

**Requires user role:** ADMIN

**Value space:** <Off/On>

- **Off:** The 802.1X authentication is disabled (default).
- **On:** The 802.1X authentication is enabled.

**Example:** `xConfiguration Network 1 IEEE8021X Mode: Off`

Verification of the server-side certificate of an IEEE8021x connection against the certificates in the local CA-list when TLS is used. The CA-list must be uploaded to the video system. This can be done from the web interface.
This setting takes effect only when Network [1..1]IEEE8021X Eap Tls is enabled (On).

**Requires user role:** ADMIN

**Value space:** <Off/On>

- **Off:** When set to Off, TLS connections are allowed without verifying the server-side X.509 certificate against the local CA-list. This should typically be selected if no CA-list has been uploaded to the codec.
- **On:** When set to On, the server-side X.509 certificate will be validated against the local CA-list for all TLS connections. Only servers with a valid certificate will be allowed.

**Example:** `xConfiguration Network 1 IEEE8021X TlsVerify: Off`
xConfiguration Network [1..1] IEEE8021X UseClientCertificate
Authentication using a private key/certificate pair during an IEEE802.1x connection. The authentication X.509 certificate must be uploaded to the video system. This can be done from the web interface.

Requires user role: ADMIN
Value space: <Off/On>
   Off: When set to Off client-side authentication is not used (only server-side).
   On: When set to On the client (video system) will perform a mutual authentication TLS handshake with the server.

Example: xConfiguration Network 1 IEEE8021X UseClientCertificate: Off

xConfiguration Network [1..1] IEEE8021X Identity
The 802.1X Identity is the user name needed for 802.1X authentication.

Requires user role: ADMIN
Value space: <S: 0, 64>
   Format: String with a maximum of 64 characters.

Example: xConfiguration Network 1 IEEE8021X Identity: ""

xConfiguration Network [1..1] IEEE8021X Password
The 802.1X Password is the password needed for 802.1X authentication.

Requires user role: ADMIN
Value space: <S: 0, 32>
   Format: String with a maximum of 32 characters.

Example: xConfiguration Network 1 IEEE8021X Password: ""

xConfiguration Network [1..1] IEEE8021X AnonymousIdentity
The 802.1X Anonymous ID string is to be used as unencrypted identity with EAP (Extensible Authentication Protocol) types that support different tunneled identity, like EAP-PEAP and EAP-TTLS. If set, the anonymous ID will be used for the initial (unencrypted) EAP Identity Request.

Requires user role: ADMIN
Value space: <S: 0, 64>
   Format: String with a maximum of 64 characters.

Example: xConfiguration Network 1 IEEE8021X AnonymousIdentity: ""

xConfiguration Network [1..1] IEEE8021X Eap Md5
Set the Md5 (Message-Digest Algorithm 5) mode. This is a Challenge Handshake Authentication Protocol that relies on a shared secret. Md5 is a Weak security.

Requires user role: ADMIN
Value space: <Off/On>
   Off: The EAP-MD5 protocol is disabled.
   On: The EAP-MD5 protocol is enabled (default).

Example: xConfiguration Network 1 IEEE8021X Eap Md5: On

xConfiguration Network [1..1] IEEE8021X Eap Ttls
Set the TTLS (Tunneled Transport Layer Security) mode. Authenticates LAN clients without the need for client certificates. Developed by Funk Software and Certicom. Usually supported by Agere Systems, Proxim and Avaya.

Requires user role: ADMIN
Value space: <Off/On>
   Off: The EAP-TTLS protocol is disabled.
   On: The EAP-TTLS protocol is enabled (default).

Example: xConfiguration Network 1 IEEE8021X Eap Ttls: On

xConfiguration Network [1..1] IEEE8021X Eap Tls
Enable or disable the use of EAP-TLS (Transport Layer Security) for IEEE802.1x connections. The EAP-TLS protocol, defined in RFC 5216, is considered one of the most secure EAP standards. LAN clients are authenticated using client certificates.

Requires user role: ADMIN
Value space: <Off/On>
   Off: The EAP-TLS protocol is disabled.
   On: The EAP-TLS protocol is enabled (default).

Example: xConfiguration Network 1 IEEE8021X Eap Tls: On
xConfiguration Network [1..1] IEEE8021X Eap Peap
Set the Peap (Protected Extensible Authentication Protocol) mode. Authenticates LAN clients
without the need for client certificates. Developed by Microsoft, Cisco and RSA Security.

Requires user role: ADMIN
Value space: <Off/On>
   Off: The EAP-PEAP protocol is disabled.
   On: The EAP-PEAP protocol is enabled (default).
Example: xConfiguration Network 1 IEEE8021X Eap Peap: On

xConfiguration Network [1..1] MTU
Set the Ethernet MTU (Maximum Transmission Unit).

Requires user role: ADMIN
Value space: <576..1500>
   Range: Select a value between 576 and 1500 bytes.
Example: xConfiguration Network 1 MTU: 1500

xConfiguration Network [1..1] Speed
Set the Ethernet link speed.

Requires user role: ADMIN
Value space: <Auto/10half/10full/100half/100full/1000full>
   Auto: Autonegotiate link speed.
   10half: Force link to 10 Mbps half-duplex.
   10full: Force link to 10 Mbps full-duplex.
   100half: Force link to 100 Mbps half-duplex.
   100full: Force link to 100 Mbps full-duplex.
   1000full: Force link to 1 Gbps full-duplex.
Example: xConfiguration Network 1 Speed: Auto

xConfiguration Network [1..1] TrafficControl Mode
Set the network traffic control mode to decide how to control the video packets transmission speed.

Requires user role: ADMIN
Value space: <Off/On>
   Off: Transmit video packets at link speed.
   On: Transmit video packets at maximum 20 Mbps. Can be used to smooth out bursts in the
   outgoing network traffic.
Example: xConfiguration Network 1 TrafficControl: On

xConfiguration Network [1..1] RemoteAccess Allow
Define which IP addresses (IPv4/IPv6) are allowed for remote access to the codec from SSH/Telnet/
HTTP/HTTPS. Multiple IP addresses are separated by a white space.
A network mask (IP range) is specified by <ip address>/N, where N is 1-32 for IPv4, and N is 1-128
for IPv6. The /N is a common indication of a network mask where the first N bits are set. Thus
192.168.0.0/24 would match any address starting with 192.168.0, since these are the first 24 bits in
the address.

Requires user role: ADMIN
Value space: <S: 0, 255>
   Format: String with a maximum of 255 characters.
Example: xConfiguration Network 1 RemoteAccess Allow: "10.11.2.3 192.168.0.0/24 2001:0db8:0000:0000:0000:0000:0000:0000:0000/64"

xConfiguration Network [1..1] VLAN Voice Mode
Set the VLAN voice mode. The VLAN Voice Mode will be set to Auto automatically if you have Cisco
UCM (Cisco Unified Communications Manager) as provisioning infrastructure. Note that Auto mode
will NOT work if the NetworkServices CDP Mode setting is Off.

Requires user role: ADMIN
Value space: <Auto/Manual/Off>
   Auto: The Cisco Discovery Protocol (CDP), if available, assigns an id to the voice VLAN. If CDP is
   not available, VLAN is not enabled.
   Manual: The VLAN ID is set manually using the Network VLAN Voice VlanId setting. If CDP is
   available, the manually set value will be overruled by the value assigned by CDP.
   Off: VLAN is not enabled.
Example: xConfiguration Network 1 VLAN Voice Mode: Auto
xConfiguration Network [1..1] VLAN Voice VlanId
Set the VLAN voice ID. This setting will only take effect if VLAN Voice Mode is set to Manual.

Requires user role: ADMIN
Value space: <1..4094>
Range: Select a value between 1 and 4094.
Example: xConfiguration Network 1 VLAN Voice VlanId: 1

NetworkServices configuration

xConfiguration NetworkServices CDP Mode
Enable or disable the CDP (Cisco Discovery Protocol) daemon. Enabling CDP will make the endpoint report certain statistics and device identifiers to a CDP-enabled switch. If CDP is disabled, the Network VLAN Voice Mode: Auto setting will not work.

Requires user role: ADMIN
Value space: <Off/On>
Off: The CDP daemon is disabled.
On: The CDP daemon is enabled.
Example: xConfiguration NetworkServices CDP Mode: On

xConfiguration NetworkServices H323 Mode
Determine whether the system should be able to place and receive H.323 calls or not.

Requires user role: ADMIN
Value space: <Off/On>
Off: Disable the possibility to place and receive H.323 calls.
On: Enable the possibility to place and receive H.323 calls (default).
Example: xConfiguration NetworkServices H323 Mode: On

xConfiguration NetworkServices HTTP Mode
Set the HTTP mode to enable/disable access to the system through a web browser. The web interface is used for system management, call management such as call transfer, diagnostics and software uploads.

Requires user role: ADMIN
Value space: <Off/On>
Off: The HTTP protocol is disabled.
On: The HTTP protocol is enabled.
Example: xConfiguration NetworkServices HTTP Mode: On
xConfiguration NetworkServices SIP Mode
Determine whether the system should be able to place and receive SIP calls or not.

Requires user role: ADMIN
Value space: <Off/On>
Off: Disable the possibility to place and receive SIP calls.
On: Enable the possibility to place and receive SIP calls (default).
Example: xConfiguration NetworkServices SIP Mode: On

xConfiguration NetworkServices Telnet Mode
Telnet is a network protocol used on the Internet or Local Area Network (LAN) connections.

Requires user role: ADMIN
Value space: <Off/On>
Off: The Telnet protocol is disabled. This is the factory setting.
On: The Telnet protocol is enabled.
Example: xConfiguration NetworkServices Telnet Mode: Off

xConfiguration NetworkServices WelcomeText
Choose which information the user should see when logging on to the codec through Telnet/SSH.

Requires user role: ADMIN
Value space: <Off/On>
Off: The welcome text is: Login successful
On: The welcome text is: Welcome to <system name>; Software version; Software release date; Login successful.
Example: xConfiguration NetworkServices WelcomeText: On

xConfiguration NetworkServices XMLAPI Mode
Enable or disable the video system's XML API. For security reasons this may be disabled. Disabling the XML API will limit the remote manageability with for example TMS, which no longer will be able to connect to the video system.

Requires user role: ADMIN
Value space: <Off/On>
Off: The XML API is disabled.
On: The XML API is enabled (default).
Example: xConfiguration NetworkServices XMLAPI Mode: On

xConfiguration NetworkServices MultiWay Address
The MultiWay address must be equal to the Conference Factory Alias, as configured on the Video Communication Server. The MultiWay™ conferencing enables video endpoint users to introduce a 3rd party into an existing call.

MultiWay™ can be used in the following situations:
1) When you want to add someone else in to your existing call.
2) When you are called by a 3rd party while already in a call and you want to include that person in the call.

Requirements: Video Communication Server (VCS) version X5 (or later) and Codian MCU version 3.1 (or later). Video systems invited to join the MultiWay™ conference must support the H.323 routeToMC facility message if in an H.323 call, or SIP REFER message if in a SIP call.

Requires user role: ADMIN
Value space: <S: 0, 255>
Format: String with a maximum of 255 characters (a valid dial URI).
Example: xConfiguration NetworkServices MultiWay Address: "h323:multiway@company.com"

xConfiguration NetworkServices MultiWay Protocol
Determine the protocol to be used for MultiWay calls.

Requires user role: ADMIN
Value space: <Auto/H323/Sip>
Auto: The system will select the protocol for MultiWay calls.
H323: The H323 protocol will be used for MultiWay calls.
Sip: The SIP protocol will be used for MultiWay calls.
Example: xConfiguration NetworkServices MultiWay Protocol: Auto

xConfiguration NetworkServices HTTPS Mode
HTTPS is a web protocol that encrypts and decrypts user page requests as well as the pages that are returned by the web server.

Requires user role: ADMIN
Value space: <Off/On>
Off: The HTTPS protocol is disabled.
On: The HTTPS protocol is enabled.
Example: xConfiguration NetworkServices HTTPS Mode: On
xConfiguration NetworkServices HTTPS VerifyServerCertificate
When the video system connects to an external HTTPS server (like a phone book server or an external manager), this server will present a certificate to the video system to identify itself.

Requires user role: ADMIN
Value space: <Off/On>
Off: Do not verify server certificates.
On: Requires the system to verify that the server certificate is signed by a trusted Certificate Authority (CA). This requires that a list of trusted CAs are uploaded to the system in advance.

Example: xConfiguration NetworkServices HTTPS VerifyServerCertificate: Off

xConfiguration NetworkServices HTTPS VerifyClientCertificate
When the video system connects to a HTTPS client (like a web browser), the client can be asked to present a certificate to the video system to identify itself.

Requires user role: ADMIN
Value space: <Off/On>
Off: Do not verify client certificates.
On: Requires the client to present a certificate that is signed by a trusted Certificate Authority (CA). This requires that a list of trusted CAs are uploaded to the system in advance.

Example: xConfiguration NetworkServices HTTPS VerifyClientCertificate: Off

xConfiguration NetworkServices HTTPS OCSP Mode
Define the support for OCSP (Online Certificate Status Protocol) responder services. The OCSP feature allows users to enable OCSP instead of certificate revocation lists (CRLs) to check the certificate status.

For any outgoing HTTPS connection, the OCSP responder is queried of the status. If the corresponding certificate has been revoked, then the HTTPS connection will not be used.

Requires user role: ADMIN
Value space: <Off/On>
Off: Disable OCSP support.
On: Enable OCSP support.

Example: xConfiguration NetworkServices HTTPS OCSP Mode: Off

xConfiguration NetworkServices HTTPS OCSP URL
Specify the URL of the OCSP responder (server) that will be used to check the certificate status.

Requires user role: ADMIN
Value space: <S: 0, 255>
Format: String with a maximum of 255 characters.

Example: xConfiguration NetworkServices HTTPS OCSP URL: "http://ocspserver.company.com:81"

xConfiguration NetworkServices Medianet Metadata
Switch On or Off the capability to tag media flows with metadata related to the Cisco Medianet deployment.

Requires user role: ADMIN
Value space: <Off/On>
Off: Media flows will not be tagged with such metadata.
On: Media flows will be tagged with such metadata.

Example: xConfiguration NetworkServices Medianet Metadata: Off

xConfiguration NetworkServices NTP Mode
The Network Time Protocol (NTP) is used to synchronize the system’s time and date to a reference time server. The time server will be queried regularly for time updates.

Requires user role: ADMIN
Value space: <Auto/Manual/Off>
Auto: The system will use an NTP server for time reference. As default, the server address will be obtained from the network’s DHCP server. If a DHCP server is not used, or if the DHCP server does not provide an NTP server address, the NTP server address that is specified in the NetworkServices NTP Address setting will be used.
Manual: The system will use the NTP server that is specified in the NetworkServices NTP Address setting for time reference.
Off: The system will not use an NTP server. The Network Services NTP Address setting will be ignored.

Example: xConfiguration NetworkServices NTP Mode: Auto
xConfiguration NetworkServices NTP Address
The address of the NTP server that will be used when NetworkServices NTP Mode is set to Manual, and when NetworkServices NTP Mode is set to Auto and no address is supplied by a DHCP server.

Requires user role: ADMIN
Value space: <S: 0, 64>
Format: A valid IPv4 address, IPv6 address or DNS name.
Example: xConfiguration NetworkServices NTP Address: "0.tandberg.pool.ntp.org"

xConfiguration NetworkServices SNMP Mode
SNMP (Simple Network Management Protocol) is used in network management systems to monitor network-attached devices (routers, servers, switches, projectors, etc) for conditions that warrant administrative attention. SNMP exposes management data in the form of variables on the managed systems, which describe the system configuration. These variables can then be queried (set to ReadOnly) and sometimes set (set to ReadWrite) by managing applications.

Requires user role: ADMIN
Value space: <Off/ReadOnly/ReadWrite>
Off: Disable the SNMP network service.
ReadOnly: Enable the SNMP network service for queries only.
ReadWrite: Enable the SNMP network service for both queries and commands.
Example: xConfiguration NetworkServices SNMP Mode: ReadOnly

xConfiguration NetworkServices SNMP Host [1..3] Address
Enter the address of up to three SNMP Managers.
The system's SNMP Agent (in the codec) responds to requests from SNMP Managers (a PC program etc.), for example about system location and system contact. SNMP traps are not supported.

Requires user role: ADMIN
Value space: <S: 0, 64>
Format: A valid IPv4 address, IPv6 address or DNS name.
Example: xConfiguration NetworkServices SNMP Host 1 Address: ""

xConfiguration NetworkServices SNMP CommunityName
Enter the name of the Network Services SNMP Community. SNMP Community names are used to authenticate SNMP requests. SNMP requests must have a password (case sensitive) in order to receive a response from the SNMP Agent in the codec. The default password is "public". If you have the Cisco TelePresence Management Suite (TMS) you must make sure the same SNMP Community is configured there too. NOTE: The SNMP Community password is case sensitive.

Requires user role: ADMIN
Value space: <S: 0, 50>
Format: String with a maximum of 50 characters.
Example: xConfiguration NetworkServices SNMP CommunityName: "public"

xConfiguration NetworkServices SNMP SystemContact
Enter the name of the Network Services SNMP System Contact.

Requires user role: ADMIN
Value space: <S: 0, 50>
Format: String with a maximum of 50 characters.
Example: xConfiguration NetworkServices SNMP SystemContact: ""

xConfiguration NetworkServices SNMP SystemLocation
Enter the name of the Network Services SNMP System Location.

Requires user role: ADMIN
Value space: <S: 0, 50>
Format: String with a maximum of 50 characters.
Example: xConfiguration NetworkServices SNMP SystemLocation: ""

xConfiguration NetworkServices SSH Mode
SSH (or Secure Shell) protocol can provide secure encrypted communication between the codec and your local computer.

Requires user role: ADMIN
Value space: <Off/On>
Off: The SSH protocol is disabled.
On: The SSH protocol is enabled.
Example: xConfiguration NetworkServices SSH Mode: On
xConfiguration NetworkServices SSH AllowPublicKey

Secure Shell (SSH) public key authentication can be used to access the codec.

Requires user role: ADMIN

Value space: <Off/On>

Off: The SSH public key is not allowed.
On: The SSH public key is allowed.

Example: xConfiguration NetworkServices SSH AllowPublicKey: On

xConfiguration NetworkServices CTMS Mode

This setting determines whether or not to allow multiparty conferences controlled by a Cisco TelePresence Multipoint Switch (CTMS).

Video systems are able to initiate or join non-encrypted multiparty conferences controlled by CTMS version 1.8 or later. Encrypted conferences are supported as from software versions CTMS 1.9.1. Encryption is addressed in the NetworkServices CTMS Encryption setting.

Requires user role: ADMIN

Value space: <Off/On>

Off: Multiparty conferencing via CTMS is prohibited.
On: Multiparty conferencing via CTMS is allowed.

Example: xConfiguration NetworkServices CTMS Mode: On

xConfiguration NetworkServices CTMS Encryption

This setting indicates whether or not the video system supports encryption when participating in a multiparty meeting controlled by a Cisco TelePresence Multipoint Switch (CTMS).

CTMS allows three security settings for meetings: non-secure (not encrypted), best effort (encrypted if all participants support encryption, otherwise not encrypted) and secure (always encrypted).

Requires user role: ADMIN

Value space: <Off/BestEffort>

Off: The video system does not allow encryption and therefore cannot participate in a secure CTMS meeting (encrypted). When participating in a best effort CTMS meeting, the meeting will be downgraded to non-secure (not encrypted).
BestEffort: The video system can negotiate encryption parameters with CTMS and participate in a secure CTMS meeting (encrypted). Do not use this value if the CTMS version is older than 1.9.1.

Example: xConfiguration NetworkServices CTMS Encryption: Off

xConfiguration NetworkServices UPnP Mode

Fully disable UPnP (Universal Plug and Play), or enable UPnP for a short time period after the video system has been switched on or restarted.

The default operation is that UPnP is enabled when you switch on or restart the video system. Then UPnP is automatically disabled after the timeout period that is defined in the NetworkServices UPnP Timeout setting.

When UPnP is enabled, the video system advertises its presence on the network. The advertisement permits a Touch controller to discover video systems automatically, and you do not need to manually enter the video system's IP address in order to pair the Touch controller.

Requires user role: ADMIN

Value space: <Off/On>

Off: UPnP is disabled. The video system does not advertise its presence, and you have to enter the video system's IP address manually in order to pair a Touch controller to the video system.
On: UPnP is enabled. The video system advertises its presence until the timeout period expires.

Example: xConfiguration NetworkServices UPnP Mode: On

xConfiguration NetworkServices UPnP Timeout

Define for how many seconds UPnP shall stay enabled after the video system is switched on or restarted. The NetworkServices UPnP Mode setting must be On for this setting to take any effect.

Requires user role: ADMIN

Value space: <0..3600>

Range: Select a value between 0 and 3600 seconds.

Example: xConfiguration NetworkServices UPnP Timeout: 600
Peripherals configuration

xConfiguration Peripherals Pairing CiscoTouchPanels RemotePairing
In order to use Cisco Touch 10 (touch controller) as user interface for the video system, Touch 10 must be paired to the video system via the network (LAN). This is referred to as remote pairing.
Remote pairing is allowed by default; you must switch this setting Off if you want to prevent remote pairing.

Requires user role: ADMIN
Value space: <Off/On>
Off: Remote pairing of Touch 10 is not allowed.
On: Remote pairing of Touch 10 is allowed.
Example: xConfiguration Peripherals Pairing CiscoTouchPanels RemotePairing: On

xConfiguration Peripherals Profile TouchPanels
Set the number of touch panels that are expected to be connected to the video system. This information is used by the video system’s diagnostics service. If the number of connected touch panels does not match this setting, the diagnostics service will report it as an inconsistency. Note that only one Cisco Touch controller is supported in this version.

Requires user role: ADMIN
Value space: <NotSet/Minimum1/0/1/2/3/4/5>
NotSet: No touch panel check is performed.
Minimum1: At least one touch panel should be connected to the video system.
0-5: This number of Touch controllers should be connected to the video system.
Example: xConfiguration Peripherals Profile TouchPanels: NotSet

Phonebook configuration

xConfiguration Phonebook Server [1..1] ID
Enter a name for the external phone book.
Requires user role: ADMIN
Value space: <S: 0, 64>
Format: String with a maximum of 64 characters.
Example: xConfiguration Phonebook Server 1 ID: ""

xConfiguration Phonebook Server [1..1] Type
Select the phonebook server type.
Requires user role: ADMIN
Value space: <VCS/TMS/Callway/CUCM>
VCS: Select VCS if the phonebook is located on the Cisco TelePresence Video Communication Server.
TMS: Select TMS if the phonebook is located on the Cisco TelePresence Management Suite server.
Callway: Select Callway if the phonebook is to be provided by the WebEx TelePresence subscription service (formerly called CallWay). Contact your WebEx TelePresence provider for more information.
CUCM: Select CUCM if the phonebook is located on the Cisco Unified Communications Manager.
Example: xConfiguration Phonebook Server 1 Type: TMS

xConfiguration Phonebook Server [1..1] URL
Enter the address (URL) to the external phone book server.
Requires user role: ADMIN
Value space: <S: 0, 255>
Format: String with a maximum of 255 characters.
Provisioning configuration

xConfiguration Provisioning Connectivity
This setting controls how the device discovers whether it should request an internal or external
configuration from the provisioning server.

Requires user role: ADMIN

Value space: <Internal/External/Auto>
  Internal: Request internal configuration.
  External: Request external configuration.
  Auto: Automatically discover using NAPTR queries whether internal or external configurations
  should be requested. If the NAPTR responses have the "e" flag, external configurations will be
  requested. Otherwise internal configurations will be requested.

Example: xConfiguration Provisioning Connectivity: Auto

xConfiguration Provisioning Mode
It is possible to configure a video system using a provisioning system (external manager). This
allows video conferencing network administrators to manage many video systems simultaneously.
With this setting you choose which type of provisioning system to use. Provisioning can also be
switched off. Contact your provisioning system provider/representative for more information.

Requires user role: ADMIN

Value space: <Off/TMS/VCS/CallWay/CUCM/Auto/Edge>
  Off: The video system will not be configured by a provisioning system.
  Auto: The provisioning server will automatically be selected by the video system.
  TMS: The video system will be configured using TMS (Cisco TelePresence Management System).
  VCS: The video system will be configured using VCS (Cisco TelePresence Video Communication
  Server).
  Callway: The video system will be configured using the WebEx TelePresence subscription service
  (formerly named Callway).
  CUCM: The video system will be configured using CUCM (Cisco Unified Communications
  Manager).
  Edge: The system will connect to CUCM via the Collaboration Edge infrastructure.

Example: xConfiguration Provisioning Mode: Auto

xConfiguration Provisioning LoginName
This is the user name part of the credentials used to authenticate the video system with the
provisioning server. This setting must be used when required by the provisioning server. If
Provisioning Mode is Callway (WebEx TelePresence), enter the video number.

Requires user role: ADMIN

Value space: <S: 0, 80>
  Format: String with a maximum of 80 characters.

Example: xConfiguration Provisioning LoginName: ""

xConfiguration Provisioning Password
This is the password part of the credentials used to authenticate the video system with the
provisioning server. This setting must be used when required by the provisioning server. If
Provisioning Mode is Callway (WebEx TelePresence), enter the activation code.

Requires user role: ADMIN

Value space: <S: 0, 64>
  Format: String with a maximum of 64 characters.

Example: xConfiguration Provisioning Password: ""

xConfiguration Provisioning HttpMethod
Select the HTTP method to be used for the provisioning.

Requires user role: ADMIN

Value space: <GET/POST>
  GET: Select GET when the provisioning server supports GET.
  POST: Select POST when the provisioning server supports POST.

Example: xConfiguration Provisioning HttpMethod: POST
xConfiguration Provisioning ExternalManager Address
Enter the IP Address or DNS name of the external manager / provisioning system.
If an External Manager Address (and Path) is configured, the system will send a message to this address when starting up. When receiving this message the external manager / provisioning system can return configurations/commands to the unit as a result.
When using CUCM or TMS provisioning, the DHCP server can be set up to provide the external manager address automatically (DHCP Option 242 for TMS, and DHCP Option 150 for CUCM). An address set in the Provisioning ExternalManager Address setting will override the address provided by DHCP.

Requires user role: ADMIN
Value space: <S: 0, 64>
Format: A valid IPv4 address, IPv6 address or DNS name.
Example: xConfiguration Provisioning ExternalManager Address: ""

xConfiguration Provisioning ExternalManager AlternateAddress
Only applicable when the endpoint is provisioned by Cisco Unified Communication Manager (CUCM) and an alternate CUCM is available for redundancy. Enter the address of the alternate CUCM. If the main CUCM is not available, the endpoint will be provisioned by the alternate CUCM. When the main CUCM is available again, the endpoint will be provisioned by this CUCM.

Requires user role: ADMIN
Value space: <S: 0, 64>
Format: A valid IPv4 address, IPv6 address or DNS name.
Example: xConfiguration Provisioning ExternalManager AlternateAddress: ""

xConfiguration Provisioning ExternalManager Protocol
Determine whether to use secure management or not.

Requires user role: ADMIN
Value space: <HTTP/HTTPS>
HTTP: Set to HTTP to disable secure management. Requires HTTP to be enabled in the NetworkServices HTTP Mode setting.
HTTPS: Set to HTTPS to enable secure management. Requires HTTPS to be enabled in the NetworkServices HTTPS Mode setting.
Example: xConfiguration Provisioning ExternalManager Protocol: HTTP

xConfiguration Provisioning ExternalManager Path
Set the Path to the external manager / provisioning system. This setting is required when several management services reside on the same server, i.e. share the same External Manager address.

Requires user role: ADMIN
Value space: <S: 0, 255>
Format: String with a maximum of 255 characters.
Example: xConfiguration Provisioning ExternalManager Path: "tms/public/external/management/SystemManagementService.asmx"

xConfiguration Provisioning ExternalManager Domain
Enter the SIP domain for the VCS provisioning server.

Requires user role: ADMIN
Value space: <S: 0, 64>
Format: String with a maximum of 64 characters.
Example: xConfiguration Provisioning ExternalManager Domain: "any.domain.com"
RTP configuration

xConfiguration RTP Ports Range Start
Specify the first port in the range of RTP ports.
As default, the system is using the UDP ports in the range 2326 to 2487 for RTP and RTCP media data. Each media channel is using two adjacent ports for RTP and RTCP. The default number of ports required in the UDP port range is based on the number of simultaneous calls that the endpoint is capable of.
NOTE: Restart the system for any change to this setting to take effect.

Requires user role: ADMIN

Value space: <1024..65438>
Range: Select a value between 1024 and 65438.
Example: xConfiguration RTP Ports Range Start: 2326

xConfiguration RTP Ports Range Stop
Specify the last RTP port in the range.
As default, the system is using the UDP ports in the range 2326 to 2487 for RTP and RTCP media data. Each media channel is using two adjacent ports for RTP and RTCP. The default number of ports required in the UDP port range is based on the number of simultaneous calls that the endpoint is capable of.
NOTE: Restart the system for any change to this setting to take effect.

Requires user role: ADMIN

Value space: <1120..65535>
Range: Select a value between 1120 and 65535.
Example: xConfiguration RTP Ports Range Stop: 2486

Security configuration

xConfiguration Security Audit Logging Mode
Determine where to record or transmit the audit logs. The audit logs are sent to a syslog server.
When using the External/ExternalSecure modes and setting the port assignment to manual in the Security Audit Server PortAssignment setting, you must also enter the address and port number for the audit server in the Security Audit Server Address and Security Audit Server Port settings.

Requires user role: AUDIT

Value space: <Off/Internal/External/ExternalSecure>
Off: No audit logging is performed.
Internal: The system records the audit logs to internal logs, and rotates logs when they are full.
External: The system sends the audit logs to an external syslog server. The syslog server must support UDP.
ExternalSecure: The system sends encrypted audit logs to an external syslog server that is verified by a certificate in the Audit CA list. The Audit CA list file must be uploaded to the codec using the web interface. The common_name parameter of a certificate in the CA list must match the IP address of the syslog server, and the secure TCP server must be set up to listen for secure (TLS) TCP Syslog messages.

Example: xConfiguration Security Audit Logging Mode: Off

xConfiguration Security Audit OnError Action
Determine what happens when the connection to the syslog server is lost. This setting is only relevant when Security Audit Logging Mode is set to ExternalSecure.

Requires user role: AUDIT

Value space: <Halt/Ignore>
Halt: If a halt condition is detected the system codec is rebooted and only the auditor is allowed to operate the unit until the halt condition has passed. When the halt condition has passed the audit logs are re-spoiled to the syslog server. Halt conditions are: A network breach (no physical link), no syslog server running (or incorrect address or port to the syslog server), TLS authentication failed (if in use), local backup (re-spoiling) log full.
Ignore: The system will continue its normal operation, and rotate internal logs when full. When the connection is restored it will again send its audit logs to the syslog server.

Example: xConfiguration Security Audit OnError Action: Ignore
xConfiguration Security Audit Server Address
The audit logs are sent to a syslog server. Enter the IP address of the syslog server. Only valid IPv4 or IPv6 address formats are accepted. Host names are not supported. This setting is only relevant when Security Audit Logging Mode is set to External or ExternalSecure.

Requires user role: AUDIT
Value space: <S: 0, 64>
Format: A valid IPv4 address or IPv6 address
Example: xConfiguration Security Audit Server Address: ""

xConfiguration Security Audit Server Port
The audit logs are sent to a syslog server. Enter the port of the syslog server that the system shall send its audit logs to. This setting is only relevant when Security Audit PortAssignment is set to Manual.

Requires user role: AUDIT
Value space: <0..65535>
Range: Select a value between 0 to 65535.
Example: xConfiguration Security Audit Server Port: 514

xConfiguration Security Audit Server PortAssignment
The audit logs are sent to a syslog server. You can define how the port number of the external syslog server will be assigned. This setting is only relevant when Security Audit Logging Mode is set to External or ExternalSecure. To see which port number is used you can check the Security Audit Server Port status. Navigate to Configuration > System status on the web interface or; if on a command line Interface, run the command xStatus Security Audit Server Port.

Requires user role: AUDIT
Value space: <Auto/Manual>
Auto: Will use UDP port number 514 when the Security Audit Logging Mode is set to External. Will use TCP port number 6514 when the Security Audit Logging Mode is set to ExternalSecure.
Manual: Will use the port value defined in the Security Audit Server Port setting.
Example: xConfiguration Security Audit Server PortAssignment: Auto

xConfiguration Security Session ShowLastLogon
When logging in to the system using SSH or Telnet you will see the UserId, time and date of the last session that did a successful login.

Requires user role: ADMIN
Value space: <Off/On>
On: Show information about the last session.
Off: Do not show information about the last session.
Example: xConfiguration Security Session ShowLastLogon: Off

xConfiguration Security Session InactivityTimeout
Determine how long the system will accept inactivity from the user before he is automatically logged out.

Requires user role: ADMIN
Value space: <0..10000>
Range: Select a value between 1 and 10000 seconds; or select 0 when inactivity should not enforce automatic logout.
Example: xConfiguration Security Session InactivityTimeout: 0
SerialPort configuration

**xConfiguration SerialPort Mode**
Enable/disable the serial port (connection via USB and RS-232 adapter).

**Requires user role:** ADMIN

**Value space:** <Off/On>
- **Off:** Disable the serial port.
- **On:** Enable the serial port.

**Example:**
```plaintext
xConfiguration SerialPort Mode: On
```

**xConfiguration SerialPort BaudRate**
Specify the baud rate (data transmission rate, bits per second) for the serial port. The default value is 38400.

Other connection parameters for the serial port are: Data bits: 8; Parity: None; Stop bits: 1; Flow control: None.

**Requires user role:** ADMIN

**Value space:** <9600/19200/38400/57600/115200>
- **Range:** Select a baud rate from the baud rates listed (bps).

**Example:**
```plaintext
xConfiguration SerialPort BaudRate: 38400
```

**xConfiguration SerialPort LoginRequired**
Determine if login shall be required when connecting to the serial port.

**Requires user role:** ADMIN

**Value space:** <Off/On>
- **Off:** The user can access the codec via the serial port without any login.
- **On:** Login is required when connecting to the codec via the serial port.

**Example:**
```plaintext
xConfiguration SerialPort LoginRequired: On
```

SIP configuration

**xConfiguration SIP ANAT**
ANAT (Alternative Network Address Types) enables media negotiation for multiple addresses and address types, as specified in RFC 4091.

**Requires user role:** ADMIN

**Value space:** <Off/On>
- **Off:** Disable ANAT.
- **On:** Enable ANAT.

**Example:**
```plaintext
xConfiguration SIP ANAT: Off
```

**xConfiguration SIP AuthenticateTransferror**
Not applicable in this version.

**xConfiguration SIP ListenPort**
Turn on or off the listening for incoming connections on the SIP TCP/UDP ports. If turned off, the endpoint will only be reachable through the SIP registrar (CUCM or VCS). It is recommended to leave this setting at its default value.

**Requires user role:** ADMIN

**Value space:** <Off/On>
- **Off:** Listening for incoming connections on the SIP TCP/UDP ports is turned off.
- **On:** Listening for incoming connections on the SIP TCP/UDP ports is turned on.

**Example:**
```plaintext
xConfiguration SIP ListenPort: On
```

**xConfiguration SIP PreferredIPMedia**
Define the preferred IP version for sending and receiving media (audio, video, data). Only applicable when both Network IPStack and Conference CallProtocolIPStack are set to Dual, and the network does not have a mechanism for choosing the preferred IP version.

**Requires user role:** ADMIN

**Value space:** <IPv4/IPv6>
- **IPv4:** The preferred IP version for media is IPv4.
- **IPv6:** The preferred IP version for media is IPv6.

**Example:**
```plaintext
xConfiguration SIP PreferredIPMedia: IPv4
```
xConfiguration SIP PreferredIPSignaling

Define the preferred IP version for signaling (audio, video, data). Only applicable when both Network IPStack and Conference CallProtocolIPStack are set to Dual, and the network does not have a mechanism for choosing the preferred IP version. It also determines the priority of the A/AAAA lookups in DNS, so that the preferred IP version is used for registration.

Requires user role: ADMIN

Value space: <IPv4/IPv6>
- IPv4: The preferred IP version for signaling is IPv4.

Example: xConfiguration SIP PreferredIPSignaling: IPv4

xConfiguration SIP OCSP Mode

Not applicable in this version.

xConfiguration SIP OCSP DefaultResponder

Not applicable in this version.

xConfiguration SIP Profile [1..1] Ice Mode

ICE (Interactive Connectivity Establishment, RFC 5245) is a NAT traversal solution that the endpoints can use to discover the optimized media path. Thus the shortest route for audio and video is always secured between the endpoints. NOTE: ICE is not supported when registered to CUCM (Cisco Unified Communication Manager).

Requires user role: ADMIN

Value space: <Auto/Off/On>
- Auto: When set to Auto, ICE will be enabled if a turn server is provided, otherwise ICE will be disabled.
- Off: Set to Off to disable ICE.
- On: Set to On to enable ICE.

Example: xConfiguration SIP Profile 1 Ice Mode: Auto

xConfiguration SIP Profile [1..1] Ice DefaultCandidate

This is the default IP address that the endpoint will receive media on until ICE has reached a conclusion about which media route to use (up to the first 5 seconds of a call).

Requires user role: ADMIN

Value space: <Host/Rflx/Relay>
- Host: The endpoint will receive media on its own IP address.
- Rflx: The endpoint will receive media on its public IP address as seen by the TURN server.
- Relay: The endpoint will receive media on the IP address and port allocated on the TURN server, and is used as a fallback until ICE has concluded.

Example: xConfiguration SIP Profile 1 Ice DefaultCandidate: Host

xConfiguration SIP Profile [1..1] Turn DiscoverMode

Set the discover mode to enable/disable the application to search for available Turn servers in DNS. Before making calls, the system will test if port allocation is possible.

Requires user role: ADMIN

Value space: <Off/On>
- Off: Set to Off to disable discovery mode.
- On: When set to On, the system will search for available Turn servers in DNS, and before making calls the system will test if port allocation is possible.

Example: xConfiguration SIP Profile Turn DiscoverMode: On

xConfiguration SIP Profile [1..1] Turn BandwidthProbe

Not applicable in this version.

xConfiguration SIP Profile [1..1] Turn DropRflx

DropRflx will make the endpoint force media through the Turn relay, unless the remote endpoint is on the same network.

Requires user role: ADMIN

Value space: <Off/On>
- Off: Disable DropRflx.
- On: The system will force media through the Turn relay when the remote endpoint is on another network.

Example: xConfiguration SIP Profile Turn DropRflx: Off
xConfiguration SIP Profile [1..1] Turn Server
This is the address of the TURN (Traversal Using Relay NAT) server that the endpoints will use. It is used as a media relay fallback and it is also used to discover the endpoint’s own public IP address.

Requires user role: ADMIN
Value space: <S: 0, 255>
Format: The preferred format is DNS SRV record (e.g. _turn._udp.<domain>), or it can be a valid IPv4 or IPv6 address.
Example: xConfiguration SIP Profile 1 Turn Server: "_turn._udp.example.com"

xConfiguration SIP Profile [1..1] Turn UserName
The user name needed for accessing the TURN server.

Requires user role: ADMIN
Value space: <S: 0, 128>
Format: String with a maximum of 128 characters.
Example: xConfiguration SIP Profile 1 Turn UserName: ""

xConfiguration SIP Profile [1..1] Turn Password
The password needed for accessing the TURN server.

Requires user role: ADMIN
Value space: <S: 0, 128>
Format: String with a maximum of 128 characters.
Example: xConfiguration SIP Profile 1 Turn Password: ""

xConfiguration SIP Profile [1..1] URI
The SIP URI (Uniform Resource Identifier) is the address that is used to identify the video system. The URI is registered and used by the SIP services to route inbound calls to the system. The SIP URI syntax is defined in RFC 3261.

Requires user role: ADMIN
Value space: <S: 0, 255>
Format: String with maximum 255 characters and compliant with the SIP URI syntax.
Example: xConfiguration SIP Profile 1 URI: "sip:firstname.lastname@company.com"

xConfiguration SIP Profile [1..1] DisplayName
When configured the incoming call will report the DisplayName instead of the SIP URI.

Requires user role: ADMIN
Value space: <S: 0, 255>
Format: String with a maximum of 255 characters.
Example: xConfiguration SIP Profile 1 DisplayName: ""

xConfiguration SIP Profile [1..1] Authentication [1..1] LoginName
This is the user name part of the credentials used to authenticate towards the SIP proxy.

Requires user role: ADMIN
Value space: <S: 0, 128>
Format: String with a maximum of 128 characters.
Example: xConfiguration SIP Profile 1 Authentication 1 LoginName: ""

xConfiguration SIP Profile [1..1] Authentication [1..1] Password
This is the password part of the credentials used to authenticate towards the SIP proxy.

Requires user role: ADMIN
Value space: <S: 0, 128>
Format: String with a maximum of 128 characters.
Example: xConfiguration SIP Profile 1 Authentication 1 Password: ""

xConfiguration SIP Profile [1..1] DefaultTransport
Select the transport protocol to be used over the LAN.

Requires user role: ADMIN
Value space: <TCP/UDP/Tls/Auto>
TCP: The system will always use TCP as the default transport method.
UDP: The system will always use UDP as the default transport method.
Tls: The system will always use TLS as the default transport method. For TLS connections a SIP CA-list can be uploaded to the video system. If no such CA-list is available on the system then anonymous Diffie Hellman will be used.
Auto: The system will try to connect using transport protocols in the following order: TLS, TCP, UDP.
Example: xConfiguration SIP Profile 1 DefaultTransport: Auto
xConfiguration SIP Profile [1..1] TlsVerify
For TLS connections a SIP CA-list can be uploaded to the video system. This can be done from the web interface.

Requires user role: ADMIN
Value space: <Off/On>
Off: Set to Off to allow TLS connections without verifying them. The TLS connections are allowed to be set up without verifying the x.509 certificate received from the server against the local CA-list. This should typically be selected if no SIP CA-list has been uploaded.
On: Set to On to verify TLS connections. Only TLS connections to servers, whose x.509 certificate is validated against the CA-list, will be allowed.
Example: xConfiguration SIP Profile 1 TlsVerify: Off

xConfiguration SIP Profile [1..1] Outbound
Turn on or off the client initiated connections mechanism for firewall traversal, connection reuse and redundancy. The current version supports RFC 5626.

Requires user role: ADMIN
Value space: <Off/On>
Off: Connect to the single proxy configured first in Proxy Address list.
On: Set up multiple outbound connections to servers in the Proxy Address list. A random proxy is selected from the list for each SIP outbound request.
Example: xConfiguration SIP Profile 1 Outbound: Off

xConfiguration SIP Profile [1..1] Proxy [1..4] Address
The Proxy Address is the manually configured address for the outbound proxy. The default port is 5060 for TCP and UDP but another one can be provided.
If SIP Profile Outbound is enabled, multiple proxies can be addressed.

Requires user role: ADMIN
Value space: <S: 0, 255>
Format: If SIP Profile Outbound is enabled, use a fully qualified domain name. If SIP Profile Outbound is disabled, you can also use a valid IPv4 address or IPv6 address.
Example: xConfiguration SIP Profile 1 Proxy 1 Address: ""
xConfiguration SIP Profile [1..1] Line
When registered to a Cisco Unified Communications Manager (CUCM) the endpoint may be part of a shared line. This means that several devices share the same directory number. The different devices sharing the same number receive status from the other appearances on the line as defined in RFC 4235.

Note that shared lines are set up by CUCM, not by the endpoint. Therefore do not change this setting manually; CUCM pushes this information to the endpoint when required.

Requires user role: ADMIN
Value space: <Private/Shared>
  Shared: The system is part of a shared line and is therefore sharing its directory number with other devices.
  Private: This system is not part of a shared line (default).

Example: xConfiguration SIP Profile 1 Line: Private

Standby configuration

xConfiguration Standby Control
Determine whether the system should go into standby mode or not.

Requires user role: ADMIN
Value space: <Off/On>
  Off: The system will not enter standby mode.
  On: Enter standby mode when the Standby Delay has timed out. Requires the Standby Delay to be set to an appropriate value.

Example: xConfiguration Standby Control: On

xConfiguration Standby Delay
Define how long (in minutes) the system shall be in idle mode before it goes into standby mode. Requires the Standby Control to be enabled.

Requires user role: ADMIN
Value space: <1..480>
  Range: Select a value between 1 and 480 minutes.

Example: xConfiguration Standby Delay: 10

xConfiguration Standby BootAction
Define the camera position after a restart of the codec.

Requires user role: ADMIN
Value space: <None/Preset1/Preset2/Preset3/Preset4/Preset5/Preset6/Preset7/Preset8/Preset9/Preset10/Preset11/Preset12/Preset13/Preset14/Preset15/RestoreCameraPosition/DefaultCameraPosition>
  None: No action.
  Preset1 to Preset15: After a reboot the camera position will be set to the position defined by the selected preset.
  RestoreCameraPosition: After a reboot the camera position will be set to the position it had before the last boot.
  DefaultCameraPosition: After a reboot the camera position will be set to the factory default position.

Example: xConfiguration Standby BootAction: DefaultCameraPosition
xConfiguration Standby StandbyAction
Define the camera position when going into standby mode.

Requires user role: ADMIN
Value space: <None/PrivacyPosition>
None: No action.
PrivacyPosition: Turns the camera to a sideways position for privacy.
Example: xConfiguration Standby StandbyAction: PrivacyPosition

xConfiguration Standby WakeupAction
Define the camera position when leaving standby mode.

Requires user role: ADMIN
Value space: <None/Preset1/Preset2/Preset3/Preset4/Preset5/Preset6/Preset7/Preset8/Preset9/Preset10/Preset11/Preset12/Preset13/Preset14/Preset15/RestoreCameraPosition/DefaultCameraPosition>
None: No action.
Preset1 to Preset15: When leaving standby the camera position will be set to the position defined by the selected preset.
RestoreCameraPosition: When leaving standby the camera position will be set to the position it had before entering standby.
DefaultCameraPosition: When leaving standby the camera position will be set to the factory default position.
Example: xConfiguration Standby WakeupAction: RestoreCameraPosition

SystemUnit configuration

xConfiguration SystemUnit Name
Define the system name. The system name will be sent as the hostname in a DHCP request and when the codec is acting as an SNMP Agent. Define the system name. The system name will be sent as the hostname in a DHCP request and when the codec is acting as an SNMP Agent.

Requires user role: ADMIN
Value space: <String with a maximum of 50 characters>
Format: String with a maximum of 50 characters.
Example: xConfiguration SystemUnit Name: "Meeting Room"

xConfiguration SystemUnit MenuLanguage
Select the language to be used in the menus on screen, or on the Touch controller. All languages are not supported on both user interfaces. The default language is English.

Requires user role: USER
Value space: <English/ChineseSimplified/ChineseTraditional/Catalan/Czech/Danish/Dutch/Finnish/French/German/Hungarian/Italian/Japanese/Korean/Norwegian/Polish/PortugueseBrazilian/Russian/Spanish/Swedish/Turkish/Arabic/Hebrew/>
Example: xConfiguration SystemUnit MenuLanguage: English

xConfiguration SystemUnit CallLogging Mode
Set the call logging mode for calls that are received or placed by the system. The call logs may then be viewed via the web interface or using the xCommand CallHistory Get command.

Requires user role: ADMIN
Value space: <Off/On>
Off: Disable logging.
On: Enable logging.
Example: xConfiguration SystemUnit CallLogging Mode: On
xConfiguration SystemUnit ContactInfo Type

Choose which type of contact information to show in the status field in the upper left corner of the main display and Touch controller. The information can also be read with the command xStatus SystemUnit ContactInfo.

Requires user role: ADMIN

Value space: <Auto/None/IPv4/IPv6/H323Id/E164Alias/H320Number/SipUri/SystemName/DisplayName>

Auto: Show the address which another system can dial to reach this system. The address depends on the default call protocol and system registration.
None: Do not show any contact information in the status field.
IPv4: Show the IPv4 address as contact information.
IPv6: Show the IPv6 address as contact information.
H323Id: Show the H.323 ID as contact information (see the H323 Profile [1..1] H323Alias ID setting).
E164Alias: Show the H.323 E164 Alias as contact information (see the H323 Profile [1..1] H323Alias E164 setting).
H320Number: Show the H.320 number as contact information (only applicable if connected to a Cisco TelePresence ISDN Link gateway).
SipUri: Show the SIP URI as contact information (see the SIP Profile [1..1] URI setting).
SystemName: Show the system name as contact information (see the SystemUnit Name setting).
DisplayName: Show the display name as contact information (see the SIP Profile [1..1] DisplayName setting).

Example: xConfiguration SystemUnit ContactInfo Type: Auto

xConfiguration SystemUnit IrSensor

The codec has a short-range IR sensor underneath the power button. It may be used with the remote control, but it is not intended for regular operation. It should be used only when required for troubleshooting or system recovery. In regular operation, the IR sensor on the camera should be used with the remote control, refer to the Cameras Camera [1] setting.

Requires user role: ADMIN

Value space: <Auto/Off/On>

Auto: The IR sensor of the codec is disabled whenever the IR sensor of the camera is enabled. The IR sensor of the codec is enabled only if the IR sensor of the camera is disabled.
Off: Disable the IR sensor of the codec.
On: Enable the IR sensor of the codec.

Example: xConfiguration SystemUnit IrSensor: Auto

Time configuration

xConfiguration Time TimeFormat

Set the time format.

Requires user role: USER

Value space: <24H/12H>

24H: Set the time format to 24 hours.
12H: Set the time format to 12 hours (AM/PM).

Example: xConfiguration Time TimeFormat: 24H

xConfiguration Time DateFormat

Set the date format.

Requires user role: USER

Value space: <DD_MM_YY/MM_DD_YY/YY_MM_DD>

DD_MM_YY: The date January 30th 2010 will be displayed: 30.01.10
MM_DD_YY: The date January 30th 2010 will be displayed: 01.30.10
YY_MM_DD: The date January 30th 2010 will be displayed: 10.01.30

Example: xConfiguration Time DateFormat: DD_MM_YY

xConfiguration Time Zone

This has been replaced with the Time OlsonZone setting as of software version TC7.2.
Set the time zone for the geographical location of the video system. The information in the value space is from the tz database, also called the IANA Time Zone Database.
UserInterface configuration

**xConfiguration UserInterface TouchPanel DefaultPanel**

Define what (contact list, meeting list, or dial pad) the Touch controller will display on wake up.

**Requires user role:** USER

**Value space:** <None/LastUsed/ContactList/MeetingList/Dialpad>

- **Range:** Select a time zone from the list.

**Example:** `xConfiguration Time OlsonZone: Etc/UTC`

**xConfiguration UserInterface UserPreferences**

Some user preferences (ringtone, volume, language, date and time, etc) can be made available from the Settings menu, or from the Settings > Administrator menu on the Touch controller. Accessing the Administrator menus requires that the user has admin privileges.

**Requires user role:** ADMIN

**Value space:** <Off/On>

- **Off:** The user preferences are available from the Settings > Administrator menu on the Touch controller.
- **On:** The user preferences are available from the Settings menu on the Touch controller.

**Example:** `xConfiguration UserInterface UserPreferences: On`
Video configuration

xConfiguration Video AllowWebSnapshots
Note: This setting is only available in TC7.3.0 to TC7.3.2.
Allow or disallow snapshots being taken of the local input sources, remote sites and presentation channel. If snapshots are allowed, the snapshots may be captured both when idle and in a call.
When snapshots are taken from a remote device, e.g. the web interface, a notification appears on the video system’s screens to alert the users that remote monitoring is in operation.

Requires user role: ADMIN

Value space: &lt;Off/On/LocalDeviceOnly&gt;
- Off: It is not possible to capture snapshots.
- On: Snapshots can be captured and displayed anywhere, e.g. on the web interface.
- LocalDeviceOnly: Snapshots can only be captured and displayed on devices running the experimental Cisco Proximity feature. The devices must be in the same room as the video system. It will not be possible to take and see snapshots on the web interface or by using 3rd party integrations.

Example: xConfiguration Video AllowWebSnapshots: LocalDeviceOnly

xConfiguration Video CamCtrlPip CallSetup Mode
This setting is used to switch on self-view for a short while when setting up a call. The Video CamCtrlPip CallSetup Duration setting determines for how long it remains on. This applies when self-view in general is switched off.

Requires user role: ADMIN

Value space: &lt;Off/On&gt;
- Off: self-view is not shown automatically during call setup.
- On: self-view is shown automatically during call setup.

Example: xConfiguration Video CamCtrlPip CallSetup Mode: On

xConfiguration Video Input DVI [2] RGBQuantizationRange
All devices with DVI inputs should follow the rules for RGB video quantization range defined in CEA-861. Unfortunately some devices do not follow the standard and this configuration may be used to override the settings to get a perfect image with any source. The default value is set to Full because most DVI sources expects full quantization range.

Requires user role: ADMIN

Value space: &lt;Auto/Full/Limited&gt;
- Auto: RGB quantization range is automatically selected based on video format according to CEA-861-E. CE video formats will use limited quantization range levels. IT video formats will use full quantization range levels.
- Full: Full quantization range. The R, G, B quantization range includes all code values (0 - 255). This is defined in CEA-861-E.
- Limited: Limited Quantization Range. R, G, B quantization range that excludes some code values at the extremes (16 - 235). This is defined in CEA-861-E.

Example: xConfiguration Video Input 1 DVI 2 RGBQuantizationRange: Full
xConfiguration Video Input DVI [2] Type

The official DVI standard supports both digital and analog signals. In most cases the default AutoDetect setting can detect whether the signal is analog RGB or digital. However, in some rare cases when DVI-I cables are used (these cables can carry both the analog and digital signals) the auto detection fails. This setting makes it possible to override the AutoDetect and select the correct DVI video input.

Requires user role: ADMIN

Value space: <AutoDetect/Digital/AnalogRGB/AnalogYPbPr>

- **AutoDetect:** Set to AutoDetect to automatically detect if the signal is analog RGB or digital.
- **Digital:** Set to Digital to force the DVI video input to Digital when using DVI-I cables with both analog and digital pins and AutoDetect fails.
- **AnalogRGB:** Set to AnalogRGB to force the DVI video input to AnalogRGB when using DVI-I cables with both analog and digital pins and AutoDetect fails.
- **AnalogYPbPr:** Set to AnalogYPbPr to force the DVI video input to AnalogYPbPr, as the component (YPbPr) signal cannot be auto detected.

Example: `xConfiguration Video Input DVI 2 Type: AutoDetect`

xConfiguration Video Input HDMI [1] RGBQuantizationRange

All devices with HDMI inputs should follow the rules for RGB video quantization range defined in CEA-861. Unfortunately some devices do not follow the standard and this configuration may be used to override the settings to get a perfect image with any source.

Requires user role: ADMIN

Value space: <Auto/Full/Limited>

- **Auto:** RGB quantization range is automatically selected based on the RGB Quantization Range bits (Q0, Q1) in the AVI infoframe. If no AVI infoframe is available, RGB quantization range is selected based on video format according to CEA-861-E.
- **Full:** Full quantization range. The R, G, B quantization range includes all code values (0 - 255). This is defined in CEA-861-E.
- **Limited:** Limited Quantization Range. R, G, B quantization range that excludes some code values at the extremes (16 - 235). This is defined in CEA-861-E.

Example: `xConfiguration Video Input 1 HDMI 1 RGBQuantizationRange: Auto`

xConfiguration Video Input Source [1..2] Name

Enter a name for the video input source.

Requires user role: ADMIN

Value space: <S: 0..50>

- **Format:** String with a maximum of 50 characters.

Example: `xConfiguration Video Input Source 1 Name: ""`

xConfiguration Video Input Source [1..2] Type

Set which type of input source is connected to the video input.

Requires user role: ADMIN

Value space: <other/camera/PC/DVD/document_camera/whiteboard>

- **other:** Use this when none of the below options match.
- **camera:** Use this when a camera is connected to the video input.
- **PC:** Use this when a computer is connected to the video input.
- **DVD:** Use this when a DVD player is connected to the video input.
- **document_camera:** Use this when a document camera is connected to the video input.
- **whiteboard:** Use this when a whiteboard camera is connected to the video input.

Example: `xConfiguration Video Input Source 1 Type: camera`
xConfiguration Video Input Source [1..2] PresentationSelection

Define how the video system will behave when a presentation source is connected to the video input. In general, any input source can be used as a presentation source; normally, the main camera (self-view) will not be used as a presentation source.

If the video system is in standby mode, it will wake up when you connect a presentation source. Note that sharing the presentation with the far end always requires additional action (tap Start Presenting on the Touch controller, or press the Presentation key on the remote control).

Requirements user role: ADMIN

Value space: <Manual/Automatic/OnConnect/Hidden>

- **Manual**: In manual mode (default value), the contents of the input source will not be presented on the screen until you select it. Use either the remote control or the Touch controller to choose which input source to present.
- **Automatic**: In automatic mode, the content on the input source will be presented on screen automatically. If more than one source is set to Automatic, the last connected source will be used. If any content was active (presented) when the call was disconnected, the content will still be displayed locally.
- **OnConnect**: When in on-connect mode, the content on the input source will be presented on screen when a cable is connected. Otherwise, the behavior is like when in manual mode.
- **Hidden**: In hidden mode, the contents of the input source do not appear in the graphical user interface.

Example: xConfiguration Video Input Source 1 PresentationSelection: Manual

xConfiguration Video Input Source [1..2] Visibility

Define the visibility of the video input source in the menus on the user interface.

Requirements user role: ADMIN

Value space: <Never/Always/IfSignal>

- **Never**: Set to Never when the input source is not expected to be used as a presentation source.
- **Always**: When set to Always, the menu selection for the video input source will always be visible on the graphical user interface.
- **IfSignal**: When set to IfSignal, the menu selection for the video input source will only be visible when a presentation source is connected to the video input.

Example: xConfiguration Video Input Source 1 Visibility: IfSignal

xConfiguration Video Input Source [1..2] CameraControl Mode

Select whether or not to enable camera control for the selected video input source when the video input is active.

Requirements user role: ADMIN

Value space: <Off/On>

- **Off**: Disable camera control.
- **On**: Enable camera control.

Example: xConfiguration Video Input Source 1 CameraControl Mode: On

xConfiguration Video Input Source [1..2] CameraControl CameraId

Indicates the ID of the camera. This value is fixed in this product.

Value space: <1>

Range: Indicates the ID of the camera.
xConfiguration Video Input Source [1..2] OptimalDefinition Profile

The Video Input Source Quality setting must be set to Motion for the optimal definition settings to take any effect.

The optimal definition profile should reflect the lighting conditions in your room and the quality of the video input (camera); the better the lighting conditions and video input, the higher the profile. Then, in good lighting conditions, the video encoder will provide better quality (higher resolution or frame rate) for a given call rate.

Generally, we recommend using the Normal or Medium profiles. However, when the lighting conditions are good, the High profile can be set in order to increase the resolution for a given call rate.

Some typical resolutions used for different optimal definition profiles, call rates and transmit frame rates are shown in the table below. It is assumed that dual video is not used. The resolution must be supported by both the calling and called systems.

Use the Video Input Source OptimalDefinition Threshold60fps setting to decide when to use the 60 fps frame rate.

Table: Typical resolutions used for different optimal definition profiles, call rates and frame rates

<table>
<thead>
<tr>
<th>Frame rate</th>
<th>Optimal Definition Profile</th>
<th>Call rate</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>256 kbps</td>
<td>768 kbps</td>
</tr>
<tr>
<td>30 fps</td>
<td>Normal</td>
<td></td>
</tr>
<tr>
<td></td>
<td>512 x 384</td>
<td>1024 x 576</td>
</tr>
<tr>
<td></td>
<td>640 x 480</td>
<td>1024 x 576</td>
</tr>
<tr>
<td></td>
<td>768 x 448</td>
<td>1280 x 720</td>
</tr>
<tr>
<td>60 fps</td>
<td>Normal</td>
<td></td>
</tr>
<tr>
<td></td>
<td>512 x 288</td>
<td>1024 x 576</td>
</tr>
<tr>
<td></td>
<td>512 x 288</td>
<td>1024 x 576</td>
</tr>
<tr>
<td></td>
<td>1024 x 576</td>
<td>2048 x 1080</td>
</tr>
<tr>
<td></td>
<td>1024 x 576</td>
<td>2048 x 1080</td>
</tr>
</tbody>
</table>

Requires user role: ADMIN

Value space: <Normal/Medium/High>

Normal: Use this profile for a normally to poorly lit environment. Resolutions will be set rather conservative.

Medium: Requires good and stable lighting conditions and a good quality video input. For some call rates this leads to higher resolution.

High: Requires nearly optimal video conferencing lighting conditions and a good quality video input in order to achieve a good overall experience. Rather high resolutions will be used.

Example: xConfiguration Video Input Source 1 OptimalDefinition Profile: Medium

Example: xConfiguration Video Input Source 1 OptimalDefinition Threshold60fps

For each video input, this setting tells the system the lowest resolution where it should transmit 60 fps. So for all resolutions lower than this, the maximum transmitted frame rate would be 30fps, while above this resolution 60fps would also be possible, if the available bandwidth is adequate.

Requires user role: ADMIN

Value space: <512_288/768_448/1024_576/1280_720/1920_1080/Never>

512_288: Set the threshold to 512x288.
768_448: Set the threshold to 768x448.
1024_576: Set the threshold to 1024x576.
1280_720: Set the threshold to 1280x720.
1920_1080: Set the threshold to 1920x1080.
Never: Do not set a threshold for transmitting 60fps.

Example: xConfiguration Video Input Source 1 OptimalDefinition Threshold60fps: 1280_720

xConfiguration Video Input Source [1..2] Quality

When encoding and transmitting video there will be a trade-off between high resolution and high frame rate. For some video sources it is more important to transmit high frame rate than high resolution and vice versa. The Quality setting specifies whether to give priority to high frame rate or high resolution for a given source.

Requires user role: ADMIN

Value space: <Motion/Sharpness>

Motion: Gives the highest possible frame rate. Used when there is a need for higher frame rates, typically when a large number of participants are present or when there is a lot of motion in the picture.

Sharpness: Gives the highest possible resolution. Used when you want the highest quality of detailed images and graphics.

Example: xConfiguration Video Input Source 1 Quality: Motion

Example: xConfiguration Video MainVideoSource

Define which video input source shall be used as the main video source. The video input source is configured with the “Video Input Source [1..n] Connector” setting.

Requires user role: USER

Value space: <1/2>

Range: Select the source to be used as the main video source.

Example: xConfiguration Video MainVideoSource: 1
xConfiguration Video Layout DisableDisconnectedLocalOutputs
This setting is fixed to On.

- Requires user role: ADMIN

Value space: <On>
- On: The built-in layout engine does only set layout on local outputs having a monitor connected.

Example: xConfiguration Video Layout DisableDisconnectedLocalOutputs: On

xConfiguration Video Layout LocalLayoutFamily
Select which video layout family to use locally.

- Requires user role: ADMIN

Value space: <Auto/FullScreen/Equal/PresentationSmallSpeaker/PresentationLargeSpeaker/Prominent/Overlay/Single>
- Auto: The default layout family, as given in the layout database provided by the system, will be used as the local layout. It means that the active speaker or presentation will be shown in full screen. Using this value is not recommended as from TC6.0.
- Equal: The Equal layout family will be used as the local layout. All videos have equal size, as long as there is space enough on the screen.
- PresentationSmallSpeaker: The PresentationSmallSpeaker layout family will be used as the local layout. This value is not recommended as from TC6.0.
- PresentationLargeSpeaker: The PresentationLargeSpeaker layout family will be used as the local layout. This value is not recommended as from TC6.0.
- Prominent: The Prominent layout family will be used as the local layout. The active speaker, or the presentation if present, will be a large picture, while the other participants will be small pictures. Transitions between active speakers are voice switched.
- Overlay: The Overlay layout family will be used as the local layout. The active speaker, or the presentation if present, will be shown in full screen, while the other participants will be small pictures-in-picture (PiP). Transitions between active speakers are voice switched.
- Single: The active speaker, or the presentation if present, will be shown in full screen. The other participants are not shown. Transitions between active speakers are voice switched.

Example: xConfiguration Video Layout LocalLayoutFamily: Auto

xConfiguration Video Layout PresentationDefault View
Determine how the presentation will show on screen when you start sharing a presentation.

- Requires user role: ADMIN

Value space: <Default/Minimized/Maximized>
- Default: The presentation is a part of the layout.
- Minimized: The presentation starts up in PiP mode.
- Maximized: The presentation starts up in full screen mode.

Example: xConfiguration Video Layout PresentationDefault View: Default

xConfiguration Video Layout RemoteLayoutFamily
Select which video layout family to be used for the remote participants.

- Requires user role: ADMIN

Value space: <Auto/FullScreen/Equal/PresentationSmallSpeaker/PresentationLargeSpeaker/Prominent/Overlay/Single>
- Auto: The default layout family, as given by the local layout database, will be used as the remote layout.
- FullScreen: The FullScreen layout family will be used as the remote layout. It means that the active speaker or presentation will be shown in full screen. It is recommended not to use this value as from TC6.0.
- Equal: The Equal layout family will be used as the remote layout. All videos have equal size, as long as there is space enough on the screen.
- PresentationSmallSpeaker: The PresentationSmallSpeaker layout family will be used as the remote layout. Using this value is not recommended as from TC6.0.
- PresentationLargeSpeaker: The PresentationLargeSpeaker layout family will be used as the remote layout. Using this value is not recommended as from TC6.0.
- Prominent: The Prominent layout family will be used as the remote layout. The active speaker, or the presentation if present, will be a large picture, while the other participants will be small pictures. Transitions between active speakers are voice switched.
- Overlay: The Overlay layout family will be used as the remote layout. The active speaker, or the presentation if present, will be shown in full screen, while the other participants will be small pictures-in-picture (PiP). Transitions between active speakers are voice switched.
- Single: The active speaker, or the presentation if present, will be shown in full screen. The other participants are not shown. Transitions between active speakers are voice switched.

Example: xConfiguration Video Layout RemoteLayoutFamily: Auto
xConfiguration Video Layout Scaling
Define how the system shall adjust the aspect ratio for images or frames when there is a difference between the image and the frame it is to be placed in.

Requires user role: ADMIN

Value space: <Off/On>

**Off:** No adjustment of the aspect ratio.

**On:** Let the system automatically adjust aspect ratio.

Example: xConfiguration Video Layout Scaling: On

xConfiguration Video Layout ScaleToFit
Define what to do if the aspect ratio of a video input source doesn’t match the aspect ratio of the corresponding image frame in a composition. For example if you have a 4:3 input source (like XGA) to be displayed on a 16:9 output (like HD720).

Requires user role: ADMIN

Value space: <Manual/MaintainAspectRatio/StretchToFit>

**Manual:** If the difference in aspect ratio between the video input source and the target image frame is less than the Video Layout ScaleToFitThreshold setting (in percent), the image is stretched to fit. If not, the system will maintain the original aspect ratio.

**MaintainAspectRatio:** Maintain the aspect ratio of the input source, and fill in black in the rest of the frame (letter boxing or pillar boxing).

**StretchToFit:** Stretch (horizontally or vertically) the input source to fit into the image frame. NOTE: The general limitation is that you cannot upscale in one direction and at the same time downscale in the other direction. In such situations the codec will apply letterboxing.

Example: xConfiguration Video Layout ScaleToFit: MaintainAspectRatio

xConfiguration Video Layout ScaleToFitThreshold
Only applicable if the Video Layout ScaleToFit setting is set to manual. If the difference in aspect ratio between the video input source and the target image frame is less than the ScaleToFitThreshold setting (in percent), the image is stretched to fit. If not, the system will maintain the original aspect ratio.

Requires user role: ADMIN

Value space: <0..100>

Range: Select a value between 0 and 100 percent.

Example: xConfiguration Video Layout ScaleToFitThreshold: 5

xConfiguration Video PIP ActiveSpeaker DefaultValue Position
Determine the position on screen of the active speaker picture-in-picture (PiP). The setting only takes effect when using a video layout where the active speaker is a PiP, i.e. the Overlay layout, or possibly a Custom layout (see the Video Layout LocalLayoutFamily setting). The setting takes effect from the next call onwards; if changed during a call, it will have no effect on the current call.

Requires user role: ADMIN

Value space: <Current/UpperLeft/UpperCenter/UpperRight/CenterLeft/CenterRight/LowerLeft/LowerRight>

**Current:** The position of the active speaker PiP will be kept unchanged when leaving a call.

**UpperLeft:** The active speaker PiP will appear in the upper left corner of the screen.

**UpperCenter:** The active speaker PiP will appear in the upper center position.

**UpperRight:** The active speaker PiP will appear in the upper right corner of the screen.

**CenterLeft:** The active speaker PiP will appear in the center left position.

**CentreRight:** The active speaker PiP will appear in the center right position.

**LowerLeft:** The active speaker PiP will appear in the lower left corner of the screen.

**LowerRight:** The active speaker PiP will appear in the lower right corner of the screen.

Example: xConfiguration Video PIP ActiveSpeaker DefaultValue Position: Current

xConfiguration Video PIP Presentation DefaultValue Position
Determine the position on screen of the presentation picture-in-picture (PiP). The setting only takes effect when the presentation is explicitly minimized to a PiP, for example using the remote control or the Touch controller. The setting takes effect from the next call onwards; if changed during a call, it will have no effect on the current call.

Requires user role: ADMIN

Value space: <Current/UpperLeft/UpperCenter/UpperRight/CenterLeft/CenterRight/LowerLeft/LowerRight>

**Current:** The position of the presentation PiP will be kept unchanged when leaving a call.

**UpperLeft:** The presentation PiP will appear in the upper left corner of the screen.

**UpperCenter:** The presentation PiP will appear in the upper center position.

**UpperRight:** The presentation PiP will appear in the upper right corner of the screen.

**CenterLeft:** The presentation PiP will appear in the center left position.

**CentreRight:** The presentation PiP will appear in the center right position.

**LowerLeft:** The presentation PiP will appear in the lower left corner of the screen.

**LowerRight:** The presentation PiP will appear in the lower right corner of the screen.

Example: xConfiguration Video PIP Presentation DefaultValue Position: Current
xConfiguration Video Selfview
Determine if the main video source (self-view) shall be displayed on screen.
This setting is obsoleted by the Video SelfviewDefault Mode setting.

Requires user role: USER
Value space: <Off/On>
Off: Do not display self-view on screen.
On: Display self-view on screen.
Example: xConfiguration Video Selfview: On

xConfiguration Video SelfviewPosition
Select where the small self-view PiP (Picture-in-Picture) will appear on screen.
This setting is obsoleted by the Video SelfviewDefault PIPPosition setting.

Requires user role: ADMIN
Value space: <UpperLeft/UpperCenter/UpperRight/CenterLeft/CenterRight/LowerLeft/LowerRight>
UpperLeft: The self-view PiP will appear in the upper left corner of the screen.
UpperCenter: The self-view PiP will appear in the upper center of the screen.
UpperRight: The self-view PiP will appear in the upper right corner of the screen.
CenterLeft: The self-view PiP will appear on the left side of the screen, in center.
CenterRight: The self-view PiP will appear on the right side of the screen, in center.
LowerLeft: The self-view PiP will appear in the lower left corner of the screen.
LowerRight: The self-view PiP will appear in the lower right corner of the screen.
Example: xConfiguration Video SelfviewPosition: CenterRight

xConfiguration Video SelfviewDefault Mode
Determine if the main video source (self-view) shall be displayed on screen after a call. The position and size of the self-view window is determined by the Video SelfviewDefault PIPPosition and the Video SelfviewDefault FullscreenMode settings respectively.

Requires user role: ADMIN
Value space: <Off/Current/On>
Off: self-view is switched off when leaving a call.
Current: self-view is left as is, i.e. if it was on during the call, it remains on after the call; if it was off during the call, it remains off after the call.
On: self-view is switched on when leaving a call.
Example: xConfiguration Video SelfviewDefault Mode: Current

xConfiguration Video SelfviewDefault FullscreenMode
Determine if the main video source (self-view) shall be shown in full screen or as a small picture-in-picture (PiP) after a call. The setting only takes effect when self-view is switched on (see the Video SelfviewDefault Mode setting).

Requires user role: ADMIN
Value space: <Off/Current/On>
Off: self-view will be shown as a PiP.
Current: The size of the self-view picture will be kept unchanged when leaving a call, i.e. if it was a PiP during the call, it remains a PiP after the call; if it was fullscreen during the call, it remains fullscreen after the call.
On: The self-view picture will be shown in fullscreen.
Example: xConfiguration Video SelfviewDefault FullscreenMode: Current

xConfiguration Video SelfviewDefault PIPPosition
Determine the position on screen of the small self-view picture-in-picture (PiP) after a call. The setting only takes effect when self-view is switched on (see the Video SelfviewDefault Mode setting) and fullscreen view is switched off (see the Video SelfviewDefault FullscreenMode setting).

Requires user role: ADMIN
Value space: <Current/UpperLeft/UpperCenter/UpperRight/CenterLeft/CenterRight/LowerLeft/LowerRight>
Current: The position of the self-view PiP will be kept unchanged when leaving a call.
UpperLeft: The self-view PiP will appear in the upper left corner of the screen.
UpperCenter: The self-view PiP will appear in the upper center of the screen.
UpperRight: The self-view PiP will appear in the upper right corner of the screen.
CenterLeft: The self-view PiP will appear in the center left position.
CenterRight: The self-view PiP will appear in the center right position.
LowerLeft: The self-view PiP will appear in the lower left corner of the screen.
LowerRight: The self-view PiP will appear in the lower right corner of the screen.
Example: xConfiguration Video SelfviewDefault PIPPosition: Current
xConfiguration Video SelfviewDefault OnMonitorRole
Determine which monitor/output to display the main video source (self-view) on after a call. The value reflects the monitor roles set for the different outputs in the Video Output HDMI MonitorRole settings.

The setting applies both when self-view is displayed in full screen, and when it is displayed as picture-in-picture (PiP), but only if the Video Monitors setting is set to Dual.

Requires user role: ADMIN
Value space: <First/Second/Current>
- First: The self-view picture will be shown on outputs with the Video Output HDMI MonitorRole set to First.
- Second: The self-view picture will be shown on outputs with the Video Output HDMI MonitorRole set to Second.
- Current: When leaving a call, the self-view picture will be kept on the same output as it was during the call.

Example: xConfiguration Video SelfviewDefault OnMonitorRole: Current

xConfiguration Video Monitors
A role is assigned to each monitor using the Video Output HDMI [n] MonitorRole setting. The monitor role decides which layout (call participants and presentation) will appear on the monitor that is connected to this output. Monitors with different monitor roles will have different layouts. Both monitors cannot have monitor role First.

The monitor layout mode that is set in the Video Monitors setting should reflect the number of different layouts you want in your room setup. Note that some monitors can be reserved for presentations.

Requires user role: ADMIN
Value space: <Auto/Single/Dual/DualPresentationOnly>
- Auto: The number of monitors connected to the codec is automatically detected, and the layout is distributed on the monitors according to the MonitorRole settings.
- Single: The layout is shown on one monitor. If two monitors are connected to the codec, one of them will be disabled.
- Dual: The layout is distributed on monitors with monitor role First and Second. If a presentation is part of the layout, all participants in the call are shown on the monitor with monitor role First, and the presentation is shown on the monitor with monitor role Second.
- DualPresentationOnly: All participants in the call are shown on the monitor with monitor role First. If a presentation is part of the layout, the presentation is shown on the monitor with monitor role Second.

Example: xConfiguration Video Monitors: Auto

xConfiguration Video OSD Mode
The OSD (On Screen Display) is where you find the menus, dialogs, icons and indicators, and the navigation is done with a remote control. Define which icons and information to be displayed on screen.

Requires user role: ADMIN
Value space: <Off/On>
- Off: Hide the on-screen menus, icons and indicators.
- On: Display the on-screen menus, icons and indicators.

Example: xConfiguration Video OSD Mode: On

xConfiguration Video OSD WallpaperSelection
In cases where you want to prevent users from easily changing the wallpaper setting from the Settings menu, the wallpaper setting can be made available from within the Administrator Settings menu. The administrator settings can be password protected. The OSD (On Screen Display) is where you find the menus, dialogs, icons and indicators, and the navigation is done with a remote control.

Requires user role: ADMIN
Value space: <Off/On>
- Off: The wallpaper setting will be available from within the Video settings in the Administrator Settings.
- On: The Wallpaper menu will be available from the Settings menu.

Example: xConfiguration Video OSD WallpaperSelection: On

xConfiguration Video OSD LanguageSelection
In cases where you want to prevent users from easily changing the language settings from the Settings menu, the language settings can be made available from within the Administrator Settings menu. The administrator settings can be password protected. The OSD (On Screen Display) is where you find the menus, dialogs, icons and indicators, and the navigation is done with a remote control.

Requires user role: ADMIN
Value space: <Off/On>
- Off: The language settings will be available from within the SystemUnit settings in the Administrator Settings.
- On: The Language menu will be available from the Settings menu.

Example: xConfiguration Video OSD LanguageSelection: On
xConfiguration Video OSD MenuStartupMode

Configure the state of the on-screen menus after a video system / codec boot.

Requires user role: ADMIN

Value space: <Closed/Home>

Closed: The on-screen menu will NOT expand automatically. This setting is recommended for 3rd party integrations that need full control of what is shown on the OSD.

Home: The on-screen menu will show the home menu expanded.

Example: xConfiguration Video OSD MenuStartupMode: Home

xConfiguration Video OSD VirtualKeyboard

Determine whether or not the virtual keyboard will automatically show on screen when text is to be entered in an input field. The OSD (On Screen Display) is where you find the menus, dialogs, icons and indicators, and the navigation is done with a remote control.

Requires user role: ADMIN

Value space: <UserSelectable/AlwaysOn>

UserSelectable: The user has to press a softbutton to open or close the virtual keyboard.

AlwaysOn: The virtual keyboard is automatically shown on screen as long as text can be entered in an input field.

Example: xConfiguration Video OSD VirtualKeyboard: UserSelectable

xConfiguration Video OSD EncryptionIndicator

Define for how long the encryption indicator (a padlock) will be shown on screen. The setting applies to both encrypted and non-encrypted calls, i.e. both to secure and non-secure conferences. The icon for encrypted calls is a locked padlock, and the icon for non-encrypted calls is a crossed out locked padlock.

Requires user role: ADMIN

Value space: <Auto/AlwaysOn/AlwaysOff>

Auto: If the Conference Encryption Mode setting is set to BestEffort and the call is encrypted, the encryption indicator is shown during the first seconds of a call. If the Conference Encryption Mode setting is set to BestEffort and the call is non-encrypted, the crossed out encryption indicator is shown during the entire call. If the Conference Encryption Mode setting is NOT set to BestEffort, the encryption indicator is not shown at all.

AlwaysOn: The encryption indicator is displayed on screen during the entire call. This applies to both encrypted and non-encrypted calls for all Conference Encryption Mode settings.

AlwaysOff: The encryption indicator is never displayed on screen. This applies to both encrypted and non-encrypted calls for all Conference Encryption Mode settings.

Example: xConfiguration Video OSD EncryptionIndicator: Auto

xConfiguration Video OSD MissedCallsNotification

Define if there should be a missed calls notification on screen. The setting only applies when the video system is operated by a remote control and the on-screen menu. When using the Touch controller the notification dialog box will appear on the Touch controller, and not on the OSD.

Requires user role: ADMIN

Value space: <Off/On>

Off: The OSD will NOT show any indication that there have been any missed calls. This setting is recommended for 3rd party integrations that need full control of what is shown on the OSD.

On: The OSD will show a notification of missed calls.

Example: xConfiguration Video OSD MissedCallsNotifications: On

xConfiguration Video OSD AutoSelectPresentationSource

Determine if the presentation source should be automatically selected.

Requires user role: ADMIN

Value space: <Off/On>

Off: Disable automatic selection of the presentation source.

On: Enable automatic selection of the presentation source.

Example: xConfiguration Video OSD AutoSelectPresentationSource: Off

xConfiguration Video OSD CallSettingsSelection

In cases where you want to prevent users from easily changing the call settings from the Settings menu, the call settings can be made available from within the Administrator Settings menu. The administrator settings can be password protected. The OSD (On Screen Display) is where you find the menus, dialogs, icons and indicators, and the navigation is done with a remote control.

Requires user role: ADMIN

Value space: <Off/On>

Off: The call settings will be available from within the Conference settings in the Administrator Settings.

On: The Call Settings menu will be available from the Settings menu.

Example: xConfiguration Video OSD CallSettingsSelection: Off
xConfiguration Video OSD TodaysBookings
This setting can be used to display the system's bookings for today on the main on-screen menu. This requires that the system is bookable by an external booking system, like for example the Cisco TelePresence Management Suite (TMS).

Requirements:
- User role: ADMIN
- Values: <Off/On>
  - Off: Do not display today's bookings.
  - On: Displays information about this system's bookings on screen.

Example: `xConfiguration Video OSD TodaysBookings: Off`

xConfiguration Video OSD MyContactsExpanded
Set how the local contacts will be displayed in the phone book dialog on screen. The OSD (On Screen Display) is where you find the menus, dialogs, icons, and indicators, and the navigation is done with a remote control.

Requirements:
- User role: ADMIN
- Values: <Off/On>
  - Off: The local contacts will be placed in a separate folder called MyContacts in the phonebook dialog.
  - On: The local contacts in the phone book will be shown in the top level of the phonebook dialog.

Example: `xConfiguration Video OSD MyContactsExpanded: Off`

xConfiguration Video OSD Output
Define on which monitor the on-screen menus, information, and icons should be displayed. The OSD (On Screen Display) is where you find the menus, dialogs, icons, and indicators, and the navigation is done with a remote control.

Requirements:
- User role: ADMIN

Value space: <Auto/1/2>
- Auto: The system will detect when a monitor is connected to the video output, and send the OSD to the first monitor you connect. If you have a multi-monitor setup, and all monitors are connected before switching on the system, the OSD will be sent to the video output with the lowest numbering, starting on Video OSD Output 1. If the OSD does not show on the desired monitor, disconnect all monitors and reconnect the monitors.
- 1: If you want the OSD to be sent to one specific output, select 1 for HDMI output, or select 2 for DVI-I output. Make sure you connect a monitor to the corresponding video output connector.

Example: `xConfiguration Video OSD Output: Auto`

xConfiguration Video OSD InputMethod InputLanguage
The codec can be enabled for Cyrillic input characters in the menus on screen. Requires that Video OSD InputMethod Cyrillic is set to On.

Requirements:
- User role: ADMIN

Value space: <Latin/Cyrillic>
- Latin: Latin characters can be entered when using the remote control (default).
- Cyrillic: Cyrillic characters can be entered using the remote control. Requires a Cisco TelePresence Remote Control with Cyrillic fonts.

Example: `xConfiguration Video OSD InputMethod InputLanguage: Latin`

xConfiguration Video OSD InputMethod Cyrillic
Set the Cyrillic mode for the menu input language in the menus on screen.

Requirements:
- User role: ADMIN

Value space: <Off/On>
- Off: Cyrillic mode is NOT available as a menu input language in the menus on screen.
- On: Cyrillic mode is available as a menu input language in the menus on screen. This will enable the setting Video OSD InputMethod InputLanguage.

Example: `xConfiguration Video OSD InputMethod Cyrillic: Off`

xConfiguration Video OSD LoginRequired
Determine if the system should require the user to login before accessing the menus on screen. If enabled, the user must enter his username and his PIN code. After the user has logged in he can only execute to the configurations changes and commands allowed by his role. The OSD (On Screen Display) is where you find the menus, dialogs, icons, and indicators, and the navigation is done with a remote control.

Requirements:
- User role: ADMIN

Value space: <Off/On>
- Off: No login to the menus on screen (OSD) is required.
- On: The user must log in to access the menus on screen (OSD).

Example: `xConfiguration Video OSD LoginRequired: Off`
HorizontalOffset and VerticalOffset settings are associated with each video output. These settings are used to signal the relative position of the displays that are connected to these outputs. HorizontalOffset = 0 and VerticalOffset = 0 indicates that the display is positioned in center, both horizontally and vertically. A negative horizontal offset indicates that the monitor is left of center, and a positive horizontal offset indicates that the monitor is right of center. A negative vertical offset indicates that the monitor is below center, and a positive vertical offset indicates that the monitor is above center. The magnitude of the offset indicates how far the display is from center (relative to other displays).

Example: You have two displays side by side, one in center and one to the left. Then the following settings will apply: HorizontalOffset = 0 for the center display, HorizontalOffset = -1 for the left display.
Example: You have two displays, one in center and one below. Then the following settings will apply: VerticalOffset = 0 for the center display, VerticalOffset = -1 for the lower display.

The default values for the different outputs are:
- Video Output HDMI [1] Location: HorizontalOffset = 0, VerticalOffset = 0
- Video Output HDMI [2] Location: HorizontalOffset = 1, VerticalOffset = 0

**Requires user role:** ADMIN

**Value space:** <-100..100>

**Range:** The value must be between -100 and 100.

**Example:** xConfiguration Video Output HDMI [1,2] Location HorizontalOffset: 0

HorizontalOffset and VerticalOffset settings are associated with each video output. These settings are used to signal the relative position of the displays that are connected to these outputs. HorizontalOffset = 0 and VerticalOffset = 0 indicates that the display is positioned in center, both horizontally and vertically. A negative horizontal offset indicates that the monitor is left of center, and a positive horizontal offset indicates that the monitor is right of center. A negative vertical offset indicates that the monitor is below center, and a positive vertical offset indicates that the monitor is above center. The magnitude of the offset indicates how far the display is from center (relative to other displays).

Example: You have two displays side by side, one in center and one to the left. Then the following settings will apply: HorizontalOffset = 0 for the center display, HorizontalOffset = -1 for the left display.
Example: You have two displays, one in center and one below. Then the following settings will apply: VerticalOffset = 0 for the center display, VerticalOffset = -1 for the lower display.

The default values for the different outputs are:
- Video Output HDMI [1] Location: HorizontalOffset = 0, VerticalOffset = 0
- Video Output HDMI [2] Location: HorizontalOffset = 1, VerticalOffset = 0

**Requires user role:** ADMIN

**Value space:** <-100..100>

**Range:** The value must be between -100 and 100.

**Example:** xConfiguration Video Output HDMI [1,2] Location VerticalOffset: 0

Devices connected to an HDMI output should follow the rules for RGB video quantization range defined in CEA-861. Unfortunately some devices do not follow the standard and this configuration may be used to override the settings to get a perfect image with any display. The default value is set to Full because most HDMI displays expects full quantization range.

**Requires user role:** ADMIN

**Value space:** <Auto/Full/Limited>

- **Auto:** RGB quantization range is automatically selected based on the RGB Quantization Range bits (Q0, Q1) in the AVI infoframe. If no AVI infoframe is available, RGB quantization range is selected based on video format according to CEA-861-E.
- **Full:** Full quantization range. The R, G, B quantization range includes all code values (0 - 255). This is defined in CEA-861-E.
- **Limited:** Limited Quantization Range. R, G, B quantization range that excludes some code values at the extremes (16 - 235). This is defined in CEA-861-E.

**Example:** xConfiguration Video Output HDMI [1] RGBQuantizationRange: Full
xConfiguration Video Output HDMI [1,2] CEC Mode

The HDMI outputs support Consumer Electronics Control (CEC). When this setting is On (default is Off), the system will use CEC to set the monitor in standby when the system itself enters standby. Likewise the system will wake up the monitor when the system itself wakes up from standby. For this to happen, the monitor that is connected to the output must be CEC compatible and CEC must be configured on the monitor.

Note that the different manufacturers use different marketing names for CEC, for example Anynet+ (Samsung); Aquos Link (Sharp); BRAVIA Sync (Sony); HDMI-CEC (Hitachi); Kuro Link (Pioneer); CE-Link and Regza Link (Toshiba); RIHD (Onkyo); HDAVI Control, EZ-Sync, VIERA Link (Panasonic); EasyLink (Philips); and NetCommand for HDMI (Mitsubishi).

Requires user role: ADMIN

Value space: <Off/On>

Off: Disable CEC control.

On: Enable CEC control.

Example: xConfiguration Video Output HDMI 1 CEC Mode: Off

xConfiguration Video Output HDMI [1,2] MonitorRole

The monitor role describes which video streams will be shown on the monitor connected to this video output connector. Together the Video Monitors setting and the MonitorRole settings for all outputs define which layout (video streams) will be shown on each monitor.

Requires user role: ADMIN

Value space: <Auto/First/Second/PresentationOnly>

Auto: The system will detect when a monitor is connected, and a monitor role (First, Second) that corresponds with the Video Monitors setting will be assigned automatically.

First/Second: Define the role of the monitor in a multi-monitor setup. Note that only one HDMI output can have monitor role First.

PresentationOnly: Show presentation video stream if active, and nothing else. Monitors/outputs with this monitor role are disregarded by the Video Monitors setting.

Example: xConfiguration Video Output HDMI 1 MonitorRole: First

xConfiguration Video Output HDMI [1,2] OverscanLevel

Some monitors may not present the entire image that they receive. This means that the outer parts of the image that is sent from the video system may be cut off when displayed on the monitor. Use this setting to instruct the video system not to use the outer part of the available frame. This part might be cut off by the monitor. Both the video and messages on screen will be scaled in this case.

Requires user role: ADMIN

Value space: <None/Medium/High>

None: The video system will use all of the output resolution.

Medium: The video system will not use the outer 3% of the output resolution.

High: The video system will not use the outer 6% of the output resolution.

Example: xConfiguration Video Output HDMI 1 OverscanLevel: None

xConfiguration Video Output HDMI [1,2] Resolution

Set the resolution and refresh rate for the monitor that is connected to the HDMI output.

Requires user role: ADMIN

Value space: <Auto/1024_768_60/1280_1024_60/1280_720_50/1280_720_60/1920_1080_50/1920_1080_60/1280_768_60/1360_768_60/1366_768_60>

Auto: The system will automatically try to set the optimal resolution based on negotiation with the connected monitor.

1024_768_60: The resolution is 1024 x 768, and the refresh rate is 60 Hz.

1280_1024_60: The resolution is 1280 x 1024, and the refresh rate is 60 Hz.

1280_720_50: The resolution is 1280 x 720, and the refresh rate is 50 Hz.

1280_720_60: The resolution is 1280 x 720, and the refresh rate is 60 Hz.

1920_1080_50: The resolution is 1920 x 1080, and the refresh rate is 50 Hz.

1920_1080_60: The resolution is 1920 x 1080, and the refresh rate is 60 Hz.

1280_768_60: The resolution is 1280 x 768, and the refresh rate is 60 Hz.

1360_768_60: The resolution is 1360 x 768, and the refresh rate is 60 Hz.

1366_768_60: The resolution is 1366 x 768, and the refresh rate is 60 Hz.

Example: xConfiguration Video Output HDMI 1 Resolution: Auto
xConfiguration Video Wallpaper

Select a background image (wallpaper) for the video screen when idle.

You may upload a custom wallpaper to the video system using the web interface. The following file formats are supported: BMP, GIF, JPEG, PNG. The maximum file size is 2 MByte.

Requires user role: USER

Value space: <None/Custom/Growing/Summersky/Waves/Blue>

None: There is no background image on the screen, i.e. the background is black.

Custom: Use the custom wallpaper as background image on the screen. If no custom wallpaper is uploaded to the system, the setting will revert to the default value.

Growing, Summersky, Waves, Blue: The chosen background image is shown on the screen.

Example: xConfiguration Video Wallpaper: Summersky

Experimental configuration

The Experimental settings are for testing only and should not be used unless agreed with Cisco. These settings are not documented and will change in later releases.
Chapter 4

xCommand commands
# Description of the xCommand commands

In this chapter, you can find a complete list of all xCommand type commands with parameters. We recommend you visit our web site regularly for updated versions of the manual. Go to: [http://www.cisco.com/go/sx-docs](http://www.cisco.com/go/sx-docs)

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Audio commands

xCommand Audio Microphones Mute
Mute all microphones.

Requires user role: USER

Example:
  xCommand Audio Microphones Mute

xCommand Audio Microphones Unmute
Unmute microphones.

Requires user role: USER

Example:
  xCommand Audio Microphones Unmute

xCommand Audio Sound Play
Play a specified audio sound.

Requires user role: USER

Parameters:
  Sound(r): <Bump/Busy/CallDisconnect/CallInitiate/CallWaiting/Dial/KeyInput/KeyTone/Nav/NavBack/Notification/OK/PresentationConnect/Ringing/SpecialInfo/TelephoneCall/VideoCall/Vol>
  Loop: <On/Off>

Example:
  xCommand Audio Sound Play Sound: Ringing

xCommand Audio Sound Stop
Stop playing audio sound.

Requires user role: USER

Example:
  xCommand Audio Sound Stop

xCommand Audio SoundsAndAlerts Ringtone List
Lists all available ringtones that can be configured using xConfiguration Audio SoundsAndAlerts RingTone.

Requires user role: USER

Example:
  xCommand Audio SoundsAndAlerts Ringtone List
  *r AudioRingtoneListResult Ringtone 1 Id: "Sunrise"
  *r AudioRingtoneListResult Ringtone 2 Id: "Mischief"
  *r AudioRingtoneListResult Ringtone 3 Id: "Ripples"
  *r AudioRingtoneListResult Ringtone 4 Id: "Reflections"
  *r AudioRingtoneListResult Ringtone 5 Id: "Vibes"
  *r AudioRingtoneListResult Ringtone 6 Id: "Delight"
  *r AudioRingtoneListResult Ringtone 7 Id: "Evolve"
  *r AudioRingtoneListResult Ringtone 8 Id: "Playful"
  *r AudioRingtoneListResult Ringtone 9 Id: "Ascent"
  *r AudioRingtoneListResult Ringtone 10 Id: "Calculation"
  *r AudioRingtoneListResult Ringtone 11 Id: "Mellow"
  *r AudioRingtoneListResult Ringtone 12 Id: "Ringer"

xCommand Audio SoundsAndAlerts Ringtone Play
Play one of the available ringtones. To get a list of the available ringtones use the command xCommand Audio SoundsAndAlerts Ringtone List.

Requires user role: USER

Parameters:
  RingTone(r): <S: 1, 100>

Example:
  xCommand Audio SoundsAndAlerts Ringtone Play RingTone: Sunrise

xCommand Audio Volume Decrease
Decrease the volume on the endpoint.

Requires user role: USER

Parameters:
  Steps: <1.10>

Example:
  xCommand Audio Volume Decrease Steps:3
xCommand Audio Volume Increase
Increase the volume on the endpoint.

Requires user role: USER

Parameters:
Steps: <1..10>

Example:
  xCommand Audio Volume Increase Steps:3

xCommand Audio Volume Mute
Mute the volume on the endpoint.

Requires user role: USER

Example:
  xCommand Audio Volume Mute

xCommand Audio Volume Set
Set the volume on the endpoint to a specified level.

Requires user role: USER

Parameters:
Level(r): <1..100>

Example:
  xCommand Audio Volume Set Level:30

xCommand Audio Volume SetToDefault
Set the current volume level as the default for the endpoint.

Requires user role: USER

Example:
  xCommand Audio Volume SetToDefault

xCommand Audio Volume UnMute
Unmute the volume on the endpoint.

Requires user role: USER

Example:
  xCommand Audio Volume UnMute

xCommand Audio VUMeter Start
Start collecting VU meter information for connector given by type and ID.

Requires user role: USER

Parameters:
ConnectorType(r): <HDMI/Line/Microphone>
ConnectorId(r): <1..4>

Example:
  xCommand Audio VUMeter Start ConnectorType: Microphone ConnectorId: 1

xCommand Audio VUMeter Stop
Stop collecting VU meter information for connector given by type and ID.

Requires user role: USER

Parameters:
ConnectorType(r): <HDMI/Line/Microphone>
ConnectorId(r): <1..4>

Example:
  xCommand Audio VUMeter Stop ConnectorType: Microphone ConnectorId: 1

xCommand Audio VUMeter StopAll
Stop collecting VU meter information for all connectors.

Requires user role: USER

Example:
  xCommand Audio VUMeter StopAll
Bookings commands

xCmd Bookings Clear
Clear the current stored list of bookings.

Requires user role: USER

Example:
xCmd Bookings Clear

xCmd Bookings List
List the stored bookings for the system. The list of booking details is received from the management system. All parameters are optional, and can be used to limit the search result.

If no parameters are used, past, present and future bookings are all listed. To avoid listing bookings from yesterday and before, use DayOffset = 0.

Days: Number of days to retrieve bookings from.

DayOffset: Which day to start the search from (today: 0, tomorrow: 1...).

Limit: Max number of bookings to list.

Offset: Offset number of bookings for this search.

Requires user role: USER

Parameters:
- Days: <1..365>
- DayOffset: <0..365>
- Limit: <1..65534>
- Offset: <0..65534>

Example:
Example 1 (One booking in list)
xCmd Bookings List
OK
Bookings ResultInfo TotalRows: 1
Bookings LastUpdated: "2011-09-02T11:19:01Z"
Bookings BookId: "273"
Bookings BookTitle: "Sales meeting"
Bookings Agenda: "Describe this command"
Bookings Privacy: Public
Bookings Organizer FirstName: "Ola"
Bookings Organizer LastName: "Normann"
Bookings Organizer Email: "ola.normann@domain.com"
Bookings StartTime: "2011-09-02T13:00:00Z"
Bookings StartTimeBuffer: 600
Bookings EndTime: "2011-09-02T13:30:00Z"
Bookings EndTimeBuffer: 0
Bookings MaximumMeetingExtension: 30
Bookings MeetingExtensionAvailability: Guaranteed
Bookings BookingStatus: OK
Bookings BookingStatusMessage: 
Bookings Webex Enabled: True
*r Bookings Booking 1 Webex Url: "http://webex.url"
*r Bookings Booking 1 Webex MeetingNumber: "webexNumber@cisco.com"
*r Bookings Booking 1 Webex Password: ""
*r Bookings Booking 1 Webex HostKey: ""
*r Bookings Booking 1 Webex DialInNumbers DialInNumber 1 Type: TollFree
*r Bookings Booking 1 Webex DialInNumbers DialInNumber 1 Number: "+1 987 654321"
*r Bookings Booking 1 Webex DialInNumbers DialInNumber 2 Type: Toll
*r Bookings Booking 1 Webex DialInNumbers DialInNumber 2 Number: "+1 987 654322"
*r Bookings Booking 1 InteropBridge Number: ""
*r Bookings Booking 1 InteropBridge ConferenceId: ""
*r Bookings Booking 1 ManualCallIn Number: ""
*r Bookings Booking 1 ManualCallIn ConferenceId: ""
*r Bookings Booking 1 Encryption: BestEffort
*r Bookings Booking 1 Role: Slave
*r Bookings Booking 1 Recording: Disabled
*r Bookings Booking 1 DialInfo Calls Call 1 Number: "91123456;conference-id=2100170569"
*r Bookings Booking 1 DialInfo Calls Call 1 Protocol: SIP
*r Bookings Booking 1 DialInfo Calls Call 1 CallRate: 3000
*r Bookings Booking 1 DialInfo Calls Call 1 CallType: Video
*r Bookings Booking 1 DialInfo ConnectMode: OBTP

Example 2 (When no bookings have been received, or after all bookings have been removed by the command xCommand Bookings Clear)

xCommand Bookings List
OK
*r Bookings Error: "No bookings found."
*r Bookings ResultInfo TotalRows: 0
*r Bookings LastUpdated: Never

---

**Boot commands**

**xCommand Boot**
Reboot system.

**Action:** As a default the system restarts after a reboot. By selecting Shutdown, the system will not restart.

**Requires user role:** USER

**Parameters:**
- Action: <Restart/Shutdown>

**Example:**
xCommand Boot
*r BootResult (status=OK):
** end
OK
CUIL reboot request, restarting
Connection closed by foreign host.
**Call commands**

**xCommand Call Accept**
Accept an incoming call. If no CallId is specified, all incoming calls are accepted. The CallID is returned when the xCommand Dial command is run. During the call you can run the xStatus Call command to see the CallId. CallType parameter is not in use.

Requires user role: USER

Parameters:
- CallId: <0..65534>
- CallType: <Audio/Video> Not in use.

Example:
```
xCommand Call Accept CallId:19
```

**xCommand Call Disconnect**
Disconnect a call. The CallID is returned when the xCommand Dial command is run. During the call you can run the xStatus Call command to see the CallId.

Requires user role: USER

Parameters:
- CallId(r): <0..65534>

Example:
```
xCommand Call Disconnect CallId:17
```

**xCommand Call DisconnectAll**
Disconnect all active calls.

Requires user role: USER

Example:
```
xCommand Call DisconnectAll
```

**xCommand Call ExtendConference**
Request to extend the conference for the call with the specified CallId.

For this command to apply, the following are required:
1) The result from the xStatus Conference Site <CallId> ConferenceExtended must be NotExtended:
   "s Conference Site <CallId> ConferenceExtended: NotExtended"
2) The following tag from the bookings list command must have a value > 0:
   "r Bookings Booking <bookingNumber> MaximumMeetingExtension: "30"

Note: The command returns the result from the command itself, not the result from the extension request to far end. A separate event returns the result from the extension request.

CallId: CallId for the call in question.

Requires user role: USER

Parameters:
- CallId(r): <0..65534>

Example:
```
xCommand Call ExtendConference CallId: 1
```

**xCommand Call Hold**
Put a call on hold. The CallID is returned when the xCommand Dial command is run. During the call you can run the xStatus Call command to see the CallId.

Requires user role: USER

Parameters:
- CallId(r): <0..65534>
- Reason: <Conference/Transfer/Other>

Example:
```
xCommand Call Hold CallId:19
```

**xCommand Call HoldAll**
Puts all ongoing calls on hold.

Requires user role: USER

Parameters:
- Reason(0): <Conference/Transfer/Other>

Example:
```
xCommand Call HoldAll
```
xCommand Call Ignore
Turns off the ringtone for the incoming call. The call can still be answered.

Requires user role: USER

Parameters:
CallId(r): <0..65534>

Example:
  xCommand Call Ignore CallId: 22

xCommand Call Join
Join all existing calls, active and on hold. For this command to work, you have to configure Multiway™ first, see xConfiguration NetworkServices MultiWay Address and xConfiguration Conference 1 Multipoint Mode.

Requires user role: USER

Parameters:
CallId(r): <0..65534>

Example:
  xCommand Call Join CallId: 34

xCommand Call Modify
Modifies the call type of the current call, to either an audio call or a video call. Not in use.

Requires user role: USER

Parameters:
CallId(r): <0..65534>
CallType(r): <Audio/Video>

Example:
  xCommand Call Modify CallType: Audio CallId: 16

xCommand Call Reject
Reject incoming call. If no call id is specified, all incoming calls are rejected. The CallId is returned when the xCommand Dial command is run. During the call you can run the xStatus Call command to see the CallId.

Requires user role: USER

Parameters:
CallId: <0..65534>

Example:
  xCommand Call Reject CallId:20

xCommand Call Resume
Resume a call that have been put on hold. The CallID is returned when the xCommand Dial command is run. During the call you can run the xStatus Call command to see the CallId.

Requires user role: USER

Parameters:
CallId(r): <0..65534>

Example:
  xCommand Call Resume CallId:19

xCommand Call UnattendedTransfer
Transfers an ongoing call to another participant. The CallId is returned when the xCommand Dial command is run. During the call you can run the xStatus Call command to see the CallId. Fully supported for SIP calls only.

Requires user role: USER

Parameters:
CallId(r): <0..65534>
Number(r): <S: 0, 255>

Example:
  xCommand Call UnattendedTransfer CallId: 2 Number: destination@example.com
CallHistory commands

xCommand CallHistory AcknowledgeAllMissedCalls
Turns off the missed calls indicator on the touch controller for all missed calls.

Requires user role: USER

Example:
xCommand CallHistory AcknowledgeAllMissedCalls

xCommand CallHistory AcknowledgeMissedCall
Turns off the missed calls indicator on the touch controller for the specified call.
CallHistoryId: CallHistoryId for the call in question.
AcknowledgeConsecutiveDuplicates: Includes all surrounding calls with duplicate information.

Requires user role: USER

Parameters:
CallHistoryId(r): <1..2147483647>
AcknowledgeConsecutiveDuplicates: <False/True>

Example:
xCommand CallHistory AcknowledgeMissedCalls CallHistoryId: 5

xCommand CallHistory DeleteAll
Deletes all information on previous calls.
Filter: You can filter which calls to delete, either all, missed, placed or received calls.

Requires user role: USER

Parameters:
Filter: <All/Missed/Placed/Received>

Example:
xCommand CallHistory DeleteAll Filter: Missed

xCommand CallHistory DeleteEntry
Deletes all information on the specified call.
CallHistoryId: CallHistoryId for the call in question.
AcknowledgeConsecutiveDuplicates: Includes all surrounding calls with duplicate information.

Requires user role: USER

Parameters:
CallHistoryId(r): <1..2147483647>
AcknowledgeConsecutiveDuplicates: <False/True>

Example:
xCommand CallHistory DeleteEntry CallHistoryId: 5
xCommand CallHistory Get
Retrieve all information on previous calls made on the video system.
Filter: You can filter which calls to retrieve.
Offset: Sets the call from which to start.
Limit: Defines the amount of calls in the output.
DetailLevel: Sets the level of detail for the information on these calls.
SearchString: Allows you to set the command to apply to a specified display name or call back number.
CallHistoryId: CallHistoryId for the call in question.
Requires user role: USER

Parameters:
Filter: <All/Missed/AnsweredElsewhere/Forwarded/Placed/NoAnswer/Received/Rejected/UnacknowledgedMissed>
Offset: <0..65534>
Limit: <0..65534>
DetailLevel: <Basic/Full>
SearchString: <S: 0, 255>
CallHistoryId: <0..65534>

Example:
xCommand CallHistory Get Filter: All Offset: 3 DetailLevel: Basic
*r CallHistoryGetResult Entry 0 CallHistoryId: 2
*r CallHistoryGetResult Entry 0 CallbackNumber: "sip:room1@company.com"
*r CallHistoryGetResult Entry 0 DisplayName: "display.name"
*r CallHistoryGetResult Entry 0 StartTime: "2013-04-09T10:56:36"
*r CallHistoryGetResult Entry 0 DaysAgo: 182
*r CallHistoryGetResult Entry 0 OccurrenceType: Received
*r CallHistoryGetResult Entry 0 IsAcknowledged: Acknowledged
*r CallHistoryGetResult Entry 1 CallHistoryId: 1
*r CallHistoryGetResult Entry 1 CallbackNumber: "sip:name@company.com"
*r CallHistoryGetResult Entry 1 DisplayName: "name"
*r CallHistoryGetResult Entry 1 StartTime: "2013-04-09T10:53:53"
*r CallHistoryGetResult Entry 1 DaysAgo: 182
*r CallHistoryGetResult Entry 1 OccurrenceType: Received
*r CallHistoryGetResult Entry 1 IsAcknowledged: Acknowledged
*r CallHistoryGetResult ResultInfo Offset: 3
*r CallHistoryGetResult ResultInfo Limit: 65534

xCommand CallHistory Recents
Retrieve aggregated information on previous calls made on the video system.
Filter: You can filter which calls to retrieve.
Offset: Sets the call from which to start.
Limit: Defines the amount of calls in the output.
DetailLevel: Sets the level of detail for the information on these calls.
SearchString: Allows you to set the command to apply to a specified display name or call back number.
CallHistoryId: CallHistoryId for the call in question.
Order: Define the order in which the previous calls are presented.
Requires user role: USER

Parameters:
Filter: <All/Missed/AnsweredElsewhere/Forwarded/Placed/NoAnswer/Received/Rejected/UnacknowledgedMissed>
Offset: <0..65534>
Limit: <0..65534>
DetailLevel: <Basic/Full>
SearchString: <S: 0, 255>
CallHistoryId: <0..65534>
Order: <OccurrenceTime/OccurrenceFrequency>

Example:
xCommand CallHistory Recents Filter: Missed Offset: 6 DetailLevel: Full
CallLog commands

xCommand CallLog Clear
Clear call logs stored in the system. If a logtag is given as argument, that specific call is deleted from the logs. If no logtag is given the system deletes all call logs. The LogTag values for the calls are found by issuing the xHistory CallLog Call command.

Requires user role: USER

Parameters:
LogTag: <0..2147483647>

Example:
xCommand CallLog Clear

xCommand CallLog Missed Delete
Delete the call log of missed calls. If a logtag is given as argument, that specific call is deleted from the log. If no logtag is given the system deletes the complete missed calls log. The LogTag values for missed calls are found by issuing the xHistory CallLog Missed command.

Requires user role: USER

Parameters:
LogTag: <0..2147483647>

Example:
xCommand CallLog Missed Delete LogTag:119

xCommand CallLog Recent Delete
Delete the call log of recent calls. If a logtag is given as argument, that specific call is deleted from the log. If no logtag is given the system deletes all call logs. The LogTag values for recent calls are found by issuing the xHistory CallLog Recent command.

Requires user role: USER

Parameters:
LogTag: <0..2147483647>

Example:
xCommand CallLog Recent Delete LogTag: 786
CamCtrlPip commands

xCamCtrlPip
Show or hide the camera self-view in a small window (picture in picture).
Mode: Select whether the self-view picture in picture is on or off.
Duration: Set how long the self-view is shown for on screen.

Requires user role: USER

Parameters:
Mode(r): <On/Off>
Duration: <0..60>

Example:
xCamCommand CamCtrlPip Mode: On Duration: 30

Camera commands

xCamCommand Camera PanTiltReset
The camera is reset to its default values for pan and tilt. If the camera is daisy chained, the CameraId is given by its place in the chain.

Requires user role: USER

Parameters:
CameraId(r): <1..1>

Example:
xCamCommand Camera PanTiltReset CameraId:1

xCamCommand Camera PositionActivateFromPreset
Selects pan, tilt, zoom and focus parameters for the given camera id from the selected preset.
CameraId: Give the camera id.
PresetId: Select preset 1 to 15.

Requires user role: USER

Parameters:
CameraId(r): <1..1>
PresetId(r): <1..15>

Example:
xCamCommand Camera PositionActivateFromPreset CameraId:1 PresetId:1

xCamCommand Camera PositionReset
Reset the camera position the the default position.

Requires user role: USER

Parameters:
CameraId(r): <1..1>

Example:
xCamCommand Camera PositionReset CameraId:1
xCommand Camera PositionSet
Position the camera by defining the pan, tilt, zoom and focus parameters. If the camera is placed in a daisy chain you need to know the CameraId for the camera you want to address.

Requires user role: USER

Parameters:
- CameraId(r): <1..1>
- Pan: <-65535..65535>
- Tilt: <-65535..65535>
- Zoom: <0..65535>
- Focus: <0..65535>

Example:
```
xCMD Camera PositionSet CameraId:1 Pan:200 Tilt:300
```

xCommand Camera Preset Activate
Activate one of the stored camera presets.

Note that the xCommand Camera Preset commands applies to an individual camera. This is in contrast to the xCommand Preset commands where a single preset covers ALL connected cameras plus the Video Input switcher settings.

PresetId: The ID of the camera preset you want to activate.

Requires user role: USER

Parameters:
- PresetId(r): <1..35>

Example:
```
xCMD Camera Preset Activate PresetId: 1
```

xCommand Camera Preset List
List information about available camera presets.

Note that the xCommand Camera Preset commands applies to an individual camera. This is in contrast to the xCommand Preset commands where a single preset covers ALL connected cameras plus the Video Input switcher settings.

PresetId: Filter on specified preset.

Requires user role: USER

Parameters:
- PresetId: <1..35>

Example:
```
xCMD Camera Preset List PresetId: 1
```

xCommand Camera Preset Edit
Edit a stored camera preset. You can change the name of the camera preset and its position in the list that is returned by the xCommand Camera Preset List command.

Note that the xCommand Camera Preset commands applies to an individual camera. This is in contrast to the xCommand Preset commands where a single preset covers ALL connected cameras plus the Video Input switcher settings.

PresetId: The ID of the camera preset you want to edit.

ListPosition: The position in the list returned by the xCommand Camera Preset List command.

Name: The name of the camera preset. It will be used in the list returned by the xCommand Camera Preset List command.

Requires user role: USER

Parameters:
- PresetId(r): <1..35>
- ListPosition: <1..35>
- Name: <S: 0, 255>

Example:
```
xCMD Camera Preset Edit PresetId: 1 ListPosition: 1 Name: ""
```
xCommand Camera Preset Remove
Remove a camera preset.
Note that the xCommand Camera Preset commands applies to an individual camera. This is in contrast to the xCommand Preset commands where a single preset covers ALL connected cameras plus the Video Input switcher settings.

PresetId: The ID of the camera preset you want to remove.

Requires user role: USER
Parameters:
  PresetId(r): <1..35>

Example:
  xCommand Camera Preset Remove PresetId: 1

xCommand Camera Preset Snapshot Get
Retrieve a stored snapshot image to illustrate a camera preset.

PresetId: Preset id for the snapshot.

Requires user role: USER
Parameters:
  PresetId(r): <1..35>

Example:
  xCommand Camera Preset Snapshot Get PresetId:1

xCommand Camera Preset Snapshot Remove
Remove a stored snapshot.
PresetId: Preset id for the snapshot.

Requires user role: ADMIN
Parameters:
  PresetId(r): <1..35>

Example:
  xCommand Camera Preset Snapshot Remove PresetId:1

xCommand Camera Preset Snapshot Store
Store a new snapshot. This command can only be used if snapshots are enabled with xConfiguration Video AllowWebSnapshots.

PresetId: Preset id for the snapshot.

Requires user role: ADMIN
Parameters:
  PresetId(r): <1..35>

Example:
  xCommand Camera Preset Snapshot Store PresetId:1

xCommand Camera Preset Store
Store the current position (pan and tilt), zoom and focus of the chosen camera. The camera is identified by the CameraId parameter.
Note that the xCommand Camera Preset commands applies to an individual camera. This is in contrast to the xCommand Preset commands where a single preset covers ALL connected cameras plus the Video Input switcher settings. The xCommand Camera Preset commands are useful when you want to handle multiple camera positions individually per camera, rather than working with complete sets of camera positions. The individual camera presets are not available for far end control.

PresetId: The ID of this camera preset. If not set explicitly, the codec will assign a preset ID automatically.
CameraId: Which camera to store the position of.
ListPosition: The new camera preset’s position in the list returned by the xCommand Camera Preset List command.
Name: The name of the new camera preset. It will be used in the list returned by the xCommand Camera Preset List command.
TakeSnapshot: Allow or disallow snapshot of the preview.

Requires user role: USER
Parameters:
  PresetId: <1..35>
  CameraId (r): <1..1>
  ListPosition: <1..35>
  Name: <S: 0, 255>
  TakeSnapshot; <False/True>

Example:
  xCommand Camera Preset Store PresetId: 1 CameraId: 1 ListPosition: 1 Name: ""
xCommand Camera Ramp
Move the camera in a specified direction. The camera moves at specified speed until a stop command is issued. In a daisy chain, you need to know the CameraId for the camera you want to address. Be aware that pan and tilt can be operated simultaneously, but no other combinations. In the latter case only the first operation specified is executed. For example, if you try to run both zoom and pan at the same time, only zoom is executed.

NOTE: You must run a stop command to stop the camera, see the example below.

CameralId: Give the camera id.
Pan: Move the camera to the Left or Right, followed by Stop.
PanSpeed: Set the pan speed.
Tilt: Move the camera Up or Down, followed by Stop.
TiltSpeed: Set the tilt speed.
Zoom: Zoom the camera In or Out, followed by Stop.
ZoomSpeed: Set the zoom speed.
Focus: Focus the camera Far or Near, followed by Stop.

Requires user role: USER

Parameters:
  CameraId(r): <1..1>
  Pan: <Left/Right/Stop>
  PanSpeed: <1..15>
  Tilt: <Down/Up/Stop>
  TiltSpeed: <1..15>
  Zoom: <In/Out/Stop>
  ZoomSpeed: <1..15>
  Focus: <Far/Near/Stop>

Example:
  xCommand Camera Ramp CameraId:1 Pan:left PanSpeed:1
  xCommand Camera Ramp CameraId:1 Pan:stop

xCommand Camera TriggerAutofocus
Trigger the auto-focus functionality. The camera must support auto-focus functionality. If the camera is daisy chained, the CameralId is given by its place in the chain.

Requires user role: USER

Parameters:
  CameraId(r): <1..1>

Example:
  xCommand Camera TriggerAutofocus CameraId:1

Conference commands

xCommand Conference ActiveSpeaker Reset
Resets ActiveSpeaker. Normal voice switching is switched back on.

Requires user role: USER

Example:
  xCommand Conference ActiveSpeaker Reset

xCommand Conference ActiveSpeaker Set
For manually setting the active speaker in a conference. Overrides normal voice switching.

Requires user role: USER

Parameters:
  Target(r): <local/remote>
  CallId: <0..65534>

Example:
  Example 1
  xCommand Conference ActiveSpeaker Set Target: local
  Example 2
  xCommand Conference ActiveSpeaker Set Target: remote CallID: 3

xCommand Conference DoNotDisturb Activate
This command switches on the Do Not Disturb mode, and the Timeout parameter allows you to control when it is switched off again. It only takes effect when xConfiguration Conference DoNotDisturb Mode is set to Timed.

When Do Not Disturb is switched on, all incoming calls are rejected and registered as missed calls. The calling side receives a busy signal.

Timeout: The number of minutes before Do Not Disturb is switched off. If not set, Do Not Disturb times out after 1440 minutes (24 hours).

Requires user role: USER

Parameters:
  Timeout: <0..1440>

Example:
  xCommand Conference DoNotDisturb Activate Timeout: 120
xCommand Conference DoNotDisturb Deactivate
This command switches off the Do Not Disturb mode. This command only takes effect when xConfiguration Conference DoNotDisturb Mode is set to Timed. When Do Not Disturb is switched off incoming calls come through as normal.

Requires user role: USER

Example:
```plaintext
xCommand Conference DoNotDisturb Deactivate
```

Dial commands

xCommand Dial
Dial out from the system. Returns information about the CallId and ConferenceId, which are required for some other commands.
Number: Enter the number or address.
Protocol: Select the Auto, SIP, H323 or H320 protocol.
CallRate: Set a call rate.
CallType: Select the audio or video call type.
BookingId: Any identifier that an external booking system (e.g. TMS, CTS-MAN) can use for its own references to match placed calls with the booking systems internal identifier for a meeting. This can be any string, e.g. a GUID. The booking Id is supplied in call logs, call events etc for the call.
DisplayName: The display name of the remote participant.

Requires user role: USER

Parameters:
- Number(r): <S: 0, 255>
- Protocol: <H320/H323/Sip>
- CallRate: <64..6000>
- CallType: <Audio/Video>
- BookingId: <S: 0, 255>
- Appearance: <1..999999999>
- DisplayName: <S: 0, 255>

Example:
```plaintext
xCommand Dial Number:543210 Protocol:h323
```
DTMFSend commands

**xCommand DTMFSend**
Send DTMF tones to the far end.
CallId: The CallID is returned when the xCommand Dial command is run. During the call you can run the xStatus Call command to see the CallId.
DTMFString: Enter the DTMF string.

**Requires user role:** USER

**Parameters:**
- CallId: <0..65534>
- DTMFString(r): <S: 0, 32>

**Example:**
```
xCommand DTMFSend CallId:2 DTMFString:1234
```

FacilityService commands

**xCommand FacilityService Dial**
Dial out from the system to a facility service. A maximum of five facility services can be defined; which one of these five to dial to is identified by the Serviceld (ref. xConfiguration Facility Service [Serviceld] Type/Name/Number/CallType). The command returns information about the CallId and Conferenceld.
Serviceld: The identifier of the facility service.

**Requires user role:** USER

**Parameters:**
- Serviceld(r): <1..5>

**Example:**
```
xCommand FacilityService Dial Serviceld: 1
```
FarEndControl commands

xCommand FarEndControl Camera Move
Move the far end camera (the remote camera). NOTE: The far end camera moves in the specified direction until the stop command (ref: xCommand FarEndControl Camera Stop) is issued.

CallId: The CallID is returned when the xCommand Dial command is run. During the call you can run the xStatus Call command to see the CallId.

Value: Select the action for how to move the camera.

Requires user role: USER

Parameters:
- CallId: <0..65534>
- Value(r): <Left/Right/Up/Down/ZoomIn/ZoomOut>

Example:
```
xCommand FarEndControl Camera Move CallId:3 Value:left
```

xCommand FarEndControl Camera Stop
Stop the far end camera after the xCommand FarEndControl Camera Move has been issued.

CallId: The CallID is returned when the xCommand Dial command is run. During the call you can run the xStatus Call command to see the CallId.

Requires user role: USER

Parameters:
- CallId: <0..65534>

Example:
```
xCommand FarEndControl Camera Stop CallId:3
```

xCommand FarEndControl Preset Activate
While in a call, this command is used to activate a preset on the far end codec. The preset covers the far end codec’s camera positions and input video switcher settings.

The preset must be stored on the far end codec beforehand, either by using the xCommand Preset Store command locally on the far end codec, or by using the xCommand FarEndControl Preset Store command from a remote codec.

Note: The far end codec’s xConfiguration Conference FarEndControl Mode setting must be switched On for the FarEndControl commands to work.

CallId: The CallId is required to identify the far end codec only when in a Multipoint call. The CallId is returned when issuing the xCommand Dial command. During the call you can run the xStatus Call command to see the CallId.

PresetId: The PresetId must be retrieved from the far end codec since this is the ID of the preset that is stored on that codec.

Requires user role: USER

Parameters:
- CallId: <0..65534>
- PresetId(r): <1..15>

Example:
```
xCommand FarEndControl Preset Activate CallId:3 PresetId:1
```

xCommand FarEndControl Preset Store
While in a call, this command is used to store a preset on the far end codec. The preset covers the far end codec’s camera positions and input video switcher settings.

Note: The far end codec’s xConfiguration Conference FarEndControl Mode setting must be switched On for the FarEndControl commands to work.

CallId: The CallId is required to identify the far end codec only when in a Multipoint call. The CallId is returned when issuing the xCommand Dial command. During the call you can run the xStatus Call command to see the CallId.

PresetId: The PresetId must be retrieved from the far end codec since this is the ID of the preset that is stored on that codec.

Requires user role: USER

Parameters:
- CallId: <0..65534>
- PresetId(r): <0..15>

Example:
```
xCommand FarEndControl Preset Store CallId:3 PresetId:1
```
xCommand FarEndControl Source Select
Select which video input source to use as the main source on the far end system.
CallId: The CallID is returned when the xCommand Dial command is run. During the call you can run the xStatus Call command to see the CallId.
SourceId: Select a video input source on the far end.

Requires user role: USER

Parameters:
- CallId: <0..65534>
- SourceId(r): <0..15>

Example:
xCommand FarEndControl Source Select CallId:3 SourceId:1

HttpFeedback commands

xCommand HttpFeedback Deregister
Deregister XML feedback over HTTP(S).

Requires user role: USER

Parameters:
- FeedbackSlot(r): <1..4>

Example:
xCommand HttpFeedback Deregister FeedbackSlot:1

xCommand HttpFeedback Register
Register the system to a HTTP(S) server to return XML feedback over HTTP(S) to specific URLs.
FeedbackSlot: You can have from 1 to 4 slots for feedback.
ServerUrl: Define the URL for the HTTP(S) server.
Expression[1..15]: What parts of the Status and Configuration XML documents to monitor are specified by XPath expressions. You can have from 1 to 15 XPath expressions.

Requires user role: USER

Parameters:
- FeedbackSlot: <1..4>
- ServerUrl(r): <S: 1, 2048>
- Expression[1..15]: <S: 1, 255>

Example:
xCommand HttpFeedback Register FeedbackSlot:1 ServerUrl:10.47.19.41 Expression[1]:Status/Video Expression[2]:Status/Audio Expression[3]:Status/Call Expression[4]:Status/Conference
Key commands

xCommand Key Click
Emulates a remote control key press, followed by a key release.

**Requires user role:** ADMIN

**Parameters:**
- **Key:** 0/1/2/3/4/5/6/7/8/9/C/Call/Disconnect/Down/F1/F2/F3/F4/F5/Grab/Home/Layout/Left/Mute/MuteMic/Ok/PhoneBook/Presentation/Right/SelfView/Square/SrcAux/SrcCamera/SrcDocCam/SrcPc/SrcVcr/Star/Up/VolumeDown/VolumeUp/ZoomIn/ZoomOut

**Example:**
```command
xCommand Key Click Key:Down
```

xCommand Key Press
Emulates a remote control key press without releasing it. The Key Press command must be followed by a Key Release command to emulate releasing the key.

**Requires user role:** ADMIN

**Parameters:**
- **Key:** 0/1/2/3/4/5/6/7/8/9/C/Call/Disconnect/Down/F1/F2/F3/F4/F5/Grab/Home/Layout/Left/Mute/MuteMic/Ok/PhoneBook/Presentation/Right/SelfView/Square/SrcAux/SrcCamera/SrcDocCam/SrcPc/SrcVcr/Star/Up/VolumeDown/VolumeUp/ZoomIn/ZoomOut

**Example:**
```command
xCommand Key Press Key:Home
```

xCommand Key Release
Emulates a remote control key release. The Key Release command is issued after a Key Press command.

**Requires user role:** ADMIN

**Parameters:**
- **Key:** 0/1/2/3/4/5/6/7/8/9/C/Call/Disconnect/Down/F1/F2/F3/F4/F5/Grab/Home/Layout/Left/Mute/MuteMic/Ok/PhoneBook/Presentation/Right/SelfView/Square/SrcAux/SrcCamera/SrcDocCam/SrcPc/SrcVcr/Star/Up/VolumeDown/VolumeUp/ZoomIn/ZoomOut

**Example:**
```command
xCommand Key Release Key:Home
```

Logging commands

xCommand Logging ExtendedLogging Start
Turns on the extended logging, which stores more information than regular logging in the log files. You can determine the duration in seconds. Note that extended logging uses more of your video system’s resources, and should only be used when troubleshooting an issue.

**Requires user role:** USER

**Parameters:**
- **Duration:** 1..600

**Example:**
```command
xCommand Logging ExtendedLogging Start Duration: 20
```

xCommand Logging ExtendedLogging Stop
Stops the logging started with `xCommand SystemUnit Diagnostics ExtendedLogging Start`.

**Requires user role:** USER

**Example:**
```command
xCommand Logging ExtendedLogging Stop
```
Message commands

**xCommand Message Alert Clear**
Remove the message which was displayed using the xCommand Message Alert Display command. This is required when the Duration parameter is not set.

**Requires user role:** ADMIN

**Example:**
```
xCommand Message Alert Clear
```

**xCommand Message Alert Display**
Display a message on screen, for a specified duration of time (in seconds). NOTE: If Duration is not set, the command must be followed by xCommand Message Alert Clear.

Use the xFeedback commands to monitor the feedback from the user. Read more about the xFeedback commands in the API introduction section in this guide.

**Title:** Enter a message title.

**Text:** Enter the message to be displayed. The `<p>` and `<br>` HTML tags will result in line breaks as normal; any other tags will appear as plain text.

**Duration:** Set how long (in seconds) the message is to be displayed on the screen. If set to 0 (zero) the message does not disappear until a xCommand Message Alert Clear message has been sent.

**Requires user role:** ADMIN

**Parameters:**
- **Title:** `<S: 0, 255>`
- **Text:** `<S: 0, 255>`
- **Duration:** `<0..3600>`

**Example:**
```
xCommand Message Alert Display Title: "Message" Text: "The meeting will end in 5 minutes." Duration: 20
```

**xCommand Message Echo**
Issuing the command makes the API raise a message-echo event. The command has no other impact on the codec. Usage can be to poll the codec from a control system or any external device/system to check for connectivity. To monitor the feedback use the xFeedback command. You can read more about the xFeedback command in the general API introduction section.

**Text:** Enter the text to be echoed.

**Requires user role:** ADMIN

**Parameters:**
- **Text:** `<S: 0, 255>`

**Example:**
```
xCommand Message Echo Text:" MyEchoListner99"
```

**xCommand Message FarendMessage**
This command is used to send generic messages to the participants in a conference. Not in use in this software version.

**CallId:** The remote participant to whom the message needs to be sent.

**Type:** Type of the message.

**Text:** Enter the text line to be displayed.

**Requires user role:** USER

**Parameters:**
- **CallId:** `<0..65534>`
- **Type:** `<S: 0, 255>`
- **Text:** `<S: 1, 1450>`
- **LocalEcho:** `<On/Off>`

**Example:**
```
xCommand Message FarendMessage CallId: 3 Type: 3 Text: Hello
```
xCommand Message Prompt Clear

Remove the window displayed using the xCommand Message Alert Display command.
Use the xFeedback commands to monitor the feedback from the user. Read more about the xFeedback commands in the API introduction section in this guide.
FeedbackId: The FeedbackId corresponds to the FeedbackId given by the xCommand Message Prompt Display command.

Requires user role: ADMIN

Parameters:
- FeedbackId: <S: 0, 255>

Example:
```
xCommand Message Prompt Clear FeedbackId: 24
```

xCommand Message Prompt Display

Display a small window on screen with a title, text and up to five options for response from the user. The message is displayed on screen until the user gives a response, or until the system receives the following command xCommand Message Prompt Clear.
Use the xFeedback commands to monitor the feedback from the user. Read more about the xFeedback commands in the API introduction section in this guide.
Title: Enter the title of the message.
Text: Enter the text line to be displayed. The <p> and <br> HTML tags will result in line breaks as normal; any other tags will appear as plain text.
FeedbackId: To identify the feedback enter a FeedbackId.
Option.1 to Option.5: Enter the text to appear on the feedback options.

Requires user role: ADMIN

Parameters:
- Title: <S: 0, 255>
- Text(r): <S: 0, 255>
- FeedbackId: <S: 0, 255>
- Option.1: <S: 0, 255>
- Option.2: <S: 0, 255>
- Option.3: <S: 0, 255>
- Option.4: <S: 0, 255>
- Option.5: <S: 0, 255>

Example:
```
xCommand Message Prompt Display Title: "Meeting extension" Text: "The meeting is about to end. Do you want to extend the meeting?" Option.1: "No" Option.2: "Yes, extend with 5 minutes" Option.3: "Yes, extend with 10 minutes"
```

xCommand Message Prompt Response

Give a response to the xCommand Message Prompt Display.
Use the xFeedback commands to monitor the feedback from the user. Read more about the xFeedback commands in the API introduction section in this guide.
FeedbackId: The FeedbackId corresponds to the FeedbackId given by the xCommand Message Prompt Display command.
OptionId: The OptionId corresponds to the OptionIds given as possible responses in the xCommand Message Prompt Display command.

Requires user role: USER

Parameters:
- FeedbackId: <S: 0, 255>
- OptionId(r): <1..5>

Example:
```
xCommand Message Prompt Response OptionId: 1
```

xCommand Message TextLine Clear

Clears the text line which was defined by the xCommand Message TextLine Display command.

Requires user role: ADMIN

Example:
```
xCommand Message TextLine Clear
```

---

xCommand Message TextLine Display

Display a text line on screen. Optionally you can place the text line at a specified location and for a specified duration of time (in seconds). NOTE: If Duration is not set, the command must be followed by xCommand Message TextLine Clear.

Text: Enter the text line to be displayed. The <p> and <br> HTML tags will result in line breaks as normal; any other tags will appear as plain text.

X: Enter the X-coordinate (horizontal) on screen. X=0 is in the upper left corner.

Y: Enter the Y-coordinate (vertical) on screen. Y=0 is in the upper left corner.

Duration: Set how long (in seconds) the text line is to be displayed on the screen. If set to 0 (zero) the text line is displayed until a xCommand Message TextLine Clear command has been sent.

**Requires user role:** ADMIN

**Parameters:**

- **Text(r):** <S: 0, 140>
- **X:** <1..10000>
- **Y:** <1..10000>
- **Duration:** <0..3600>

**Example:**


Peripherals commands

xCommand Peripherals Connect

Register peripherals that are connected to the codec, such as control systems and touch panels. The registered peripherals are displayed on the web interface under Configuration > Peripherals. This command should be used when the peripheral connects to the codec for the first time or when the software version on the peripheral has changed. The list of connected devices is available with the command xStatus Peripherals ConnectedDevice [n] Status.

Note: Does not apply for the Cisco PrecisionHD cameras.

**Requires user role:** USER

**Parameters:**

- **HardwareInfo:** <S: 0, 100>
- **ID(r):** <S: 1, 100>
- **Name:** <S: 0, 100>
- **NetworkAddress:** <S: 0, 100>
- **SerialNumber:** <S: 0, 100>
- **SoftwareInfo:** <S: 0, 100>
- **Type(r):** <Byod, ControlSystem, Other, TouchPanel>

**Example:**

xCommand Peripherals Connect ID: "00:50:60:d8:7c:e6" Type: Other

xCommand Peripherals HeartBeat

When a peripheral is registered as a connected device, you can set it to send a heartbeat to the codec to let the codec know that it is still connected. This will keep the device on the xStatus Peripherals ConnectedDevice list. If the peripheral is not set to send a heartbeat, the device will disappear from the list after a while.

Note: Does not apply for ISDN Link or cameras.

**Requires user role:** USER

**Parameters:**

- **ID(r):** <S: 1, 100>
- **Timeout:** <1..65535>

**Example:**

xCommand Peripherals HeartBeat ID: "00:50:60:d8:7c:e6"
xCommand Peripherals List
Lists all currently and previously connected peripherals.
- Note: Does not apply for the Cisco PrecisionHD cameras.
- Connected: Limit the search to currently connected devices.
- Type: Limit the search by device type.

**Requires user role:** ADMIN

**Parameters:**
- Connected: <False, True>
- Type: <All, BluetoothHeadset, ControlSystem, ISDNLink, Other, TouchPanel>

**Example:**
```
xCommand Peripherals List Connected: True Type: Other
```

xCommand Peripherals ManualUpgrade
Manually upgrade software on a Precision 60 or a SpeakerTrack 60 camera.
- Password: Enter a password, if one is needed to upload the software package.
- Product: Define the device that will be upgraded.
- URL: Define the URL from which to upload the software package.
- Username: Enter a username, if one is needed to upload the software package.

**Requires user role:** ADMIN

**Parameters:**
- Password: <S: 0, 64>
- Product(r): <Precision 60 Camera, SpeakerTrack 60>
- URL(r): <S: 0, 1024>
- Username: <S: 0, 64>

**Example:**
```
xCommand Peripherals ManualUpgrade Product: Precision 60 Camera URL: "http://softwareupload.company.com"
```

xCommand Peripherals Pairing DeviceDiscovery Start
Start device discovery to detect ISDN Links in the same network.
- AutoPairing: You can select to automatically pair the detected device to the endpoint.
- DeviceType: Only look for ISDN Link.
- Timeout: Set a maximum time for the search from 3 to 60 seconds.

**Requires user role:** ADMIN

**Parameters:**
- AutoPairing: <On, Off>
- DeviceType: <ISDNLink>
- Timeout: <3..60>

**Example:**
```
xCommand Peripherals Pairing DeviceDiscovery Start
```

xCommand Peripherals Pairing Pair
Pair an ISDN Link to an endpoint.
- MacAddress: Enter the MAC address for the ISDN Link you wish to pair to the endpoint.

**Requires user role:** ADMIN

**Parameters:**
- MacAddress(r): <S: 1, 1450>

**Example:**
```
xCommand Peripherals Pairing Pair MacAddress: 1.2.3.4
```

xCommand Peripherals Pairing Unpair
Unpair endpoint from an ISDN Link, when the two have contact.
- MacAddress: Enter the MAC address for the ISDN Link you wish to unpair from the endpoint.

**Requires user role:** ADMIN

**Parameters:**
- MacAddress(r): <S: 1, 100>

**Example:**
```
xCommand Peripherals Pairing Unpair MacAddress: 1.2.3.4
```
xCommand Peripherals Pairing Purge

Force unpair an endpoint from an ISDN Link when a connection has been lost. Note: You must also unpair the ISDN Link to be able to pair it to another endpoint.

**Requires user role:** ADMIN

**Parameters:**
- ID(r): <S: 1, 100>

**Example:**
```
xCommand Peripherals Purge ID: 1.2.3.4
```

---

**Phonebook commands**

xCommand Phonebook Contact Add

Add a new contact to the local phonebook. The command returns the ContactId, which is a unique string that identifies the contact; typically the format is "localContactId-n".

You can add several contact methods to a contact using the xCommand Phonebook ContactMethod Add command. Note that only the first contact method will appear in the Favorites list on the Cisco TelePresence Touch controller. All contact methods are available in the API, on the web interface and when using the remote control.

**Name:** The name of the contact.

**FolderId:** The unique identifier for the folder that you want to store the contact in. The identifier will be returned by an xCommand Phonebook Search command. It was also returned when the xCommand Phonebook Folder Add command was issued to make the folder.

**ImageURL:** Currently not in use.

**Title:** The title of the contact.

**Number:** The phone number or address of the contact.

**Protocol:** Select the Auto, SIP, H323 or H320 protocol.

**CallRate:** Set a call rate.

**CallType:** Select a call type (audio or video).

**Device:** Select the device type.

**Tag:** Tag the contact as a Favorite, or untag an already tagged contact.

**Requires user role:** USER

**Parameters:**
- Name(r): <S: 0, 255>
- FolderId: <S: 0, 255>
- ImageURL: <S: 0, 255>
- Title: <S: 0, 255>
- Number: <S: 0, 255>
- Protocol: <Auto/H320/H323/SIP>
- CallRate: <0..6000>
- CallType: <Audio/Video>
- Device: <Mobile/Other/Telephone/Video>
- Tag: <Untagged/Favorite>

**Example:**
```
xCommand Phonebook Contact Add Name: "John Doe" Number:12345
```
xCommand Phonebook Contact Delete

Delete an existing contact from the local phonebook.
ContactId: The unique identifier for the contact. The identifier will be returned by an xCommand Phonebook Search command. It was also returned when the xCommand Phonebook Contact Add command was issued to make the contact.

Requires user role: USER

Parameters:

ContactId(r): <S: 0, 255>

Example:

```
xCommand Phonebook Contact Delete ContactId:localContactId-1
```

xCommand Phonebook Contact Modify

Modify contact details of an existing contact in the local phonebook. The following parameters can be changed using this command: Name, FolderId, ImageURL and Title. You must use the xCommand Phonebook ContactMethod Modify command to change the other parameters: Number, Protocol, CallRate, CallType and Device.

ContactId: The unique identifier for the contact you want to modify. The identifier will be returned by an xCommand Phonebook Search command. It was also returned when the xCommand Phonebook Contact Add command was issued to make the contact.
Name: The name of the contact.
FolderId: A unique identifier for the folder. The identifier will be returned by an xCommand Phonebook Search command. It was also returned when the xCommand Phonebook Folder Add command was issued.
ImageURL: Currently not in use.
Title: The title of the contact.
Tag: Tag the contact as a Favorite, or untag an already tagged contact.

Requires user role: USER

Parameters:

ContactId(r): <S: 0, 255>
Name: <S: 0, 255>
FolderId: <S: 0, 255>
ImageURL: <S: 0, 255>
Title: <S: 0, 255>
Tag: <Untagged/Favorite>

Example:

```
xCommand Phonebook Contact Modify ContactId:localContactId-1 Name: "John Doe - office"
```

xCommand Phonebook ContactMethod Add

Add contact details for an existing contact in the local phonebook. The command returns the ContactMethodId, which is a unique string that identifies the contact method; typically the format is "n".

You can add several contact methods to a contact. Note that only the first contact method will appear in the Favorites list on the Cisco TelePresence Touch controller. The first contact method may have been created when issuing the xCommand Phonebook Contact Add command to make the contact. All contact methods are available in the API, on the web interface and when using the remote control.

ContactId: The unique identifier for the contact that you want to add a contact method to. The identifier will be returned by an xCommand Phonebook Search command. It was also returned when the xCommand Phonebook Contact Add command was issued to make the contact.
Device: Set which type of device to call to.
Number(r): The phone number or address of the contact.
Protocol: Select Auto, SIP, H323 or H320 protocol.
CallRate: Set a call rate.
CallType: Select a call type (audio or video).

Requires user role: USER

Parameters:

ContactId(r): <S: 0, 255>
Device: <Mobile/Other/Telephone/Video>
Number(r): <S: 0, 255>
Protocol: <Auto/H320/H323/SIP>
CallRate: <0..6000>
CallType: <Audio/Video>

Example:

```
xCommand Phonebook ContactMethod Add ContactId:localContactId-2 Number:54321 Protocol:H323
```
xCommand Phonebook ContactMethod Delete
Delete a contact method from an existing contact in the local phonebook.
ContactId: The unique identifier for the contact you want to change. The identifier will be returned by an xCommand Phonebook Search command. It was also returned when the xCommand Phonebook Contact Add command was issued to make the contact.
ContactMethodId: The unique identifier for the contact method you want to delete. The identifier will be returned by an xCommand Phonebook Search command. It was also returned when the xCommand Phonebook ContactMethod Add command was issued to make the contact method.

Requires user role: USER

Parameters:
ContactId(0..255)
ContactMethodId(0..255)

Example:
```
xCommand Phonebook ContactMethod Delete ContactId:localContactId-2 ContactMethodId:1
```

xCommand Phonebook ContactMethod Modify
Modify details about the contact method for an existing contact in the local phonebook.
ContactId: The unique identifier for the contact. The identifier will be returned by an xCommand Phonebook Search command. It was also returned when the xCommand Phonebook Contact Add command was issued to make the contact.
ContactMethodId: The unique identifier for the contact method you want to modify. The identifier will be returned by an xCommand Phonebook Search command. It was also returned when the xCommand Phonebook ContactMethod Add or xCommand Phonebook Contact Add commands were issued to make the contact method.
Device: Set which type of device to call to.
Number: The phone number or address of the contact.
Protocol: Select Auto, SIP, H323 or H320 protocol.
CallRate: Set a call rate.
CallType: Select a call type (audio or video).

Requires user role: USER

Parameters:
ContactId(0..255)
ContactMethodId(0..255)
Device-Mobile/Other/Telephone/Video
Number-(0..255)
Protocol-Auto/H320/H323/SIP
CallRate-(0..6000)
CallType-Audio/Video

Example:
```
xCommand Phonebook ContactMethod Modify ContactMethodId:117 ContactId:localContactId-10 Number:"newnumber@cisco.com"
```
xCommand Phonebook Folder Add

Phonebook entries can be stored in folders. Use this command to add a folder to the local phonebook. The command returns the FolderId, which is a unique string that identifies the folder; typically the format is "localGroupId-n".

Name(r): The name of the folder.
ParentFolderId: The unique identifier for the parent folder. The identifier will be returned by an xCommand Phonebook Search command. It was also returned when the xCommand Phonebook Folder Add command was issued to make the parent folder.

Requires user role: USER

Parameters:
   Name(r): <S: 0, 255>
   ParentFolderId: <S: 0, 255>

Example:
   xCommand Phonebook Folder Add Name: "New York Office"

xCommand Phonebook Folder Delete

Delete an existing folder from the local phonebook.
FolderId: The unique identifier for the folder. The identifier will be returned by an xCommand Phonebook Search command. It was also returned when the xCommand Phonebook Folder Add command was issued to make the folder.

Requires user role: USER

Parameters:
   FolderId(r): <S: 0, 255>

Example:
   xCommand Phonebook Folder Delete FolderId:localGroupId-3

xCommand Phonebook Folder Modify

Modify an existing phonebook folder.
FolderId: The unique identifier for the folder. The identifier will be returned by an xCommand Phonebook Search command. It was also returned when the xCommand Phonebook Folder Add command was issued to make the folder.
Name(r): The name of the contact.
ParentFolderId: The unique identifier for the parent folder. The identifier will be returned by an xCommand Phonebook Search command. It was also returned when the xCommand Phonebook Folder Add command was issued to make the parent folder.

Requires user role: USER

Parameters:
   FolderId(r): <S: 0, 255>
   Name: <S: 0, 255>
   ParentFolderId: <S: 0, 255>

Example:
   xCommand Phonebook Folder Modify FolderId:localGroupId-3 Name: "New York Head Office"
xCommand Phonebook Search

The search command lets you search in both the local and corporate phone books. A search gives a ResultSet.

The total number of folders and contacts (TotalRows) is always included in the result set when searching the local phone book. When searching a corporate phonebook the total number of folders and contacts may not be included. Whether it is included or not depends on the backend corporate phonebook service (e.g. CUCM, VCS, TMS) and its version.

PhonebookId: The identifier of the phonebook server that will be used. See the xConfiguration Phonebook Server ID setting. Not necessary to use.

PhonebookType: Define whether to search the local phone book or the corporate phonebook.

SearchString: Search for entries containing this string (note that the entry does not have to begin with the string). If no FolderId is specified, all folders / phonebook directories will be searched.

SearchField: Currently not in use.

Offset: Get records starting with this offset in a search. The default value is 0. Offset is used together with Limit to support paging.

FolderId: Search only in the specified folder. The FolderId (string) is listed in the ResultSet of a search result containing folders.

Limit: Limit the number of records in the result set to this number. For example, if the limit is set to 10, the ResultSet will contain only 10 entries (Contacts and Folders) even if the total number of hits is larger. The maximum limit is 1000.

Recursive: This parameter will only have effect when searching the local phone book. The setting determines whether a local phone book search should be limited to the given FolderId, or also recursively search in its subfolders. If not specified, the search will be recursive.

When issuing the command without specifying any parameters, all folders, contacts and contact methods in the local phone book will be returned.

Tag: Limits the search to either contacts that have been tagged as favorite or the untagged contacts.

Requires user role: USER

Parameters:

- PhonebookId: <S: 0, 255>
- PhonebookType: <Corporate/Local>
- SearchString: <S: 0, 255>
- SearchField: <Name/Number>
- Offset: <0..65534>
- FolderId: <S: 0, 255>
- Limit: <0..65534>
- Recursive: <False/True>
- ContactType: <Any/Folder/Contact>
- Tag: <Untagged/Favorite>

Example:
Presentation commands

**xCommand Presentation Start**
Open a media stream from the selected presentation source.
PresentationSource: Select the video input source to be used for presentation.
SendingMode: Select whether the presentation is shown locally or locally and remotely.
Instance: Select which local presentation you wish to start.

**Requires user role:** USER

**Parameters:**
- PresentationSource: `<1..2>`
- SendingMode: `<LocalRemote/LocalOnly>`

**Example:**
```
xCommand Presentation Start PresentationSource:2
```

**xCommand Presentation Stop**
Stop the media stream from the presentation source.
Instance: Select which local presentation you wish to stop.

**Requires user role:** USER

**Parameters:**
- Instance: `<1 / 2 / 3 / 4 / 5 / 6>`

**Example:**
```
xCommand Presentation Stop
```

Preset commands

**xCommand Preset Activate**
Activate one of the stored local presets.
Note that information about all video input sources, and pan, tilt, zoom and focus values for all cameras are included in the same preset. In contrast, the xCommand Camera Preset commands applies to individual cameras only.
PresetId: The ID of the preset you want to activate.

**Requires user role:** USER

**Parameters:**
- PresetId(r): `<1..15>`

**Example:**
```
xCommand Preset Activate PresetId:3
```

**xCommand Preset Clear**
Delete a preset.
Note that information about all video input sources, and pan, tilt, zoom and focus values for all cameras are included in the same preset. In contrast, the xCommand Camera Preset commands applies to individual cameras only.
PresetId: The ID of the preset you want to delete.

**Requires user role:** USER

**Parameters:**
- PresetId(r): `<1..15>`

**Example:**
```
xCommand Preset Clear PresetId:3
```


xCommand Preset Store

Store the connector selections for all video input sources and the current position (pan and tilt), zoom and focus values for all cameras.

Note that information about all video input sources, and pan, tilt, zoom and focus values for all cameras are included in the same preset. The system may hold 15 such predefined video input presets. These presets are available for far end control, i.e. they are referred in the PresetId parameter of the xCommand FarEndControl Preset Activate command. In contrast, the xCommand Camera Preset commands applies to individual cameras only. Those presets are not available for far end control.

PresetId: The ID of this preset.
Type: Not applicable. If you want to ensure that a preset only affects camera positions we recommend that you select Camera.
Description: Enter a description of the camera preset.

Requires user role: USER

Parameters:

- PresetId: <1..15>
- Type: <All/Camera>
- Description: <S: 0, 255>

Example:

```
xCommand Preset Store PresetId:3 Type:Camera Description:"Left view"
```

Provisioning commands

xCommand Provisioning CUCM CAPF OperationStart

Starts a pending CAPF (Certificate Authority Proxy Function) operation toward the CUCM. When the CUCM administrator initiates an operation that the endpoint should perform (like installing, updating or deleting certificates), this command can be used to start the CAPF operation.

AuthString: Set the authentication string required for the CAPF operation.

Requires user role: USER

Parameters:

- AuthString: <S: 4, 10>

Example:

```
xCommand Provisioning CUCM CAPF OperationStart AuthString: 123456
```

xCommand Provisioning CUCM CTL Delete

Delete the stored CTL and ITL files (CTL: Certificate Trust List, ITL: Identity Trust List).

Requires user role: USER

Example:

```
xCommand Provisioning CUCM CTL Delete
```

xCommand Provisioning CUCM CTL Show

Shows the content of the installed Certificate Trust List file (CTL), if it exists. Each entry displayed contains the information about one specific certificate. If a certificate has been deleted in CTL, it is marked accordingly in the output.

Requires user role: USER

Example:

```
xCommand Provisioning CUCM CTL Show
```
xCommand Provisioning CUCM ExtensionMobility Login
Login command for the Extension Mobility service. You login to the Extension Mobility service with a user name and pin. If there are multiple profiles available for that user, a separate event will be sent with the available profiles for the user. A new login command with the profile can then be submitted.

Requires user role: USER

Parameters:
- UserId(r): <S: 1, 255>
- Pin(r): <S: 1, 255>
- Profile: <S: 1, 255>

Example:
```
xCommand Provisioning CUCM ExtensionMobility Login UserId: user1 Pin: 1234
```

xCommand Provisioning CUCM ExtensionMobility Logout
This command will log you out of your Extension Mobility profile.

Requires user role: USER

Example:
```
xCommand Provisioning CUCM ExtensionMobility Logout
```

xCommand Provisioning CUCM ITL Show
Shows the content of the installed Identity Trust List file (ITL), if it exists. Each entry displayed contains the information about one specific certificate. If a certificate has been deleted in CTL, it is marked accordingly in the output.

Requires user role: USER

Example:
```
xCommand Provisioning CUCM ITL Show
```

xCommand Provisioning CompleteUpgrade
Starts installing the software upgrade if you wish to install it before it is set to do so.

Requires user role: USER

Example:
```
xCommand Provisioning CompleteUpgrade
```

xCommand Provisioning PostponeUpgrade
Postpones the installing of the software upgrade.

Requires user role: USER

Parameters:
- SecondsToPostpone(r): <0..65534>

Example:
```
xCommand Provisioning PostponeUpgrade SecondsToPostpone: 60
```

xCommand Provisioning StartUpgrade
The codec software can be upgraded from the provisioning server. When starting the upgrade the software is automatically downloaded and installed. The codec reboots to complete the software upgrade.

Requires user role: ADMIN

Example:
```
xCommand Provisioning StartUpgrade
```
Security commands

xCommand Security FIPSMode Activate
Activate FIPS (140-2) mode. NOTE: Activating FIPS mode implies a reset to factory defaults.
While in FIPS mode, software upgrade is disabled and the following limitations apply: All calls are encrypted, unencrypted communication protocols like Telnet and HTTP cannot be used. IEEE802.1x and SNMP are disabled. The SIP Profile Type setting cannot be Microsoft. The remote support user is not available.
To exit FIPS mode, perform a factory reset.

Confirm: <Yes>

Requires user role: ADMIN

Parameters:
  Confirm(r): <Yes>

Example:
  xCommand Security FIPSMode Activate Confirm: "Yes"

xCommand Security Persistency
Set the following features to persistent or non-persistent mode. In non-persistent mode the information gathered by the specified feature does not persist a reboot of the system. Persistent mode is the default. This command reboots the system.
Configuration: In non-persistent mode, all configurations are set back to default when the system reboots.
CallHistory: In non-persistent mode call history is deleted when the system reboots.
InternalLogging: In non-persistent mode eventlog is deleted when the system reboots.
LocalPhonebook: In non-persistent mode local phone book is deleted when the system reboots.
DHCP: In non-persistent mode all IP related information is deleted when the system reboots.
ConfirmAndReboot: Reboots the system.

Requires user role: ADMIN

Parameters:
  Configurations(r): <NonPersistent/Persistent>
  CallHistory(r): <NonPersistent/Persistent>
  InternalLogging(r): <NonPersistent/Persistent>
  LocalPhonebook(r): <NonPersistent/Persistent>
  DHCP(r): <NonPersistent/Persistent>
  ConfirmAndReboot(r): <Yes>

Example:
  xCommand Security Persistency Configurations: Persistent CallHistory: Persistent InternalLogging: Persistent LocalPhonebook: Persistent DHCP: Persistent ConfirmAndReboot: Yes
Standby commands

xCommand Standby Activate
Set the system in standby mode, which turns off the video outputs and put the camera into sleep mode.

Requires user role: USER

Example:
```c
xCommand Standby Activate
```

xCommand Standby Deactivate
Bring the system out of standby mode.

Requires user role: USER

Example:
```c
xCommand Standby Deactivate
```

xCommand Standby ResetTimer
Set a temporary standby delay (in minutes). If the system is in standby mode when the reset timer is set, the system is brought out of standby mode. When left idle for the given delay the system goes into standby mode. Setting the reset timer does not affect the Standby Delay in the Advanced configuration menu (or by xConfiguration Standby Delay). Next time this delay is the valid standby delay.

Requires user role: USER

Parameters:
- Delay(r): <1..480>

Example:
```c
xCommand Standby ResetTimer Delay:10
```

SystemUnit commands

xCommand SystemUnit AdminPassword Set
Set a password for the user that is currently signed in.

Requires user role: ADMIN

Parameters:
- Password(r): <S: 0, 64>

Example:
```c
xCommand SystemUnit AdminPassword Set Password:**********
```

xCommand SystemUnit ConfigurationProfile CancelChange
Cancel the "ConfigurationProfile Change" command, that would otherwise take effect after next system boot.

Requires user role: ADMIN

Example:
```c
xCommand SystemUnit ConfigurationProfile CancelChange
```

xCommand SystemUnit ConfigurationProfile Change
Select a previously saved configuration profile. NOTE: Requires a restart of the codec.

Requires user role: ADMIN

Parameters:
- Name(r): <S: 0, 255>

Example:
```c
xCommand SystemUnit ConfigurationProfile Change Name: "My _ ConfigurationProfile _ 1"
```

** ConfigurationProfileChangeResult (status=OK):
- Warning: New configuration profile will be active after next boot.

```
** end
```

xCommand SystemUnit ConfigurationProfile List
List configuration profiles that has been stored in the system.

Requires user role: ADMIN

Example:
```c
xCommand SystemUnit ConfigurationProfile List
```
xCommand SystemUnit ConfigurationProfile Remove
Delete a configuration profile that has been stored in the system.

Requires user role: ADMIN

Parameters:
Name(r): <S: 0, 255>

Example:
  xCommand SystemUnit ConfigurationProfile Remove Name: "My_ConfigurationProfile_1"

xCommand SystemUnit ConfigurationProfile SaveCurrentConfigurationAs
Save the current system settings into a configuration profile. Assign a name to the new profile. The name is the unique identifier of the profile.

Requires user role: ADMIN

Parameters:
Name(r): <S: 0, 255>

Example:
  xCommand SystemUnit ConfigurationProfile SaveCurrentConfigurationAs Name: "My_ConfigurationProfile_1"

xCommand SystemUnit DateTime Get
Read the time and date from the system.

Requires user role: USER

Example:
  xCommand SystemUnit DateTime Get

xCommand SystemUnit DateTime Set
Set the date and time for the system, if not available from NTP (Network Time Protocol).

Requires user role: ADMIN

Parameters:
Year: <2008..2037>
Month: <1..12>
Day: <1..31>
Hour: <0..23>
Minute: <0..59>
Second: <0..59>

Example:
  xCommand SystemUnit DateTime Set Year:2012 Month:7 Day:3 Hour:12 Minute:0 Second:0

xCommand SystemUnit Diagnostics Run
This command runs all self-diagnostics commands on the system.

Requires user role: ADMIN

Parameters:
ResultSet: <Alerts/All/None>

Example:
  xCommand SystemUnit Diagnostics Run

xCommand SystemUnit FactoryReset
Reset the codec to factory default settings. The call logs are deleted and all system parameters are reset to default values. All files that have been uploaded to the codec are deleted. Option key(s) are not affected.

As a default the system restarts after the factory reset, but other behavior can be forced by selecting a different TrailingAction.

TrailingAction: Select Shutdown or NoAction to override the default behavior (Restart).

Requires user role: ADMIN

Parameters:
Confirm(r): <Yes>
TrailingAction: <NoAction/Rstart/Shutdown>

Example:
  xCommand SystemUnit FactoryReset Confirm: Yes
xCommand SystemUnit MenuPassword Set
Set a menu password to restrict access to Administrator Settings menu. If you have a remote control the password can also be set from the on screen menu. If you have a Cisco TelePresence Touch controller the menu password is set from the command line interface.

Requires user role: ADMIN

Parameters:
- Password(r): <S: 0, 255>

Example:
```
xCommand SystemUnit MenuPassword Set Password:***********
```

xCommand SystemUnit MenuPassword Validate
Validate that the supplied password is correct.

Requires user role: ADMIN

Parameters:
- Password(r): <S: 0, 255>

Example:
```
xCommand SystemUnit MenuPassword Validate Password:***********
```

xCommand SystemUnit Notifications RemoveAll
Clears the list of system notifications that are reported by xStatus SystemUnit Notifications Text/Type.

Requires user role: ADMIN

Example:
```
xCommand SystemUnit Notifications RemoveAll
```

xCommand SystemUnit OptionKey Add
Add an option key to support additional features.

Requires user role: ADMIN

Parameters:
- Key(r): <S: 16, 24>

Example:
```
xCommand SystemUnit OptionKey Add Key:******************
```

xCommand SystemUnit OptionKey List
List all option keys that have been added to the system. Added in TC7.3.3.

Requires user role: ADMIN

Example:
```
xCommand SystemUnit OptionKey List
```

xCommand SystemUnit OptionKey Remove
Remove an individual Option key. Added in TC7.3.3.

Requires user role: ADMIN

Parameters:
- Type(r): <DualDisplay/MultiSite/NaturalPresenter/PremiumResolution/RemoteMonitoring>

Example:
```
xCommand SystemUnit OptionKey Remove Type: PremiumResolution
```

xCommand SystemUnit OptionKey RemoveAll
Remove all Option keys.

Requires user role: ADMIN

Parameters:
- Confirm(r): <Yes>

Example:
```
xCommand SystemUnit OptionKey RemoveAll Confirm: Yes
```

xCommand SystemUnit ReleaseKey Add
Add the software release key. Used to enable new software (applicable for main software releases).

Requires user role: ADMIN

Parameters:
- Key(r): <S: 16, 24>

Example:
```
xCommand SystemUnit ReleaseKey Add Key:******************
```
xCommand SystemUnit ReleaseKey List
List all software versions that the system has a valid release key for.

Requires user role: ADMIN

Example:
  xCommand SystemUnit ReleaseKey List

xCommand SystemUnit ReleaseKey RemoveAll
Removes all Release keys.

Requires user role: ADMIN

Parameters:
  Confirm(r): <Yes>

Example:
  xCommand SystemUnit ReleaseKey RemoveAll Confirm: Yes

xCommand SystemUnit SoftwareUpgrade
Initiate a software upgrade by fetching the software on a given URL. If the server requires username and password these parameters must be included.

Requires user role: ADMIN

Parameters:
  URL(r): <S: 0, 255>
  UserName: <S: 0, 255>
  Password: <S: 0, 255>

Example:
  xCommand SystemUnit SoftwareUpgrade URL: "ftp://<ftp_server_ip_address>/s52000tc4_0_0.pkg" UserName: testDownload Password: 1234

UserInterface commands

xCommand UserInterface OSD Close
Clear all messages and indicators from the monitor(s).

Requires user role: USER

Parameters:
  Element(r): <Menu>

Example:
  xCommand UserInterface OSD Close Element: Menu

xCommand UserInterface ScreenShot Get
For internal use only.

Requires user role: ADMIN

Parameters:
  ScreenShotId(r): <S: 0, 50>

Example:
  xCommand UserInterface ScreenShot Get ScreenShotId:5

xCommand UserInterface ScreenShot List
For internal use only.

Requires user role: ADMIN

Example:
  xCommand UserInterface ScreenShot List

xCommand UserInterface ScreenShot Remove
For internal use only.

Requires user role: ADMIN

Parameters:
  ScreenShotId(r): <S: 0-50>

Example:
  xCommand UserInterface ScreenShot Remove ScreenShotId:5
xCommand UserInterface ScreenShot Request
For internal use only.

Requirements user role: ADMIN

Parameters:
- Type(r): <Touchpanel/OSD>
- ScreenShotId(r): <S: 0-50>

Example:
  xCommand UserInterface ScreenShot Request ScreenShotId: 3 Type: OSD

xCommand UserInterface ScreenShot Store
For internal use only.

Requirements user role: USER

Parameters:
- Type(r): <Touchpanel/OSD>
- Name: <S: 0, 35>
- ScreenShotId(r): <S: 0-50>

Example:
  xCommand UserInterface ScreenShot Store Type:OSD Name:5 ScreenShotId:5

UserManagement commands

xCommand UserManagement RemoteSupportUser Create
Create a remote support user passphrase that Technical Assistance Center (TAC) can use to access the system for troubleshooting. You can set duration for the validity of the passphrase. It expires in 7 days by default.

Requirements user role: ADMIN

Parameters:
- ExpiryDays: <1..31>

Example:
  xCommand UserManagement RemoteSupportUser Create
  *r UserCreate (status=OK):
    Username: remotesupport
    Passphrase: 1234567890

xCommand UserManagement RemoteSupportUser Delete
Delete the remote support user created with the command xCommand UserManagement RemoteSupportUser Create.

Requirements user role: ADMIN

Example:
  xCommand UserManagement RemoteSupportUser Delete

xCommand UserManagement RemoteSupportUser DisablePermanently
Disable the creation of new remote support users. To enable the remote support user again you must factory reset your system.

Requirements user role: ADMIN

Parameters:
- Confirm(r): <Yes>

Example:
  xCommand UserManagement RemoteSupportUser DisablePermanently Confirm: Yes
xCommand UserManagement RemoteSupportUser GetState
Retrieves the state of the generated remote support user, if one exists.

**Requires user role:** ADMIN

**Example:**
```
xCommand UserManagement RemoteSupportUser GetState
```

---

**Video commands**

**xCommand Video AutoPresentationStart Disable**
Not in use in this software version.

**Requires user role:** ADMIN

**Example:**
```
xCommand Video AutoPresentationStart Disable
```

**xCommand Video AutoPresentationStart Enable**
Not in use in this software version.

**Requires user role:** ADMIN

**Example:**
```
xCommand Video AutoPresentationStart Enable
```

**xCommand Video Layout SetPresentationView**
Set the presentation view mode.

View: Select Default when you want the presentation to be viewed with the default settings for the codec. Select Maximized when you want the presentation to be displayed in full screen. Select Minimized when you want the presentation to be displayed in a small picture on screen.

**Requires user role:** ADMIN

**Parameters:**

View(r): <Default/Maximized/Minimized>

**Example:**
```
xCommand Video Layout SetPresentationView View:Default
```
xCommand Video Matrix Assign

xCommand Video Matrix commands are a smart overlay to the xCommand Video Layout commands to make it easy to do simple video compositions.

Mode: Choose whether to replace the existing source on that output rendered full screen or to add it. Using Add, the layout engine will recompose the multiple sources automatically. Replace is the default value.

Output: Choose the output you wish to use for this layout.

SourceId: The identifier (ID) of the input source. Input Source [n] has ID n. Run the following API command to find the ID: xStatus Video Input Source.

Requires user role: USER

Parameters:

- Mode: <Add / Replace>
- Output (r): <1 – 2>
- SourceId (r): <1 – 3>

Example:

xCommand Video Matrix Assign Mode:Add Output:1 SourceId:1

xCommand Video Matrix Reset

Reset the content on the output to the default layout.

xCommand Video Matrix commands are a smart overlay to the xCommand Video Layout commands to make it easy to do simple video compositions.

Output: Choose the output you want to reset.

Requires user role: USER

Parameters:

- Output: <1 – 2>

Example:

xCommand Video Matrix Reset Output:1

xCommand Video Matrix Swap

xCommand Video Matrix commands are a smart overlay to the xCommand Video Layout commands to make it easy to do simple video compositions.

OutputA: The output you are swapping from.

OutputB: The output you are swapping to.

Requires user role: USER

Parameters:

- OutputA (r): <1 – 2>
- OutputB (r): <1 – 2>

Example:

xCommand Video Matrix Swap OutputA:1 OutputB:2

xCommand Video Matrix Unassign

Remove a source from an output. Just as with xCommand Video Matrix Assign the layout engine will recompose the remaining sources automatically.

xCommand Video Matrix commands are a smart overlay to the xCommand Video Layout commands to make it easy to do simple video compositions.

Output: Choose the output you wish to remove the source from.

SourceId: The identifier (ID) of the input source. Input Source [n] has ID n. Run the following API command to find the ID: xStatus Video Input Source.

Requires user role: USER

Parameters:

- Output (r): <1 – 2>
- SourceId (r): <1 – 3>

Example:

xCommand Video Matrix Unassign Output:1 SourceId:1

xCommand Video OSD Close

Closes all menus on the on-screen display.

Element: The on-screen menu.

Requires user role: ADMIN

Parameters:

- Element(r): <Menu>

Example:

xCommand Video OSD Close Element: Menu
xCommand Video PIP ActiveSpeaker Set
Sets position for the active speakers PIP (picture in picture).
Position: Predefined positions.
  CenterLeft: The ActiveSpeaker PIP appears on the left side of the screen, in center.
  CenterRight: The ActiveSpeaker PIP appears on the right side of the screen, in center.
  LowerLeft: The ActiveSpeaker PIP appears in the lower left corner of the screen.
  LowerRight: The ActiveSpeaker PIP appears in the lower right corner of the screen.
  UpperCenter: The ActiveSpeaker PIP appears on top of the screen, in center.
  UpperLeft: The ActiveSpeaker PIP appears in the upper left corner of the screen.
  UpperRight: The ActiveSpeaker PIP appears in the upper right corner of the screen.

Requires user role: ADMIN

Parameters:
  Position(r): <CenterLeft/CenterRight/LowerLeft/LowerRight/UpperCenter/UpperLeft/UpperRight>

Example:
  xCommand Video PIP ActiveSpeaker Set Position: UpperRight

xCommand Video PIP Presentation Set
Sets position for the presentation PIP (picture in picture).
Position: Predefined positions.
  CenterLeft: The presentation PIP appears on the left side of the screen, in center.
  CenterRight: The presentation PIP appears on the right side of the screen, in center.
  LowerLeft: The presentation PIP appears in the lower left corner of the screen.
  LowerRight: The presentation PIP appears in the lower right corner of the screen.
  UpperCenter: The presentation PIP appears on top of the screen, in center.
  UpperLeft: The presentation PIP appears in the upper left corner of the screen.
  UpperRight: The presentation PIP appears in the upper right corner of the screen.

Requires user role: ADMIN

Parameters:
  Position(r): <CenterLeft/CenterRight/LowerLeft/LowerRight/UpperCenter/UpperLeft/UpperRight>

Example:
  xCommand Video PIP Presentation Set Position: LowerLeft

xCommand Video PictureLayoutSet
Select the screen layout mode.
Target: Select if the target is the local layout or the remote layout.
CallId: The CallID is returned when the xCommand Dial command is run. During the call you can run the xStatus Call command to see the Callid.
LayoutFamily: Select a layout family.
CustomLayoutName: Enter a name for the layout.

Requires user role: USER

Parameters:
  Target: <local/remote>
  CallId: <0..65534>
  LayoutFamily(r): <auto/custom/equal/fullscreen/overlay/presentationlargespeaker/presentationsmallspeaker/prominent/single/speaker_full>
  CustomLayoutName: <S: 1, 128>

Example:
  xCommand Video PictureLayoutSet Target: Local LayoutFamily: equal
00362099a344106e16d3361556f8a.png

xCommand Video PreviewFilmstrip Set
Moves the location of the filmstrip associated with the layouts used in presentation preview mode.
Not in use in this software version.
  LowerCenter: The preview appears on the bottom of the screen, in center.
  LowerLeft: The preview appears in the lower left corner of the screen.
  LowerRight: The preview appears in the lower right corner of the screen.
  UpperCenter: The preview appears on top of the screen, in center.
  UpperLeft: The preview appears in the upper left corner of the screen.
  UpperRight: The preview appears in the upper right corner of the screen.

Requires user role: ADMIN

Parameters:
  Position(r): <LowerCenter/LowerLeft/LowerRight/UpperCenter/UpperLeft/UpperRight>

Example:
  xCommand Video PreviewFilmstrip Set Position: LowerCenter
xCommand Video Selfview Set
Sets self-view on/off and specifies its size and position. If the parameter is not specified, current value is used.

**Mode**: Selfview on/off
**FullscreenMode**: Self-view in fullscreen or pip.
**PIPPosition**: Predefined PIP positions.
**FullscreenMode**: Choose between displaying the self-view in full screen or not.
**PIPPosition**: Select the position for the self-view image.
**CenterLeft**: The self-view PiP appears on the left side of the screen, in center.
**CenterRight**: The self-view PiP appears on the right side of the screen, in center.
**LowerLeft**: The self-view PiP appears in the lower left corner of the screen.
**LowerRight**: The self-view PiP appears in the lower right corner of the screen.
**UpperCenter**: The self-view PiP appears on top of the screen, in center.
**UpperLeft**: The self-view PiP appears in the upper left corner of the screen.
**UpperRight**: The self-view PiP appears in the upper right corner of the screen.
**OnMonitorRole**: Displays self-view on monitors with this role.

**Requires user role**: ADMIN

**Parameters**:
- **Mode**: <On/Off>
- **FullscreenMode**: <On/Off>
- **PIPPosition**: <CenterLeft/CenterRight/LowerLeft/LowerRight/UpperCenter/UpperLeft/>
- **OnMonitorRole**: <First/Fourth/Second/Third>

**Example**:
- **Example 1**
  xCommand Video Selfview Set Mode: On FullscreenMode: Off PIPPosition: CenterLeft OnMonitorRole: First

- **Example 2**
  xCommand Video Selfview Set FullscreenMode: On OnMonitorRole: Second

---

**Experimental commands**
The Experimental commands are for testing only and should not be used unless agreed with Cisco. These commands are not documented and WILL change in later releases.
Chapter 5

xStatus commands
Description of the xStatus commands

In this chapter, you can find all of the xStatus commands and the responses. Status type commands return information about the system and system processes. You can query all information or just some of it.

We recommend you visit our web site regularly for updated versions of the manual.

Go to: http://www.cisco.com/go/sx-docs

Audio status

- xStatus Audio
- xStatus Audio Microphones Mute
- xStatus Audio Volume
- xStatus Audio VolumeMute
- xStatus Audio Input RemotInput [n] CallId
- xStatus Audio Input Connectors Microphone [n] ConnectionStatus
- xStatus Audio Input Connectors Microphone [n] EcReferenceDelay
- xStatus Audio Input Connectors HDMI [n] EcReferenceDelay

Camera status

- xStatus Camera
- xStatus Camera [n] Connected
- xStatus Camera [n] HardwareID
- xStatus Camera [n] Manufacturer
- xStatus Camera [n] Model
- xStatus Camera [n] SoftwareID
- xStatus Camera [n] SerialNumber
- xStatus Camera [n] IpAddress
- xStatus Camera [n] MacAddress
- xStatus Camera [n] Position Pan
- xStatus Camera [n] Position Tilt
- xStatus Camera [n] Position Zoom
- xStatus Camera [n] Position Focus
- xStatus Camera [n] Capabilities Options
- xStatus Camera [n] Flip
- xStatus Camera [n] UpgradeStatus
- xStatus Camera [n] DownloadProgress

Conference status

- xStatus Conference
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- xStatus Conference Presentation Protocol
- xStatus Conference Presentation Resolution Height
- xStatus Conference Presentation Resolution Width
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Audio status

**xStatus Audio**
Shows the top level overview of the audio status. The identities of the LocalInput, RemoteInput, LocalOutput and RemoteOutput are used when querying additional information.

**Value space of the result returned:**
<On/Off>

**Example:**
```plaintext
xStatus Audio Mute
*s Audio Mute: Off
** end
```

**xStatus Audio Volume**
Shows the volume level (dB) of the loudspeaker output.

**Value space of the result returned:**
<0..100>

**Example:**
```plaintext
xStatus Audio Volume
*s Audio Volume: 70
** end
```

**xStatus Audio VolumeMute**
Shows whether the endpoint volume is set to mute.

**Value space of the result returned:**
<Off/On>

**Example:**
```plaintext
xStatus Audio VolumeMute
*s Audio VolumeMute: Off
** end
```

**xStatus Audio Input RemoteInput [n] CallId**
Shows the CallId for the remote audio input. You can run the command xStatus Audio Input RemoteInput to find the identity [n] of the input.

**Value space of the result returned:**
<0..65534>

**Example:**
```plaintext
xStatus Audio Input RemoteInput 8 CallId
*s Audio Input RemoteInput 8 CallId: 28
** end
```

**xStatus Audio Input Connectors Microphone [n] ConnectionStatus**
Indicates whether a microphone is detected on the microphone input connector.

**Value space of the result returned:**
<NotConnected/HeadsetMicConnected/GenesisConnected/Connected>

**Example:**
```plaintext
xStatus Audio Input Connectors Microphone ConnectionStatus
*s Audio Input Connectors Microphone 1 ConnectionStatus: NotConnected
*s Audio Input Connectors Microphone 2 ConnectionStatus: Connected
** end
```

**xStatus Audio Input Connectors Microphone [n] EcReferenceDelay**
Returns the detected latency for each loudspeaker to microphone path. The result is in milliseconds.

**Value space of the result returned:**
<Integer>

**Example:**
```plaintext
xStatus Audio Input Connectors Microphone EcReferenceDelay
*s Audio Connectors Microphone 1 EcReferenceDelay: 120
** end
```
xStatus Audio Input Connectors HDMI [n] EcReferenceDelay
Returns the detected latency for each loudspeaker to microphone path for systems supporting HDMI input used as microphone input. The result is in milliseconds.

Value space of the result returned:
<Integer>

Example:
```cisco
xStatus Audio Input Connectors HDMI 1 EcReferenceDelay
*xs Audio Connectors HDMI 1 EcReferenceDelay: 0
** end
```

Call status

xStatus Call
Shows the top level overview of the call status. The call identity is used when query for additional information about the call.

Value space of the result returned:
<Idle/Dialling/Ringing/Connecting/Disconnected/OnHold/EarlyMedia/Preserved/RemotePreserved>

Example:
```cisco
xStatus Call 27 Status
*xs Call 27 Status: Connected
** end
```

xStatus Call [n] Direction
States the direction of the call initiation. You can run the command xStatus Call to find the call identity.

Value space of the result returned:
<Incoming/Outgoing>

Example:
```cisco
xStatus Call 27 Direction
*xs Call 27 Direction: Outgoing
** end
```

xStatus Call [n] Protocol
Shows the call protocol of the incoming or outgoing call. You can run the command xStatus Call to find the call identity.

Value space of the result returned:
<String>

Example:
```cisco
xStatus Call 27 Protocol
*xs Call 27 Protocol: "h323"
** end
```
**xStatus Call [n] CallType**
Shows the call type of the incoming or outgoing call. You can run the command xStatus Call to find the call identity.

*Value space of the result returned:*
   `<Video/Audio/AudioCanEscalate/ForwardAllCall/Unknown>`

*Example:*
```
xStatus Call 27 CallType
*s Call 27 CallType: Video
** end
```

**xStatus Call [n] RemoteNumber**
Shows the remote (far end) number or URI of an incoming or outgoing call. You can run the command xStatus Call to find the call identity.

*Value space of the result returned:*
   `<String>`

*Example:*
```
xStatus Call 27 RemoteNumber
*s Call 27 RemoteNumber: "5585232"
** end
```

**xStatus Call [n] CallbackNumber**
Shows the remote (far end) number or URI of an incoming or outgoing call, including the call protocol, for call back. You can run the command xStatus Call to find the call identity.

*Value space of the result returned:*
   `<String>`

*Example:*
```
xStatus Call 27 CallbackNumber
*s Call 27 CallbackNumber: "h323:firstname.lastname@company.com"
** end
```

**xStatus Call [n] DisplayName**
Shows the name of the remote (far end) participant in an incoming or outgoing call. You can run the command xStatus Call to find the call identity.

*Value space of the result returned:*
   `<String>`

*Example:*
```
xStatus Call 27 DisplayName
*s Call 27 DisplayName: "firstname.lastname@company.com"
** end
```

**xStatus Call [n] TransmitCallRate**
Shows the transmit bandwidth in the call in kilobits per second (kbps). You can run the command xStatus Call to find the call identity.

*Value space of the result returned:*
   `<Integer>`

*Example:*
```
xStatus Call 27 TransmitCallRate
*s Call 27 TransmitCallRate: 768
** end
```

**xStatus Call [n] ReceiveCallRate**
Shows the receive bandwidth in the call in kilobits per second (kbps). You can run the command xStatus Call to find the call identity.

*Value space of the result returned:*
   `<Integer>`

*Example:*
```
xStatus Call 27 ReceiveCallRate
*s Call 27 ReceiveCallRate: 4000
** end
```
xStatus Call [n] FacilityServiceId
When calling a facility service, the facility service id is shown. Otherwise the value 0 is returned.

Value space of the result returned:
<0..5>

Example:
```
xStatus Call FacilityServiceId
*s Call 3 FacilityServiceId: 1
** end
```

xStatus Call [n] Encryption Type
Shows the encryption type of the call. You can run the command xStatus Call to find the call identity.

Value space of the result returned:
<"None"/"Aes-128">

Example:
```
xStatus Call 27 Encryption Type
*s Call 27 Encryption Type: "None"
** end
```

xStatus Call [n] PlacedOnHold
Shows the placed on hold status of the call. You can run the command xStatus Call to find the call identity.

Value space of the result returned:
<True/False>

Example:
```
xStatus Call 27 PlacedOnHold
*s Call 27 PlacedOnHold: False
** end
```

xStatus Call [n] Duration
Shows the duration of a call (in seconds). You can run the command xStatus Call to find the call identity.

Value space of the result returned:
<Integer>

Example:
```
xStatus Call 27 Duration
*s Call 27 Duration: 2354
** end
```

xStatus Call [n] SecurityStatus
Security status of a call represents the least of the security statuses of all the endpoints involved in a CUCM call.

Value space of the result returned:
<Invalid/Unknown/NotAuthenticated/Authenticated>

xStatus Call [n] AnswerState
Indicates if a call is answered, ignored or has been automatically answered by a system.

Value space of the result returned:
<Unanswered/Ignored/Autoanswered/Answered>

Example:
```
xStatus Call AnswerState
*s Call 5 AnswerState: Answered
** end
```

xStatus Call [n] ModifyState
Shows the current state of a pending Call Modify operation. Not in use in this software version. OutgoingModify: a request CallEscalate to Video is pending. IncomingModify: a peer has requested to escalate the call to Video. Idle: No Call Modify operation is pending.

Value space of the result returned:
<Idle/Outgoing/Incoming>

Example:
```
xStatus Call ModifyState
*s Call 11 ModifyState: Idle
** end
```
xStatus Call [n] DeviceType
Indicates whether the remote system is a single endpoint or an MCU. Some Cisco endpoints (EX90, C40, C60, C90, SX20, SX80, MX200 G2, MX300 G2) have built-in MCU capabilities.

Value space of the result returned:
<Endpoint/MCU>

Example:
  xStatus Call DeviceType
  *s Call 4 DeviceType: Endpoint
  ** end

xStatus Call [n] AttendedTransferFrom
Shows the CallId for the call the current call was transferred from.

Value space of the result returned:
<Integer>

Example:
  xStatus Call 1 AttendedTransferFrom
  *s Call 1 AttendedTransferFrom: 1234
  ** end

Camera status

xStatus Camera
Shows the top level overview of the camera status.

xStatus Camera [n] Connected
Shows if the camera is connected or not.

Value space of the result returned:
<Ture/False>

Example:
  xStatus Camera 1 Connected
  *s Camera 1 Connected: True
  ** end

xStatus Camera [n] HardwareID
Shows the hardware identity of the camera.

Value space of the result returned:
<String>

Example:
  xStatus Camera 1 HardwareID
  *s Camera 1 HardwareID: "50000000"
  ** end

xStatus Camera [n] Manufacturer
Shows the manufacturer of the camera.

Value space of the result returned:
<String>

Example:
  xStatus Camera 1 Manufacturer
  *s Camera 1 Manufacturer: "TANDBERG"
  ** end
xStatus Camera [n] Model
Shows the camera model.

Value space of the result returned:
<String>

Example:
xStatus Camera 1 Model
*s Camera 1 Model: "PrecisionHD 1080p 12X"
** end

xStatus Camera [n] SoftwareID
Shows the software identity of the camera.

Value space of the result returned:
<String>

Example:
xStatus Camera 1 SoftwareID
*s Camera 1 SoftwareID: "S01718-4.0FINAL [ID:40063] 2010-10-20"
** end

xStatus Camera [n] SerialNumber
Shows the camera serial number.

Value space of the result returned:
<String>

Example:
xStatus Camera 1 SerialNumber
*s Camera 1 SerialNumber: "B1AB26B00010"
** end

xStatus Camera [n] IpAddress
Shows the camera IP address.

Value space of the result returned:
<String>

Example:
xStatus Camera 1 IpAddress
*s Camera 1 IpAddress: ""
** end

xStatus Camera [n] MacAddress
Shows the MAC (Media Access Control) address for the camera.

Value space of the result returned:
<String>

Example:
xStatus Camera 1 MacAddress
*s Camera 1 MacAddress: ""
** end

xStatus Camera [n] Position Pan
Shows the current pan (move left and right) position of the camera. The value range depends on camera type.

Value space of the result returned:
<-65535..65535>

Example:
xStatus Camera 1 Position Pan
*s Camera 1 Position Pan: 412
** end

xStatus Camera [n] Position Tilt
Shows the current tilt (move up and down) position of the camera. The value range depends on camera type.

Value space of the result returned:
<-65535..65535>

Example:
xStatus Camera 1 Position Tilt
*s Camera 1 Position Tilt: 106
** end
xStatus Camera [n] Position Zoom
Shows the current zoom (zoom in and out) position of the camera. The value range depends on camera type.

Value space of the result returned:
<0..65535>

Example:
xStatus Camera 1 Position Zoom
*s Camera 1 Position Zoom: 828
** end

xStatus Camera [n] Position Focus
Shows the current focus position of the camera. The value range depends on camera type.

Value space of the result returned:
<0..65535>

Example:
xStatus Camera 1 Position Focus
*s Camera 1 Position Focus: 4597
** end

xStatus Camera [n] Capabilities Options
Shows the camera capabilities (ptzf = pan, tilt, zoom, focus).

Value space of the result returned:
<String>

Example:
xStatus Camera 1 Capabilities Options
*s Camera 1 Capabilities Options: "ptzf"
** end

xStatus Camera [n] Flip
In Flip mode (vertical flip) the image can be flipped upside down.

Value space of the result returned:
<"Auto"/"On"/"Off”>

Example:
xStatus Camera 1 Flip
*s Camera 1 Flip: "Off"
** end

xStatus Camera [n] UpgradeStatus
Returns the status of the camera software upgrade.
None: No upgrade going on at the moment.
Downloading: Downloading the upgrade.
Installing: Installing the upgrade.
Rebooting: Rebooting the system to take the upgrade in use.

Value space of the result returned:
<None/Downloading/Installing/Rebooting>

Example:
xStatus Camera 1 UpgradeStatus
*s Camera 1 UpgradeStatus: None
** end

xStatus Camera [n] DownloadProgress
Indicates how many percent of the new camera software upgrade has been downloaded. Result -1 indicates that the information is not available for that camera type.

Value space of the result returned:
<Integer>

Example:
xStatus Camera 1 DownloadProgress
*s Camera 1 DownloadProgress: 0
** end
Conference status

xStatus Conference
Shows the top level overview of the conference status. The identity of the Conference Site can only be read during a call.

Value space of the result returned:
<On/Off>

Example:
xStatus Conference
*s Conference: Off
** end

xStatus Conference Presentation Mode
Shows the status of the secondary video stream.

Value space of the result returned:
<On/Off>

Example:
xStatus Conference Presentation Mode
*s Conference Presentation Mode: Off
** end

xStatus Conference Presentation Protocol
Shows the video protocol used when transmitting the presentation.

Value space of the result returned:
<String>

Example:
xStatus Conference Presentation Protocol
*s Conference Presentation Protocol: "H264"
** end

xStatus Conference Presentation Resolution Height
Shows the height of the presentation.

Value space of the result returned:
<0..3000>

Example:
xStatus Conference Presentation Resolution Height
*s Conference Presentation Resolution Height: 0
** end

xStatus Conference Presentation Resolution Width
Shows the width of the presentation.

Value space of the result returned:
<0..4000>

Example:
xStatus Conference Presentation Resolution Width
*s Conference Presentation Resolution Width: 0
** end

xStatus Conference Presentation SiteId
Shows the identity of the system that sends the presentation.

Value space of the result returned:
<0..65535>

Example:
xStatus Conference Presentation SiteId
*s Conference Presentation SiteId: 0
** end

xStatus Conference Presentation LocalSource
Shows the local video input source that is used when the presentation is sent from the local site.

Value space of the result returned:
<1..5>

Example:
xStatus Conference Presentation LocalSource
*s Conference Presentation LocalSource: 0
** end

xStatus Conference Presentation LocalSendingMode
Shows whether the presentations are set to be shown locally and sent to remote side, only shown locally or not shown at all.

Value space of the result returned:
<Off/LocalRemote/LocalOnly>

Example:
xStatus Conference Presentation LocalSendingMode
*s Conference Presentation LocalSendingMode: Off
** end
xStatus Conference Presentation LastLocalSource
Identifies the last used local presentation source.

Value space of the result returned:
<Integer>

Example:
```
xStatus Conference Presentation LastLocalSource
*s Conference Presentation LastLocalSource: 2
** end
```

xStatus Conference Presentation Instance [n] LocalSendingMode
Shows whether a presentation source is shared locally or with a remote participant. There can be multiple local presentations which all have their own instance.

Value space of the result returned:
<LocalOnly/LocalRemote/Off>

Example:
```
xStatus Conference Presentation Instance 1 LocalSendingMode
*s Conference Presentation Instance 1 LocalSendingMode: LocalOnly
** end
```

xStatus Conference Presentation Instance [n] LocalSource
Shows the SourceId for a current presentation. There can be multiple local presentations which all have their own instance.

Value space of the result returned:
<Integer>

Example:
```
xStatus Conference Presentation Instance 1 LocalSource
*s Conference Presentation Instance 1 LocalSource: 1
** end
```

xStatus Conference Site [n] Capabilities FECC NumberOfPresets
Shows the number of presets available for the input sources at a far end site.

Value space of the result returned:
<1..15>

Example:
```
xStatus Conference Site 2 Capabilities FECC NumberOfPresets
*s Conference Site 2 Capabilities FECC NumberOfPresets: 15
** end
```

xStatus Conference Site [n] Capabilities FECC NumberOfSources
Shows the number of input sources that can be connected at a far end site.

Value space of the result returned:
<1..5>

Example:
```
xStatus Conference Site 2 Capabilities FECC NumberOfSources
*s Conference Site 2 Capabilities FECC NumberOfSources: 5
** end
```

xStatus Conference Site [n] Capabilities FECC Source [n] SourceId
Shows the ID of an input source that can be connected at a far end site.

Value space of the result returned:
<Integer>

Example:
```
xStatus Conference Site 2 Capabilities FECC Source 1 SourceId
*s Conference Site 2 Capabilities FECC Source 1 SourceId: 6
** end
```

xStatus Conference Site [n] Capabilities FECC Source [n] Name
Shows the name of an input source that can be connected at a far end site.

Value space of the result returned:
<String>

Example:
```
xStatus Conference Site 2 Capabilities FECC Source 1 Name
*s Conference Site 2 Capabilities FECC Source 1 Name: "Main camera"
** end
```
xStatus Conference Site [n] Capabilities FECC Source [n] Options
Shows available options for an input source that can be connected at a far end site (for a camera: p=pan; t=tilt; z=zoom; f=focus).

Value space of the result returned:
<String>

Example:
   \texttt{xStatus Conference Site 2 Capabilities FECC Source 1 Options}
   *s Conference Site 2 Capabilities FECC Source 1 Options: "ptzf"
   ** end

xStatus Conference Site [n] Capabilities FECC Mode
Shows whether or not you have permission to control the input sources at a far end site.
On: Far end input source control is permitted.
Off: Far end input source control is not permitted.

Value space of the result returned:
<On/Off>

Example:
   \texttt{xStatus Conference Site 2 Capabilities FECC Mode}
   *s Conference Site 2 Capabilities FECC Mode: On
   ** end

xStatus Conference Site [n] Capabilities Presentation
Lists the presentation capabilities for other participants in the conference.

Value space of the result returned:
<True/False>

Example:
   \texttt{xStatus Conference Site 2 Capabilities Presentation}
   *s Conference Site 2 Capabilities Presentation: True
   ** end

xStatus Conference Site [n] MicrophonesMuted
Lists the audio mute status for other participants in the conference.

Value space of the result returned:
<Ture/False>

Example:
   \texttt{xStatus Conference Site 2 MicrophonesMuted}
   *s Conference Site 2 MicrophonesMuted: True
   ** end

xStatus Conference Site [n] Manufacturer
Shows the manufacturer of the video system at a far end site.

Value space of the result returned:
<String>

Example:
   \texttt{xStatus Conference Site 2 Manufacturer}
   *s Conference Site 2 Manufacturer: "Cisco"
   ** end

xStatus Conference Site [n] SoftwareID
Shows the ID of the software running of the video system at a far end site.

Value space of the result returned:
<String>

Example:
   \texttt{xStatus Conference Site 2 SoftwareID}
   *s Conference Site 2 SoftwareID: "TC5"
   ** end
xStatus Conference Site [n] BlackScreenCause
Shows the reason why the screen is black while in a CTMS (Cisco TelePresence Multipoint Switch) managed conference.
FirstParticipant: You are the first and only participant in the meeting.
LastParticipant: You are the only remaining participant in the meeting.
NoResources: The conference started with insufficient resources.
EarlyJoin: The scheduled conference has not started yet.
HostNotJoined: The conference is waiting for the host to join.
SecurityIssues: The video is blocked due to security issues.
NoVideo: It is a conference without video.
WebexOnly: It is a Webex only conference.

Value space of the result returned:
<None/Other/FirstParticipant/LastParticipant/NoResources/EarlyJoin/HostNotJoined/SecurityIssues/NoVideo/WebexOnly>
Example:
*s Conference Site 2 BlackScreenCause
** end

xStatus Conference Site [n] ConferenceExtended
Shows the status of conference extension (only relevant for conferences scheduled from CTS-MAN (Cisco TelePresence Manager); they can be extended only once).
Unsupported: Conference extension is not supported.
NotExtended: The conference is not (yet) extended.
Extended: The conference has been extended, and is currently in the extended phase.

Value space of the result returned:
<Unsupported/NotExtended/Extended>
Example:
*xStatus Conference Site 2 ConferenceExtended
*s Conference Site 17 ConferenceExtended: None
** end

xStatus Conference Site [n] BookingId
Shows the booking ID of a conference (if assigned). The booking ID can be used for easy identification of a call or conference.

Value space of the result returned:
<String>
Example:
*xStatus Conference Site 2 BookingId
*s Conference Site 33 BookingId: "MyConference"
** end

xStatus Conference Site [n] SecurityStatus
Security status of a call represents the least of the security statuses of all the endpoints involved in a CUCM call.
Invalid: Initial status.
Unknown: In the absence of the Call-Info header, that CUCM uses to pass this status to the phone, the phone assumes a value of Unknown.
NotAuthenticated: The current connected call is not signaling authenticated. This call is not secure.
Authenticated: The current connected call is signaling authenticated. This is not a fully secured call.
Encrypted: Encrypted indicates the current connected call is signaling/media encrypted. This call is secure.

Value space of the result returned:
<Invalid/Unknown/Authenticated/NotAuthenticated/Encrypted>
Example:
*xStatus Conference Site SecurityStatus
*s Conference Site 21 SecurityStatus: Unknown
** end

xStatus Conference Site [n] UnattendedTransfer
Indicates whether Unattended Transfer is available for the call.

Value space of the result returned:
<True/False>
Example:
*xStatus Conference Site UnattendedTransfer
*s Conference Site 14 UnattendedTransfer: True
** end
**xStatus Conference Site [n] AttendedTransfer**
Indicates whether Attended Transfer is available for the call.

**Value space of the result returned:**
<True/False>

**Example:**
```plaintext
xStatus Conference Site AttendedTransfer
's Conference Site 14 AttendedTransfer: True
** end
```

**xStatus Conference Site [n] Appearance**
Returns identification for the shared line appearance in the call.

**Value space of the result returned:**
<Integer>

**Example:**
```plaintext
xStatus Conference Site Appearance
's Conference Site 14 Appearance: 0
** end
```

**xStatus Conference Site [n] GCI**
Returns Global Call Identification (GCI) of the call. The GCI is used to identify whether the call is remote or local and it is provided by CUCM.

**Value space of the result returned:**
<String>

**Example:**
```plaintext
xStatus Conference Site GCI
's Conference Site 14 GCI: ""
** end
```

**xStatus Conference Site [n] CalText**
Returns the Confidential Access Level (CAL) of the session sent by vendors that support AS-SIP.

**Value space of the result returned:**
<String>

**Example:**
```plaintext
xStatus Conference Site CalText
's Conference Site 14 CalText: ""
** end
```

**xStatus Conference Site [n] Hold**
Indicates whether the far-end site can be placed on hold or not.

**Value space of the result returned:**
<True/False>

**Example:**
```plaintext
xStatus Conference Site Hold
's Conference Site 2 Hold: True
** end
```

**xStatus Conference Site [n] Preserved**
Indicates if the far end site is having connection issues, and has been preserved to avoid invoking features that can break the call.

**Value space of the result returned:**
<Off/Local/Remote>

**Example:**
```plaintext
xStatus Conference Site Preserved
's Conference Site 3 Preserved: Off
** end
```

**xStatus Conference Line [n] Mode**
Indicates whether the system is configured as private or shared line on CUCM.

**Value space of the result returned:**
<Shared/Private>

**Example:**
```plaintext
xStatus Conference Line Mode
's Conference Line 1 Mode: Private
** end
```

**xStatus Conference Line [n] Appearance Status**
Returns the status of the shared line call.

**Value space of the result returned:**
<Idle/Private/Trying/Progressing/Alerting/Active/Held/HeldPrivate/Unknown>

**Example:**
```plaintext
xStatus Conference Line 1 Appearance Status
's Conference Line 1 Appearance Status 5464 Status: Held
** end
```
**xStatus Conference Line [n] Appearance URI**
Returns the URI of the shared line call. Not visible for a private call.

Value space of the result returned:

<String>

**Example:**
```
xStatus Conference Line 1 Appearance URI
*s Conference Line 1 Appearance URI: "12345@cisco.com"
** end
```

**xStatus Conference Line [n] Appearance GCI**
Returns Global Call Identification (GCI) of the shared line call. The GCI is used to identify whether the call is remote or local and it is provided by CUCM.

Value space of the result returned:

<String>

**Example:**
```
xStatus Conference Line 1 Appearance GCI
*s Conference Line 1 Appearance GCI: "1-161386"
** end
```

**xStatus Conference Multipoint Mode**
Shows how the Multipoint video conferences are handled. See xConfiguration Conference Multipoint Mode for more information.

Value space of the result returned:

<Off/MultiWay/MultiSite/Auto/CUCMMediaResourceGroupList>

**Example:**
```
xStatus Conference Multipoint Mode
*s Conference Multipoint Mode: "MultiWay"
** end
```

**xStatus Conference DoNotDisturb**
Shows whether DoNotDisturb mode is switched on or off.

Value space of the result returned:

<Active/Inactive>

**Example:**
```
xStatus Conference DoNotDisturb
*s Conference DoNotDisturb: Inactive
** end
```

**xStatus Conference ActiveSpeaker Mode**
Shows whether the ActiveSpeaker mode is switched on or off.

Value space of the result returned:

<On/Off>

**Example:**
```
xStatus Conference ActiveSpeaker Mode
*s Conference ActiveSpeaker Mode: Off
** end
```

**xStatus Conference ActiveSpeaker SiteId**
Shows the SiteId (CallId) of the current active speaker.

Value space of the result returned:

<Integer>

**Example:**
```
xStatus Conference ActiveSpeaker SiteId
*s Conference ActiveSpeaker SiteId: 0
** end
```

**xStatus Conference ActiveSpeaker Manual SiteId**
Shows the SiteId (CallId) for the participant locked as the active speaker in the conference.

Value space of the result returned:

<Integer>

**Example:**
```
xStatus Conference ActiveSpeaker Manual SiteId
*s Conference ActiveSpeaker Manual SiteId: 0
** end
```
xStatus Conference SelectedCallProtocol
Indicates which call protocol is used as default.

Value space of the result returned:
<H323/SIP/H320>

Example:
  *s Conference SelectedCallProtocol: SIP
** end

Diagnostics status

xStatus Diagnostics
Shows the top level overview of the diagnostics. The example shows the status for an ongoing call. The identities of the call and channels are used when querying additional information.

xStatus Diagnostics Call [n] Channels IncomingAudioChannel [n] Netstat 1 Jitter
xStatus Diagnostics Call [n] Channels IncomingVideoChannel [n] Netstat 1 Jitter
xStatus Diagnostics Call [n] Channels IncomingDataChannel [n] Netstat 1 Jitter
xStatus Diagnostics Call [n] Channels OutgoingAudioChannel [n] Netstat 1 Jitter
xStatus Diagnostics Call [n] Channels OutgoingVideoChannel [n] Netstat 1 Jitter
xStatus Diagnostics Call [n] Channels OutgoingDataChannel [n] Netstat 1 Jitter

Shows the jitter at the present moment in the incoming/outgoing channel, as specified by RFC 3550.

Value space of the result returned:
<Integer>

Example:
  xStatus Diagnostics Call 27 Channels OutgoingDataChannel 327 Netstat 1 Jitter
  *s Diagnostics Call 27 Channels OutgoingDataChannel 327 Netstat 1 Jitter: 0
  ** end
xStatus Diagnostics Call [n] Channels IncomingAudioChannel [n] Netstat 1 Packets
xStatus Diagnostics Call [n] Channels IncomingVideoChannel [n] Netstat 1 Packets
xStatus Diagnostics Call [n] Channels IncomingDataChannel [n] Netstat 1 Packets
xStatus Diagnostics Call [n] Channels OutgoingAudioChannel [n] Netstat 1 Packets
xStatus Diagnostics Call [n] Channels OutgoingVideoChannel [n] Netstat 1 Packets
xStatus Diagnostics Call [n] Channels OutgoingDataChannel [n] Netstat 1 Packets

Shows the number of packets received/sent in the incoming/outgoing channels.

Value space of the result returned:
<Integer>

Example:
    xStatus Diagnostics Call 27 Channels OutgoingDataChannel 327 Netstat 1 Packets
    *s Diagnostics Call 27 Channels OutgoingDataChannel 327 Netstat 1 Packets: 405
    ** end

xStatus Diagnostics Call [n] Channels IncomingAudioChannel [n] Netstat 1 Loss
xStatus Diagnostics Call [n] Channels IncomingVideoChannel [n] Netstat 1 Loss
xStatus Diagnostics Call [n] Channels IncomingDataChannel [n] Netstat 1 Loss
xStatus Diagnostics Call [n] Channels OutgoingAudioChannel [n] Netstat 1 Loss
xStatus Diagnostics Call [n] Channels OutgoingVideoChannel [n] Netstat 1 Loss
xStatus Diagnostics Call [n] Channels OutgoingDataChannel [n] Netstat 1 Loss

Shows the number of packets lost in the incoming/outgoing channels.

Value space of the result returned:
<Integer>

Example:
    xStatus Diagnostics Call 27 Channels OutgoingDataChannel 327 Netstat 1 Loss
    *s Diagnostics Call 27 Channels OutgoingDataChannel 327 Netstat 1 Loss: 96
    ** end
xStatus Diagnostics Call [n] Channels IncomingAudioChannel [n] Netstat 1 LastIntervalLost

xStatus Diagnostics Call [n] Channels IncomingVideoChannel [n] Netstat 1 LastIntervalLost

xStatus Diagnostics Call [n] Channels IncomingDataChannel [n] Netstat 1 LastIntervalLost

xStatus Diagnostics Call [n] Channels OutgoingAudioChannel [n] Netstat 1 LastIntervalLost

xStatus Diagnostics Call [n] Channels OutgoingVideoChannel [n] Netstat 1 LastIntervalLost

xStatus Diagnostics Call [n] Channels OutgoingDataChannel [n] Netstat 1 LastIntervalLost

Shows the number of packets lost during the last interval for the incoming/outgoing channels.

Value space of the result returned:
<Integer>

Example:
xStatus Diagnostics Call 27 Channels IncomingDataChannel 327 Netstat 1 LastIntervalLost
*s Diagnostics Call 27 Channels IncomingDataChannel 327 Netstat 1 LastIntervalLost: 0
** end

xStatus Diagnostics Call [n] Channels IncomingAudioChannel [n] Netstat 1 LastIntervalReceived

xStatus Diagnostics Call [n] Channels IncomingVideoChannel [n] Netstat 1 LastIntervalReceived

xStatus Diagnostics Call [n] Channels IncomingDataChannel [n] Netstat 1 LastIntervalReceived

xStatus Diagnostics Call [n] Channels OutgoingAudioChannel [n] Netstat 1 LastIntervalReceived

xStatus Diagnostics Call [n] Channels OutgoingVideoChannel [n] Netstat 1 LastIntervalReceived

xStatus Diagnostics Call [n] Channels OutgoingDataChannel [n] Netstat 1 LastIntervalReceived

Shows the number of packets received during the last interval for the incoming/outgoing channels.

Value space of the result returned:
<Integer>

Example:
xStatus Diagnostics Call 27 Channels IncomingDataChannel 327 Netstat 1 LastIntervalReceived
*s Diagnostics Call 27 Channels IncomingDataChannel 327 Netstat 1 LastIntervalReceived: 84
** end
xStatus Diagnostics Call [n] Channels IncomingAudioChannel [n] Netstat 1 Drop
xStatus Diagnostics Call [n] Channels IncomingVideoChannel [n] Netstat 1 Drop
xStatus Diagnostics Call [n] Channels IncomingDataChannel [n] Netstat 1 Drop
xStatus Diagnostics Call [n] Channels OutgoingAudioChannel [n] Netstat 1 Drop
xStatus Diagnostics Call [n] Channels OutgoingVideoChannel [n] Netstat 1 Drop
xStatus Diagnostics Call [n] Channels OutgoingDataChannel [n] Netstat 1 Drop

Shows the number of packets dropped in the incoming/outgoing channel.

Value space of the result returned:

<Integer>

Example:

```plaintext
xStatus Diagnostics Call 27 Channels OutgoingDataChannel 327 Netstat 1 Drop
```

* Diagnostics Call 27 Channels OutgoingDataChannel 327 Netstat 1 Drop: 0

** end

xStatus Diagnostics Call [n] Channels IncomingAudioChannel [n] Netstat 1 Bytes
xStatus Diagnostics Call [n] Channels IncomingVideoChannel [n] Netstat 1 Bytes
xStatus Diagnostics Call [n] Channels IncomingDataChannel [n] Netstat 1 Bytes
xStatus Diagnostics Call [n] Channels OutgoingAudioChannel [n] Netstat 1 Bytes
xStatus Diagnostics Call [n] Channels OutgoingVideoChannel [n] Netstat 1 Bytes
xStatus Diagnostics Call [n] Channels OutgoingDataChannel [n] Netstat 1 Bytes

Shows the number of bytes received/sent in the incoming/outgoing channel.

Value space of the result returned:

<Integer>

Example:

```plaintext
xStatus Diagnostics Call 27 Channels OutgoingDataChannel 327 Netstat 1 Bytes
```

* Diagnostics Call 27 Channels OutgoingDataChannel 327 Netstat 1 Bytes: 129920

** end
Shows the bandwidth for the incoming/outgoing channel.

Value space of the result returned:
<Integer>

Example:
```
xStatus Diagnostics Call 27 Channels OutgoingDataChannel 327 Netstat 1 ChannelRate
*s Diagnostics Call 27 Channels OutgoingDataChannel 327 Netstat 1 ChannelRate: 128000
** end
```

Shows the maximum jitter that has been measured during last time interval (5 seconds).

Value space of the result returned:
<Integer>

Example:
```
xStatus Diagnostics Call 27 Channels OutgoingDataChannel 327 Netstat 1 MaxJitter
*s Diagnostics Call 27 Channels OutgoingDataChannel 327 Netstat 1 MaxJitter: 0
** end
```
H320 status

xStatus H320
Shows the top level overview of the H320 status.

xStatus H320 Gateway Status
Returns the state of the H320 Gateway, if the codec is paired with an ISDN Link.

Value space of the result returned:
<OK/OKWithWarning/Error/Inactive/Warning>

Example:
```
xStatus H320 Gateway Status
*s H320 Gateway Status: Error
** end
```

xStatus H320 Gateway Address
Returns the IPv4 address of the ISDN Gateway, if the endpoint is paired to one.

Value space of the result returned:
<OK/OKWithWarning/Error/Inactive>

Example:
```
xStatus H320 Gateway Address
*s H320 Gateway Status: Inactive
** end
```

xStatus H320 Gateway Number
Returns the IPv6 address of the ISDN Gateway if the endpoint is paired to one.

Value space of the result returned:
<String>

Example:
```
xStatus H320 Gateway Number
*s H320 Gateway Number: ""
** end
```

xStatus H320 Gateway Mode
Returns information on the type of calls the ISDN Gateway is configured for, if the codec is paired with an ISDN Link.

Value space of the result returned:
<Unknown/PRI/BRI/External/G703>

Example:
```
xStatus H320 Gateway Mode
*s H320 Gateway Mode: Unknown
** end
```

xStatus H320 Gateway Reason
Shows the reason for rejected Gateway registration. Only available if the codec is connected to an ISDN Link.

Value space of the result returned:
<String>

Example:
```
xStatus H320 Gateway Reason
*s H320 Gateway Reason: ""
** end
```

xStatus H320 Gateway Id
Returns the unique identification of the H320 Gateway, if the codec is paired with an ISDN Link.

Value space of the result returned:
<String>

Example:
```
xStatus H320 Gateway Id
*s H320 Gateway Id: "00:50:60:0B:EF:11"
** end
```
H323 status

xStatus H323
Shows the top level overview of the H323 status.

xStatus H323 Gatekeeper Status
Shows the gatekeeper registration status.

Value space of the result returned:
Required/Discovering/Authenticated/Registering/Registered/Inactive/Rejected

Example:
```
xStatus H323 Gatekeeper Status
*s H323 Gatekeeper Status: Registered
** end
```

xStatus H323 Gatekeeper Address
Displays the IP address of the gatekeeper where the system is registered.

Value space of the result returned:
<String>

Example:
```
xStatus H323 Gatekeeper Address
*s H323 Gatekeeper Address: "192.0.1.20"
** end
```

xStatus H323 Gatekeeper Port
Shows the port which is used when connecting to on the gatekeeper.

Value space of the result returned:
<Integer>

Example:
```
xStatus H323 Gatekeeper Port
*s H323 Gatekeeper Port: 1719
** end
```

xStatus H323 Gatekeeper Reason
Shows the reason for rejected registration.

Value space of the result returned:
<String>

Example:
```
xStatus H323 Gatekeeper Reason
*s H323 Gatekeeper Reason: ""
** end
```

xStatus H323 Mode Status
Shows the status for H.323 registration.

Enabled: Registration is enabled.
Disabled: Registration is disabled, because SIP is enabled.
NotAvailable: Status is not available.

Value space of the result returned:
<String>

Example:
```
xStatus H323 Mode Status
*s H323 Mode Status: "Disabled"
** end
```
HttpFeedback status

xStatus HttpFeedback
Shows the top level overview of the HTTP status.

xStatus HttpFeedback [1..4] URL
Shows the URL (Uniform Resource Locator) of the HTTP server. There can be up to three HTTP servers, specified by the URL.

Value space of the result returned:
<String>

Example:
   xStatus HttpFeedback 1 URL
   ** end

xStatus HttpFeedback [1..4] Expression [1..15]
Shows the feedback from the HTTP server. There can be up to 15 expressions for each URL. See the xCommand HttpFeedback commands for more information.

Value space of the result returned:
<String>

ICE status

xStatus ICE Configured
Shows the ICE configuration status. ICE (Interactive Connectivity Establishment, RFC 5245) is a NAT traversal solution that the endpoints can use to discover the optimized media path. Thus the shortest route for audio and video is always secured between the endpoints.

Value space of the result returned:
<On/Off>

Example:
   xStatus ICE Configured
   "s ICE Configured: "Off"
   ** end

xStatus ICE Defaultcandidate
Returns the default candidate where the endpoint initially receives media.

Value space of the result returned:
<Host/Rflx/Relay>

Example:
   xStatus ICE Defaultcandidate
   "s ICE Defaultcandidate: "Host"
   ** end

xStatus ICE Turn IP
Returns the IP address of the TURN server that is currently in use.

Value space of the result returned:
<String>

Example:
   xStatus ICE Turn IP
   "s ICE Turn IP: "192.0.1.20"
   ** end
xStatus ICE Turn Hostname
Returns the hostname, or IP address, that is configured as the TURN server.

Value space of the result returned:
<String>

Example:
```plaintext
xStatus ICE Turn Hostname
*s ICE Turn Hostname: "callway.medianetworkservices.com"
** end
```

xStatus ICE Turn Username
Returns the user name used for accessing the TURN server.

Value space of the result returned:
<String>

Example:
```plaintext
xStatus ICE Turn Username
*s ICE Turn Username: "username"
** end
```

xStatus ICE Turn Transport
Shows which transport protocol is used.

Value space of the result returned:
<UDP/TCP/Unknown>

Example:
```plaintext
xStatus ICE Turn Transport
*s ICE Turn Transport: Unknown
** end
```

xStatus ICE Call Result
Shows the state of the ICE routing in the present call.

Value space of the result returned:
<Succeeded/Failed/Unsupported/Mangled>

Example:
```plaintext
xStatus ICE Call Result
*s ICE Call 0 Result: "Unsupported"
** end
```

xStatus ICE Call Local Candidate
Returns the network interface type the local system is using to send media.

Value space of the result returned:
<HOST/PRFLX/SRFLX/RELAY>

Example:
```plaintext
xStatus ICE Call Local Candidate
*s ICE Call 1 Local Candidate: "HOST"
** end
```

xStatus ICE Call Local IP
Returns the IP address the local system is using for media routing in the present call.

Value space of the result returned:
<String>

Example:
```plaintext
xStatus ICE Call Local IP
*s ICE Call 1 Local IP: "192.0.1.20"
** end
```
xStatus ICE Call Remote Candidate
Returns the network interface type the remote system is using to send media.
HOST: The far-end receives media on its own IP address.
PRFLX: The far-end receives media on its public IP address as seen by the remote Peer.
SRFLX: The far-end receives media on its public IP address as seen by the TURN server.
RELAY: The far-end receives media on the IP address and port allocated on the TURN server, and is
used as a fallback until ICE has concluded.

Value space of the result returned:
<HOST/PRFLX/SRFLX/RELAY>

Example:
```
xStatus ICE Call Remote Candidate
  *s ICE Call 1 Remote Candidate: "SRFLX"
  ** end
```

xStatus ICE Call Remote IP
Returns the IP address the remote system is using for media routing in the present call.

Value space of the result returned:
<String>

Example:
```
xStatus ICE Call Remote IP
  *s ICE Call 1 Remote IP: "192.0.1.20"
  ** end
```

xStatus ICE Turn Discovermode
Returns the result of the turn server test, if xConfiguration SIP Profile[1] Turn DiscoverMode is set to
On.
Verified: The server was reached, and the user name and password were received.
NotVerified: Configuration has been received, but neither server or credentials has been verified.
Failed: The server was not reached.
Off: Turn discovery mode is set to Off.

Value space of the result returned:
<Verified/NotVerified/Failed/Off>

Example:
```
xStatus ICE Turn Discovermode
  *s ICE Turn Discovermode: "Verified"
  ** end
```
Logging status

xStatus Logging ExtendedLogging Mode
Indicates whether extended logging of diagnostics is turned on or off.

Value space of the result returned:
<On/Off>

Example:
    xStatus Logging ExtendedLogging Mode
    *s Logging ExtendedLogging Mode: Off
    ** end

MediaChannels status

xStatus MediaChannels
Shows the top level overview of the media channel status. The example shows the status for an ongoing call. The identities of the call and channels are used when querying additional information.

xStatus MediaChannels Call [n] IncomingAudioChannel [n] Encryption Status
Shows the encryption status on the incoming channel.

Value space of the result returned:
<On/Off>

Example:
    xStatus MediaChannels Call 27 IncomingAudioChannel 327 Encryption Status
    *s MediaChannels Call 27 IncomingAudioChannel 327 Encryption Status: Off
    ** end

xStatus MediaChannels Call [n] IncomingAudioChannel [n] Audio Protocol
Shows the audio algorithm for the incoming audio channel.
AACLD: The AAC-LD is an MPEG-4 Low Delay Audio Coder audio compression format.
G722: The G.722 algorithm is an ITU standard.
G7221: The G.722.1 algorithm is a licensed royalty-free ITU-T standard.
G711Mu: The G.711 Mu-law compression algorithm is used in North America and Japan.
G711A: The G.711 A-law compression algorithm is used in Europe and the rest of the world.
G729: The G.729 algorithm is an ITU standard.
G729AB: The G.729 annex A and B is an ITU standard.
Opus: Opus is a lossy audio compression format.

Value space of the result returned:
<AACLD/G722/G7221/G711Mu/G711A/G729/G729AB/Opus>

Example:
    xStatus MediaChannels Call 27 IncomingAudioChannel 327 Audio Protocol
    *s MediaChannels Call 27 IncomingAudioChannel 327 Audio Protocol: AACLD
    ** end
xStatus MediaChannels Call [n] IncomingAudioChannel [n] Audio Mute
Audio mute status of incoming audio.

Value space of the result returned:
<Ture|False>

Example:
xStatus MediaChannels Call 27 IncomingAudioChannel 327 Audio Mute
*s MediaChannels Call 27 IncomingAudioChannel 327 Audio Mute: True
** end

xStatus MediaChannels Call [n] IncomingAudioChannel [n] Audio Channels
Shows the number of incoming audio channels.

Value space of the result returned:
<Integer>

Example:
xStatus MediaChannels Call 27 IncomingAudioChannel 327 Audio Channels
*s MediaChannels Call 27 IncomingAudioChannel 327 Audio Channels: 1
** end

xStatus MediaChannels Call [n] IncomingAudioChannel [n] Transport RTP Local IpAddress
Shows the local IP address of the Real-time Transport Protocol (RTP) port for the incoming audio in the media channel.

Value space of the result returned:
<String>

Example:
xStatus MediaChannels Call 27 IncomingAudioChannel 327 Transport RTP Local IpAddress
*s MediaChannels Call 27 IncomingAudioChannel 327 Transport RTP Local IpAddress: "192.168.24.190"
** end

xStatus MediaChannels Call [n] IncomingAudioChannel [n] Transport RTP Remote IpAddress
Shows the remote IP address of the Real-time Transport Protocol (RTP) port for the incoming audio in the media channel.

Value space of the result returned:
<String>

Example:
xStatus MediaChannels Call 27 IncomingAudioChannel 327 Transport RTP Remote IpAddress
*s MediaChannels Call 27 IncomingAudioChannel 327 Transport RTP Remote IpAddress: "192.168.136.130"
** end

xStatus MediaChannels Call [n] IncomingAudioChannel [n] Transport RTP Remote Port
Shows the remote UDP port number of the Real-time Transport Protocol (RTP) port for the incoming audio in the media channel.

Value space of the result returned:
<Integer>

Example:
xStatus MediaChannels Call 27 IncomingAudioChannel 327 Transport RTP Remote Port
*s MediaChannels Call 27 IncomingAudioChannel 327 Transport RTP Remote Port: 16404
** end
xStatus MediaChannels Call [n] IncomingAudioChannel [n] Transport RTCP Local IpAddress
Shows the local IP address of the Real-time Transport Control Protocol (RTCP) port for the incoming audio in the media channel.

Value space of the result returned:
<String>

Example:
```plaintext
xStatus MediaChannels Call 27 IncomingAudioChannel 327 Transport RTCP Local IpAddress
*s MediaChannels Call 27 IncomingAudioChannel 327 Transport RTCP Local IpAddress: "192.168.24.190"
** end
```

xStatus MediaChannels Call [n] IncomingAudioChannel [n] Transport RTCP Local Port
Shows the local UDP port number of the Real-time Transport Control Protocol (RTCP) port for the incoming audio in the media channel.

Value space of the result returned:
<Integer>

Example:
```plaintext
xStatus MediaChannels Call 27 IncomingAudioChannel 327 Transport RTCP Local Port
*s MediaChannels Call 27 IncomingAudioChannel 327 Transport RTCP Local Port: 16405
** end
```

xStatus MediaChannels Call [n] IncomingAudioChannel [n] Transport RTCP Remote IpAddress
Shows the remote IP address of the Real-time Transport Control Protocol (RTCP) port for the incoming audio in the media channel.

Value space of the result returned:
<String>

Example:
```plaintext
xStatus MediaChannels Call 27 IncomingAudioChannel 327 Transport RTCP Remote IpAddress
*s MediaChannels Call 27 IncomingAudioChannel 327 Transport RTCP Remote IpAddress: "192.168.136.130"
** end
```

xStatus MediaChannels Call [n] IncomingAudioChannel [n] Transport RTCP Remote Port
Shows the remote UDP port number of the Real-time Transport Control Protocol (RTCP) port for the incoming audio in the media channel.

Value space of the result returned:
<Integer>

Example:
```plaintext
xStatus MediaChannels Call 27 IncomingAudioChannel 327 Transport RTCP Remote Port
*s MediaChannels Call 27 IncomingAudioChannel 327 Transport RTCP Remote Port: 50933
** end
```

xStatus MediaChannels Call [n] IncomingVideoChannel [n] Encryption Status
Shows the encryption status on the incoming channel.

Value space of the result returned:
<On/Off>

Example:
```plaintext
xStatus MediaChannels Call 27 IncomingVideoChannel 330 Encryption Status
*s MediaChannels Call 27 IncomingVideoChannel 330 Encryption Status: Off
** end
```

xStatus MediaChannels Call [n] IncomingVideoChannel [n] ChannelRole
Shows if the incoming channel is the main video channel or presentation channel.

Value space of the result returned:
<Main/Presentation/Legacy>

Example:
```plaintext
xStatus MediaChannels Call 27 IncomingVideoChannel 330 ChannelRole
*s MediaChannels Call 27 IncomingVideoChannel 330 ChannelRole: Main
** end
```
xStatus MediaChannels Call [n] IncomingVideoChannel [n] Video Protocol
Shows the video algorithm for the incoming video channel.
H264: The H.264 algorithm is an ITU-T standard for video compression.
H263: The H.263 algorithm is an ITU-T standard for video compression.
H261: The H.261 algorithm is an ITU-T standard for video compression. Shows the video algorithm for the incoming video channel.
H264: The H.264 algorithm is an ITU-T standard for video compression.
H263: The H.263 algorithm is an ITU-T standard for video compression.

Value space of the result returned:
<H264/H263pp/H263>

Example:
```c
xStatus MediaChannels Call 27 IncomingVideoChannel 330 Video Protocol
  #s MediaChannels Call 27 IncomingVideoChannel 330 Video Protocol: H264
** end
```

xStatus MediaChannels Call [n] IncomingVideoChannel [n] Video ResolutionY
Shows the height (resolution in direction Y) of the incoming video.

Value space of the result returned:
<Integer>

Example:
```c
xStatus MediaChannels Call 27 IncomingVideoChannel 330 Video ResolutionY
  #s MediaChannels Call 27 IncomingVideoChannel 330 Video ResolutionY: 448
** end
```

xStatus MediaChannels Call [n] IncomingVideoChannel [n] Video FrameRate
Shows the video frame rate of the incoming channel.

Value space of the result returned:
<Integer>

Example:
```c
xStatus MediaChannels Call 27 IncomingVideoChannel 330 Video FrameRate
  #s MediaChannels Call 27 IncomingVideoChannel 330 Video FrameRate: 25
** end
```

xStatus MediaChannels Call [n] IncomingVideoChannel [n] Video ResolutionX
Shows the width (resolution in direction X) of the incoming video.

Value space of the result returned:
<Integer>

Example:
```c
xStatus MediaChannels Call 27 IncomingVideoChannel 330 Video ResolutionX
  #s MediaChannels Call 27 IncomingVideoChannel 330 Video ResolutionX: 768
** end
```
xStatus MediaChannels Call \[n\] IncomingVideoChannel \[n\] Transport RTP Remote IpAddress
Shows the remote IP address of the Real-time Transport Protocol (RTP) port for the incoming video in the media channel.

**Value space of the result returned:**
<String>

**Example:**
```plaintext
xStatus MediaChannels Call 27 IncomingVideoChannel 330 Transport RTP Remote IpAddress
`s MediaChannels Call 27 IncomingVideoChannel 330 Transport RTP Remote IpAddress: "192.168.136.130"
** end
```

xStatus MediaChannels Call \[n\] IncomingVideoChannel \[n\] Transport RTP Remote Port
Shows the remote UDP port number of the Real-time Transport Protocol (RTP) port for the incoming video in the media channel.

**Value space of the result returned:**
<Integer>

**Example:**
```plaintext
xStatus MediaChannels Call 27 IncomingVideoChannel 330 Transport RTP Remote Port
`s MediaChannels Call 27 IncomingVideoChannel 330 Transport RTP Remote Port: 50932
** end
```

xStatus MediaChannels Call \[n\] IncomingVideoChannel \[n\] Transport RTCP Local IpAddress
Shows the local IP address of the Real-time Transport Control Protocol (RTCP) port for the incoming video in the media channel.

**Value space of the result returned:**
<String>

**Example:**
```plaintext
xStatus MediaChannels Call 27 IncomingVideoChannel 330 Transport RTCP Local IpAddress
`s MediaChannels Call 27 IncomingVideoChannel 330 Transport RTCP Local IpAddress: "192.168.24.190"
** end
```

xStatus MediaChannels Call \[n\] IncomingVideoChannel \[n\] Transport RTCP Remote IpAddress
Shows the remote IP address of the Real-time Transport Control Protocol (RTCP) port for the incoming video in the media channel.

**Value space of the result returned:**
<String>

**Example:**
```plaintext
xStatus MediaChannels Call 27 IncomingVideoChannel 330 Transport RTCP Remote IpAddress
`s MediaChannels Call 27 IncomingVideoChannel 330 Transport RTCP Remote IpAddress: "192.168.136.130"
** end
```

xStatus MediaChannels Call \[n\] IncomingVideoChannel \[n\] Transport RTCP Remote Port
Shows the remote UDP port number of the Real-time Transport Control Protocol (RTCP) port for the incoming video in the media channel.

**Value space of the result returned:**
<Integer>

**Example:**
```plaintext
xStatus MediaChannels Call 27 IncomingVideoChannel 330 Transport RTCP Remote Port
`s MediaChannels Call 27 IncomingVideoChannel 330 Transport RTCP Remote Port: 16405
** end
```
xStatus MediaChannels Call [n] OutgoingAudioChannel [n] Encryption Status
Shows the encryption status on the outgoing channel.

Value space of the result returned:
<On/Off>

Example:
```
xStatus MediaChannels Call 27 OutgoingAudioChannel 328 Encryption Status
*s MediaChannels Call 27 OutgoingAudioChannel 328 Encryption Status: Off
** end
```

xStatus MediaChannels Call [n] OutgoingAudioChannel [n] Audio Protocol
Shows the audio algorithm for the outgoing audio channel.
AACLD: The AAC-LD is an MPEG-4 Low Delay Audio Coder audio compression format.
G722: The G.722 algorithm is an ITU standard.
G7221: The G.722.1 algorithm is a licensed royalty-free ITU-T standard.
G711Mu: The G.711 Mu-law compression algorithm is used in North America and Japan.
G711A: The G.711 A-law compression algorithm is used in Europe and the rest of the world.
G729: The G.729 algorithm is an ITU standard.
G729AB: The G.729 annex A and B is an ITU standard.
Opus: Opus is a lossy audio compression format.

Value space of the result returned:
<AACLD/G722/G7221/G711Mu/G711A/G729/G729AB/Opus>

Example:
```
xStatus MediaChannels Call 27 OutgoingAudioChannel 328 Audio Protocol
*s MediaChannels Call 27 OutgoingAudioChannel 328 Audio Protocol: AACLD
** end
```

xStatus MediaChannels Call [n] OutgoingAudioChannel [n] Audio Channels
Shows the number of outgoing audio channels.

Value space of the result returned:
<Integer>

Example:
```
xStatus MediaChannels Call 27 OutgoingAudioChannel 328 Audio Channels
*s MediaChannels Call 27 OutgoingAudioChannel 328 Audio Channels: 1
** end
```

xStatus MediaChannels Call [n] OutgoingAudioChannel [n] Transport RTP Local IpAddress
Shows the local IP address of the Real-time Transport Protocol (RTP) port for the outgoing audio in the media channel.

Value space of the result returned:
<String>

Example:
```
xStatus MediaChannels Call 27 OutgoingAudioChannel 328 Transport RTP Local IpAddress
*s MediaChannels Call 27 OutgoingAudioChannel 328 Transport RTP Local IpAddress: "192.168.24.190"
** end
```

xStatus MediaChannels Call [n] OutgoingAudioChannel [n] Transport RTP Local Port
Shows the local UDP port number of the Real-time Transport Protocol (RTP) port for the outgoing audio in the media channel.

Value space of the result returned:
<Integer>

Example:
```
xStatus MediaChannels Call 27 OutgoingAudioChannel 328 Transport RTP Local Port
*s MediaChannels Call 27 OutgoingAudioChannel 328 Transport RTP Local Port: 16404
** end
```

xStatus MediaChannels Call [n] OutgoingAudioChannel [n] Transport RTP Remote IpAddress
Shows the remote IP address of the Real-time Transport Protocol (RTP) port for the outgoing audio in the media channel.

Value space of the result returned:
<String>

Example:
```
xStatus MediaChannels Call 27 OutgoingAudioChannel 328 Transport RTP Remote IpAddress
*s MediaChannels Call 27 OutgoingAudioChannel 328 Transport RTP Remote IpAddress: "192.168.136.130"
** end
```
xStatus MediaChannels Call [n] OutgoingAudioChannel [n] Transport RTP Remote Port
Shows the remote UDP port number of the Real-time Transport Protocol (RTP) port for the outgoing audio in the media channel.

Value space of the result returned:
<Integer>

Example:
```
xStatus MediaChannels Call 27 OutgoingAudioChannel 328 Transport RTP Remote Port
```
```
*s MediaChannels Call 27 OutgoingAudioChannel 328 Transport RTP Remote Port: 50932
** end
```

xStatus MediaChannels Call [n] OutgoingAudioChannel [n] Transport RTCP Local IpAddress
Shows the local IP address of the Real-time Transport Control Protocol (RTCP) port for the outgoing audio in the media channel.

Value space of the result returned:
<String>

Example:
```
xStatus MediaChannels Call 27 OutgoingAudioChannel 328 Transport RTCP Local IpAddress
```
```
*s MediaChannels Call 27 OutgoingAudioChannel 328 Transport RTCP Local IpAddress: "192.168.24.190"
** end
```

xStatus MediaChannels Call [n] OutgoingAudioChannel [n] Transport RTCP Local Port
Shows the local UDP port number of the Real-time Transport Control Protocol (RTCP) port for the outgoing audio in the media channel.

Value space of the result returned:
<Integer>

Example:
```
xStatus MediaChannels Call 27 OutgoingAudioChannel 328 Transport RTCP Local Port
```
```
*s MediaChannels Call 27 OutgoingAudioChannel 328 Transport RTCP Local Port: 16405
** end
```

xStatus MediaChannels Call [n] OutgoingVideoChannel [n] Encryption Status
Shows the encryption status on the outgoing channel.

Value space of the result returned:
<On/Off>

Example:
```
xStatus MediaChannels Call 27 OutgoingVideoChannel 331 Encryption Status
```
```
*s MediaChannels Call 27 OutgoingVideoChannel 331 Encryption Status: Off
** end
```
xStatus MediaChannels Call [n] OutgoingVideoChannel [n] ChannelRole
Shows if the outgoing channel is the main video channel or presentation channel.

Value space of the result returned:
<Main/Presentation/Legacy>

Example:
 xStatus MediaChannels Call 27 OutgoingVideoChannel 331 ChannelRole
 *s MediaChannels Call 27 OutgoingVideoChannel 331 ChannelRole: Main
 ** end

xStatus MediaChannels Call [n] OutgoingVideoChannel [n] Video Protocol
Shows the video algorithm for the outgoing video channel.
H264: The H.264 algorithm is an ITU-T standard for video compression.
H263: The H.263 algorithm is an ITU-T standard for video compression.

Value space of the result returned:
<H264/H263pp/H263>

Example:
 xStatus MediaChannels Call 27 OutgoingVideoChannel 331 Video Protocol
 *s MediaChannels Call 27 OutgoingVideoChannel 331 Video Protocol: "H264"
 ** end

xStatus MediaChannels Call [n] OutgoingVideoChannel [n] Video FrameRate
Shows the video frame rate of the outgoing channel.

Value space of the result returned:
<Integer>

Example:
 xStatus MediaChannels Call 27 OutgoingVideoChannel 331 Video FrameRate
 *s MediaChannels Call 27 OutgoingVideoChannel 331 Video FrameRate: 30
 ** end

xStatus MediaChannels Call [n] OutgoingVideoChannel [n] Video ResolutionX
Shows the width (resolution in direction X) of the outgoing video.

Value space of the result returned:
<Integer>

Example:
 xStatus MediaChannels Call 27 OutgoingVideoChannel 331 Video ResolutionX
 *s MediaChannels Call 27 OutgoingVideoChannel 331 Video ResolutionX: 768
 ** end

xStatus MediaChannels Call [n] OutgoingVideoChannel [n] Video ResolutionY
Shows the height (resolution in direction Y) of the outgoing video.

Value space of the result returned:
<Integer>

Example:
 xStatus MediaChannels Call 27 OutgoingVideoChannel 331 Video ResolutionY
 *s MediaChannels Call 27 OutgoingVideoChannel 331 Video ResolutionY: 448
 ** end

xStatus MediaChannels Call [n] OutgoingVideoChannel [n] Transport RTP Local IpAddress
Shows the local IP address of the Real-time Transport Protocol (RTP) port for the outgoing video in the media channel.

Value space of the result returned:
<String>

Example:
 xStatus MediaChannels Call 27 OutgoingVideoChannel 331 Transport RTP Local IpAddress
 *s MediaChannels Call 27 OutgoingVideoChannel 331 Transport RTP Local IpAddress: "192.168.24.190"
 ** end
xStatus MediaChannels Call [n] OutgoingVideoChannel [n] Transport RTP Local Port
Shows the local UDP port number of the Real-time Transport Protocol (RTP) port for the outgoing video in the media channel.

Value space of the result returned:
<Integer>

Example:
```
xStatus MediaChannels Call 27 OutgoingVideoChannel 331 Transport RTP Local Port
*s MediaChannels Call 27 OutgoingVideoChannel 331 Transport RTP Local Port: 16404
** end
```

xStatus MediaChannels Call [n] OutgoingVideoChannel [n] Transport RTP Remote IpAddress
Shows the remote IP address of the Real-time Transport Protocol (RTP) port for the outgoing video in the media channel.

Value space of the result returned:
<String>

Example:
```
xStatus MediaChannels Call 27 OutgoingVideoChannel 331 Transport RTP Remote IpAddress
*s MediaChannels Call 27 OutgoingVideoChannel 331 Transport RTP Remote IpAddress: "192.168.136.130"
** end
```

xStatus MediaChannels Call [n] OutgoingVideoChannel [n] Transport RTP Remote Port
Shows the remote UDP port number of the Real-time Transport Protocol (RTP) port for the outgoing video in the media channel.

Value space of the result returned:
<Integer>

Example:
```
xStatus MediaChannels Call 27 OutgoingVideoChannel 331 Transport RTP Remote Port
*s MediaChannels Call 27 OutgoingVideoChannel 331 Transport RTP Remote Port: 50932
** end
```

xStatus MediaChannels Call [n] OutgoingVideoChannel [n] Transport RTCP Local IpAddress
Shows the local IP address of the Real-time Transport Control Protocol (RTCP) port for the outgoing video in the media channel.

Value space of the result returned:
<String>

Example:
```
xStatus MediaChannels Call 27 OutgoingVideoChannel 331 Transport RTCP Local IpAddress
*s MediaChannels Call 27 OutgoingVideoChannel 331 Transport RTCP Local IpAddress: "192.168.24.190"
** end
```

xStatus MediaChannels Call [n] OutgoingVideoChannel [n] Transport RTCP Local Port
Shows the local UDP port number of the Real-time Transport Control Protocol (RTCP) port for the outgoing video in the media channel.

Value space of the result returned:
<Integer>

Example:
```
xStatus MediaChannels Call 27 OutgoingVideoChannel 331 Transport RTCP Local Port
*s MediaChannels Call 27 OutgoingVideoChannel 331 Transport RTCP Local Port: 16405
** end
```

xStatus MediaChannels Call [n] OutgoingVideoChannel [n] Transport RTCP Remote IpAddress
Shows the remote IP address of the Real-time Transport Control Protocol (RTCP) port for the outgoing video in the media channel.

Value space of the result returned:
<String>

Example:
```
xStatus MediaChannels Call 27 OutgoingVideoChannel 331 Transport RTCP Remote IpAddress
*s MediaChannels Call 27 OutgoingVideoChannel 331 Transport RTCP Remote IpAddress: "192.168.136.130"
** end
```
xStatus MediaChannels Call [n] OutgoingVideoChannel [n] Transport RTCP Remote Port
Shows the remote UDP port number of the Real-time Transport Control Protocol (RTCP) port for the outgoing video in the media channel.

Value space of the result returned:
<Integer>

Example:
```
xStatus MediaChannels Call 27 OutgoingVideoChannel 331 Transport RTCP Remote Port
  *s MediaChannels Call 27 OutgoingVideoChannel 331 Transport RTCP Remote Port: 50933
** end
```

xStatus MediaChannels Call [n] IncomingAudioChannel [n] Transport RTCP Local Protocol
Shows the local transport protocol used for RTCP for incoming audio.
The result Unknown is shown when an address is not available, for example during call setup, or for channels that are not supported by the far-end.

Value space of the result returned:
<UDP/TCP/Unknown>

Example:
```
xStatus MediaChannels Call 2 IncomingAudioChannel 127 Transport RTCP Local Protocol
  *s MediaChannels Call 2 IncomingAudioChannel 127 Transport RTCP Local Protocol: UDP
** end
```

xStatus MediaChannels Call [n] IncomingVideoChannel [n] Transport RTCP Local Protocol
Shows the local transport protocol used for RTCP for incoming video.
The result Unknown is shown when an address is not available, for example during call setup, or for channels that are not supported by the far-end.

Value space of the result returned:
<UDP/TCP/Unknown>

Example:
```
xStatus MediaChannels Call 2 IncomingVideoChannel 127 Transport RTCP Local Protocol
  *s MediaChannels Call 2 IncomingVideoChannel 127 Transport RTCP Local Protocol: UDP
** end
```

xStatus MediaChannels Call [n] IncomingAudioChannel [n] Transport RTP Local Protocol
Shows the local transport protocol used for RTP for incoming audio.
The result Unknown is shown when an address is not available, for example during call setup, or for channels that are not supported by the far-end.

Value space of the result returned:
<UDP/TCP/Unknown>

Example:
```
xStatus MediaChannels Call 2 IncomingAudioChannel 127 Transport RTP Local Protocol
  *s MediaChannels Call 2 IncomingAudioChannel 127 Transport RTP Local Protocol: UDP
** end
```

xStatus MediaChannels Call [n] IncomingAudioChannel [n] Transport RTP Remote Protocol
Shows the remote transport protocol used for RTP for incoming audio.
The result Unknown is shown when an address is not available, for example during call setup, or for channels that are not supported by the far-end.

Value space of the result returned:
<UDP/TCP/Unknown>

Example:
```
xStatus MediaChannels Call 2 IncomingAudioChannel 127 Transport RTP Remote Protocol
  *s MediaChannels Call 2 IncomingAudioChannel 127 Transport RTP Remote Protocol: UDP
** end
```

xStatus MediaChannels Call [n] IncomingVideoChannel [n] Transport RTP Remote Protocol
Shows the remote transport protocol used for RTP for incoming video.
The result Unknown is shown when an address is not available, for example during call setup, or for channels that are not supported by the far-end.

Value space of the result returned:
<UDP/TCP/Unknown>

Example:
```
xStatus MediaChannels Call 2 IncomingVideoChannel 127 Transport RTP Remote Protocol
  *s MediaChannels Call 2 IncomingVideoChannel 127 Transport RTP Remote Protocol: UDP
** end
```

xStatus MediaChannels Call [n] OutgoingVideoChannel [n] Transport RTP Local Protocol
Shows the local UDP port number of the Real-time Transport Control Protocol (RTCP) port for the outgoing video in the media channel.

Value space of the result returned:
<Integer>

Example:
```
xStatus MediaChannels Call 27 OutgoingVideoChannel 331 Transport RTP Remote Port
  *s MediaChannels Call 27 OutgoingVideoChannel 331 Transport RTP Remote Port: 50933
** end
```
xStatus MediaChannels Call [n] IncomingVideoChannel [n] Transport RTCP Remote Protocol
Shows the remote transport protocol used for RTCP for incoming video.
The result Unknown is shown when an address is not available, for example during call setup, or for channels that are not supported by the far-end.

Value space of the result returned:
<UDP/TCP/Unknown>

Example:
```
xStatus MediaChannels Call 2 IncomingVideoChannel 127 Transport RTCP Remote Protocol
*s MediaChannels Call 2 IncomingVideoChannel 127 Transport RTCP Remote Protocol: UDP
** end
```

xStatus MediaChannels Call [n] IncomingVideoChannel [n] Transport RTP Local Protocol
Shows the local transport protocol used for RTP for incoming video.
The result Unknown is shown when an address is not available, for example during call setup, or for channels that are not supported by the far-end.

Value space of the result returned:
<UDP/TCP/Unknown>

Example:
```
xStatus MediaChannels Call 2 IncomingVideoChannel 127 Transport RTP Local Protocol
*s MediaChannels Call 2 IncomingVideoChannel 127 Transport RTP Local Protocol: UDP
** end
```

xStatus MediaChannels Call [n] IncomingVideoChannel [n] Transport RTP Remote Protocol
Shows the remote transport protocol used for RTP for incoming video.
The result Unknown is shown when an address is not available, for example during call setup, or for channels that are not supported by the far-end.

Value space of the result returned:
<UDP/TCP/Unknown>

Example:
```
xStatus MediaChannels Call 2 IncomingVideoChannel 127 Transport RTP Remote Protocol
*s MediaChannels Call 2 IncomingVideoChannel 127 Transport RTP Remote Protocol: UDP
** end
```

xStatus MediaChannels Call [n] OutgoingAudioChannel [n] Transport RTCP Local Protocol
Shows the local transport protocol used for RTCP for outgoing audio.
The result Unknown is shown when an address is not available, for example during call setup, or for channels that are not supported by the far-end.

Value space of the result returned:
<UDP/TCP/Unknown>

Example:
```
xStatus MediaChannels Call 2 OutgoingAudioChannel 127 Transport RTCP Local Protocol
*s MediaChannels Call 2 OutgoingAudioChannel 127 Transport RTCP Local Protocol: UDP
** end
```
xStatus MediaChannels Call [n] OutgoingAudioChannel [n] Transport RTCP Remote Protocol
Shows the remote transport protocol used for RTCP for outgoing audio.
The result Unknown is shown when an address is not available, for example during call setup, or for
channels that are not supported by the far-end.

Value space of the result returned:
<UDP/TCP/Unknown>

Example:
```
xStatus MediaChannels Call 2 OutgoingAudioChannel 127 Transport RTCP Remote Protocol
* s MediaChannels Call 2 OutgoingAudioChannel 127 Transport RTCP Remote Protocol: UDP
** end
```

xStatus MediaChannels Call [n] OutgoingAudioChannel [n] Transport RTP Remote Protocol
Shows the remote transport protocol used for RTP for outgoing audio.
The result Unknown is shown when an address is not available, for example during call setup, or for
channels that are not supported by the far-end.

Value space of the result returned:
<UDP/TCP/Unknown>

Example:
```
xStatus MediaChannels Call 2 OutgoingAudioChannel 127 Transport RTP Remote Protocol
* s MediaChannels Call 2 OutgoingAudioChannel 127 Transport RTP Remote Protocol: UDP
** end
```

xStatus MediaChannels Call [n] OutgoingAudioChannel [n] Transport RTP Local Protocol
Shows the local transport protocol used for RTP for outgoing audio.
The result Unknown is shown when an address is not available, for example during call setup, or for
channels that are not supported by the far-end.

Value space of the result returned:
<UDP/TCP/Unknown>

Example:
```
xStatus MediaChannels Call 2 OutgoingAudioChannel 127 Transport RTP Local Protocol
* s MediaChannels Call 2 OutgoingAudioChannel 127 Transport RTP Local Protocol: UDP
** end
```
xStatus MediaChannels Call [n] OutgoingVideoChannel [n] Transport RTCP Remote Protocol

Shows the remote transport protocol used for RTCP for outgoing video.
The result Unknown is shown when an address is not available, for example during call setup, or for channels that are not supported by the far-end.

Value space of the result returned:
<UDP/TCP/Unknown>

Example:
```c
xStatus MediaChannels Call 2 OutgoingVideoChannel 127 Transport RTCP Remote Protocol
*s MediaChannels Call 2 OutgoingVideoChannel 127 Transport RTCP Remote Protocol: UDP
** end
```

xStatus MediaChannels Call [n] OutgoingVideoChannel [n] Transport RTP Local Protocol

Shows the local transport protocol used for RTP for outgoing video.
The result Unknown is shown when an address is not available, for example during call setup, or for channels that are not supported by the far-end.

Value space of the result returned:
<UDP/TCP/Unknown>

Example:
```c
xStatus MediaChannels Call 2 OutgoingVideoChannel 127 Transport RTP Local Protocol
*s MediaChannels Call 2 OutgoingVideoChannel 127 Transport RTP Local Protocol: UDP
** end
```
Network status

xStatus Network
Shows the top level overview of the network status.

xStatus Network 1 Ethernet MacAddress
Shows the MAC (Media Access Control) address for the Ethernet interface.

Value space of the result returned:
<String>

Example:

xStatus Network 1 Ethernet MacAddress
*s Network 1 Ethernet MacAddress: "00:50:60:02:FD:C7"
** end

xStatus Network 1 Ethernet Speed
Shows the Ethernet speed in Mbps. The speed can be in full-duplex or half-duplex.

Value space of the result returned:
<"10 half"/"10 full"/"100 half"/"100 full"/>"---full"

Example:

xStatus Network 1 Ethernet Speed
*s Network 1 Ethernet Speed: "100full"
** end

xStatus Network 1 IPv4 Address
Shows the IPv4 address that uniquely identifies this system.

Value space of the result returned:
<String>

Example:

xStatus Network 1 IPv4 Address
*s Network 1 IPv4 Address: "192.0.2.149"
** end

xStatus Network 1 IPv4 SubnetMask
Shows the subnet mask which determines which subnet an IPv4 address belongs to.

Value space of the result returned:
<String>

Example:

xStatus Network 1 IPv4 SubnetMask
*s Network 1 IPv4 SubnetMask: "255.255.255.0"
** end

xStatus Network 1 IPv4 Gateway
Shows the address of the IPv4 gateway.

Value space of the result returned:
<String>

Example:

xStatus Network 1 IPv4 Gateway
*s Network 1 IPv4 Gateway: "192.0.2.10"
** end

xStatus Network 1 IPv4 DNS Domain Name
Shows the domain name.

Value space of the result returned:
<String>

Example:

xStatus Network 1 IPv4 DNS Domain Name
*s Network 1 IPv4 DNS Domain Name: "www.example.com www.example.int"
** end

xStatus Network 1 IPv4 DNS Server [1..5] Address
Shows the IP address of the DNS server.

Value space of the result returned:
<String>

Example:

xStatus Network 1 IPv4 DNS Server 1 Address
*s Network 1 IPv4 DNS Server 1 Address: "192.0.2.60"
** end
xStatus Network 1 IPv4 DHCP TftpServerAddress
Returns the IP address of the TFTP server (provisioning server) as assigned by DHCP, provided that
the DHCP server supports option 150. This status is used only when xConfiguration Provisioning
Mode is CUCM.

Value space of the result returned:
<String>
Example:
xStatus Network 1 IPv4 DHCP TftpServerAddress
*s Network 1 IPv4 DHCP TftpServerAddress: "192.0.2.0"
** end

xStatus Network 1 IPv4 DHCP TmsServer
Returns the IP address of the TMS server (provisioning server) as assigned by DHCP, provided that
the DHCP server supports option 242. This status is used only when xConfiguration Provisioning
Mode is TMS.

Value space of the result returned:
<String>
Example:
  xStatus Network 1 IPv4 DHCP TmsServer
  *s Network 1 IPv4 DHCP TmsServer: "192.0.2.0"
  ** end

xStatus Network 1 IPv4 DHCP ProvisioningServer
Returns the IP address of the VCS provisioning server as assigned by DHCP, provided the
provisioning server address is defined as a vendor encapsulated option in the DHCP server. This
status is used only when xConfiguration Provisioning Mode is VCS.

Value space of the result returned:
<String>
Example:
  xStatus Network 1 IPv4 DHCP ProvisioningServer
  *s Network 1 IPv4 DHCP ProvisioningServer: "192.0.2.0"
  ** end

xStatus Network 1 IPv4 DHCP ProvisioningDomain
Returns the SIP domain of the VCS provisioning server as assigned by DHCP, provided the
provisioning server address is defined as a vendor encapsulated option in the DHCP server. This
status is used only when xConfiguration Provisioning Mode is VCS.

Value space of the result returned:
<String>
Example:
  xStatus Network 1 IPv4 DHCP ProvisioningDomain
  *s Network 1 IPv4 DHCP ProvisioningDomain: "1234@company.com"
  ** end

xStatus Network 1 IPv4 DHCP TftpServer
Returns the IP address or DNS name of the TFTP server (provisioning server) as assigned by
DHCP, provided the DHCP server sets the option 66. This status is used only when xConfiguration
Provisioning Mode is CUCM.

Value space of the result returned:
<String>
Example:
  xStatus Network 1 IPv4 DHCP TftpServer
  *s Network 1 IPv4 DHCP TftpServerAddress: "192.0.2.0"
  *s Network 1 IPv4 DHCP TftpServer: "1234@company.com"
  ** end

xStatus Network 1 IPv6 Address
Shows the IPv6 address that uniquely identifies this system.

Value space of the result returned:
<String>
Example:
  xStatus Network 1 IPv6 Address
  *s Network 1 IPv6 Address: ""
  ** end
xStatus Network 1 IPv6 Gateway
Shows the address of the IPv6 gateway.

Value space of the result returned:
<String>

Example:
```
xStatus Network 1 IPv6 Gateway
*s Network 1 IPv6 Gateway: ""
** end
```

xStatus Network 1 MTU
Shows the MTU (Maximum Transmission Unit) size for the network.

Value space of the result returned:
<Integer>

Example:
```
xStatus Network 1 MTU
*s Network 1 MTU: 1500
** end
```

xStatus Network 1 VLAN Voice VlanId
The feedback shows the VLAN Voice ID; or Off if the VLAN Voice Mode is not enabled.

Value space of the result returned:
"Off"/"1".."4094"

Example:
```
xStatus Network 1 VLAN Voice VlanId
*s Network 1 VLAN Voice VlanId: "Off"
** end
```

xStatus Network 1 CDP Platform
Returns the hardware platform name of the switch connected to the endpoint.

Value space of the result returned:
<String>

Example:
```
xStatus Network CDP Platform
*s Network 1 CDP Platform: "cisco WS-C3750X-48P"
** end
```

xStatus Network 1 CDP Version
Returns information about the software release version the switch is running.

Value space of the result returned:
<String>

Example:
```
xStatus Network CDP Platform
*s Network 1 CDP Platform: "Cisco IOS Software, C3750E Software (C3750E-UNIVERSALK9-M), Version 15.0(1)SE2, RELEASE SOFTWARE (fc3)"Technical Support: http://www.cisco.com/techsupport*Copyright (c) 1986-2011 by Cisco Systems, Inc.*Compiled Thu 22-Dec-11 00:05 by prod_rel_team"
** end
```

xStatus Network 1 CDP Capabilities
Describes the functional capability for the switch in form of a device type. See documentation for CDP protocol for more information.

Value space of the result returned:
<String>

Example:
```
xStatus Network CDP Capabilities
*s Network 1 CDP Capabilities: "0x0029"
** end
```

xStatus Network 1 CDP DeviceId
Identifies the name of the switch in form of a character string.

Value space of the result returned:
<String>

Example:
```
xStatus Network CDP DeviceId
*s Network 1 CDP DeviceId: "123456.company.com"
** end
```
xStatus Network 1 CDP PortID
Returns the identification the switch uses of the port the endpoint is connected to.

Value space of the result returned:
<String>

Example:
```
xStatus Network CDP PortID
*s Network 1 CDP PortID: "GigabitEthernet1/0/23"
** end
```

xStatus Network 1 CDP Duplex
Indicates the status (duplex configuration) of the CDP broadcast interface. Used by network operators to diagnose connectivity problems between adjacent network elements.

Value space of the result returned:
<String>

Example:
```
xStatus Network CDP Duplex
*s Network 1 CDP Duplex: "Full"
** end
```

xStatus Network 1 CDP VTPMgmtDomain
Returns the switch’s configured VTP management domain name-string.

Value space of the result returned:
<String>

Example:
```
xStatus Network CDP VTPMgmtDomain
*s Network 1 CDP VTPMgmtDomain: "anyplace"
** end
```

xStatus Network 1 CDP Address
Returns the first network address of both receiving and sending devices.

Value space of the result returned:
<String>

Example:
```
xStatus Network CDP Address
*s Network 1 CDP Address: "192.0.1.20"
** end
```

xStatus Network 1 CDP PrimaryMgmtAddress
Returns the management address used to configure and monitor the switch the endpoint is connected to.

Value space of the result returned:
<String>

Example:
```
xStatus Network CDP PrimaryMgmtAddress
*s Network 1 CDP PrimaryMgmtAddress: "10.1.1.2"
** end
```

xStatus Network 1 CDP SysName
Returns the SysName as configured in the switch the endpoint is connected to.

Value space of the result returned:
<String>

Example:
```
xStatus Network CDP SysName
*s Network 1 CDP SysName: ""
** end
```

xStatus Network 1 CDP SysObjectID
Returns the SysObjectID as configured in the switch the endpoint is connected to.

Value space of the result returned:
<String>

Example:
```
xStatus Network CDP SysObjectID
*s Network 1 CDP SysObjectID: ""
** end
```
xStatus Network 1 CDP VoIPApplianceVlanID
Identifies the VLAN used for VoIP traffic from the endpoint to the switch. For more information see documentation of the IEEE 802.1Q protocol.

Value space of the result returned:
<String>

Example:
  xStatus Network CDP VoIPApplianceVlanID
  *s Network 1 CDP VoIPApplianceVlanID: "300"
  ** end

xStatus Network 1 DNS Domain Name
Shows the domain name.

Value space of the result returned:
<String>

Example:
  xStatus Network DNS Domain Name
  *s Network 1 DNS Domain Name: "company.com"
  ** end

xStatus Network 1 DNS Server [n] Address
Shows the IP address of the DNS server.

Value space of the result returned:
<String>

Example:
  xStatus Network DNS Server 1 Address
  *s Network 1 DNS Server 1 Address: "192.0.2.60"
  ** end

xStatus NetworkServices status

xStatus NetworkServices
Shows the top level overview of the network services status.

xStatus NetworkServices NTP Address
Returns the address of the NTP server(s) the codec is using.

Value space of the result returned:
<String>

Example:
  xStatus NetworkServices NTP Address
  *s NetworkServices NTP Address: "12.104.193.12 64.104.222.16 144.254.15.121"
  ** end

xStatus NetworkServices NTP CurrentAddress
Returns the address of the NTP server that is currently in use.

Value space of the result returned:
<String>

Example:
  xStatus NetworkServices NTP CurrentAddress
  *s NetworkServices NTP CurrentAddress: "123.254.15.121"
  ** end

xStatus NetworkServices NTP Status
Returns the status of the endpoints synchronizing with the NTP server.
Unknown: State of the synchronization is unknown.
Synced: The system is in sync with the NTP server
Discarded: The NTP result has been discarded.

Value space of the result returned:
<Unknown/Synced/Discarded>

Example:
  xStatus NetworkServices NTP Status
  *s NetworkServices NTP Status: Synced
  ** end
Peripherals status

xStatus Peripherals ConnectedDevice [n] HardwareInfo
Shows hardware information about connected device.

Value space of the result returned:
<String>

Example:
  xStatus Peripherals ConnectedDevice 1007 HardwareInfo
  "1122330-0"
  ** end

xStatus Peripherals ConnectedDevice [n] ID
Shows the MAC-address of the connected device.

Value space of the result returned:
<String>

Example:
  xStatus Peripherals ConnectedDevice 1007 ID
  "00:10:20:20:be:21"
  ** end

xStatus Peripherals ConnectedDevice [n] Name
Shows the product name of connected device.

Value space of the result returned:
<String>

Example:
  xStatus Peripherals ConnectedDevice 1007 Name
  "Cisco TelePresence Touch"
  ** end

xStatus Peripherals ConnectedDevice [n] SoftwareInfo
Shows information of the software version running on the connected device.

Value space of the result returned:
<String>

Example:
  xStatus Peripherals ConnectedDevice 1007 SoftwareInfo
  "TI7.2.0"
  ** end

xStatus Peripherals ConnectedDevice [n] Status
Shows peripheral devices that are currently connected to the endpoint.
Note: Does not apply for the Cisco PrecisionHD cameras.

Value space of the result returned:
<Connected/ResponseTimedOut>

Example:
  xStatus Peripherals ConnectedDevice 1001 Status
  "Connected"
  ** end

xStatus Peripherals ConnectedDevice [n] Type
Shows the peripheral types that are connected to the endpoint.
Note: The value space Camera only shows Precision 60 cameras.

Value space of the result returned:
<BluetoothHeadset/Byod/Camera/ControlSystem/ISDNLink/Other/SpeakerTrack/TouchPanel>

Example:
  xStatus Peripherals ConnectedDevice 1001 Type
  "TouchPanel"
  ** end
xStatus Peripherals ConnectedDevice [n] UpgradeStatus
Shows the status of the previous software upgrade on the currently connected peripherals.

Value space of the result returned:
<Downloading/Failed/Installing/None/Succeeded>

Example:
```
xStatus Peripherals ConnectedDevice 1001 UpgradeStatus
's Peripherals ConnectedDevice 1001 UpgradeStatus: None
** end
```
Provisioning status

xStatus Provisioning
Shows the top level overview of the provisioning status.

xStatus Provisioning Status
Shows the status of the provisioning.
Failed: The provisioning failed.
AuthenticationFailed: The authentication failed.
Provisioned: The endpoint is provisioned.
Idle: The provisioning is not active.
NeedConfig: The endpoint needs to be configured.
ConfigError: An error occurred during configuration.

Value space of the result returned:
<Failed/AuthenticationFailed/Provisioned/Idle/NeedConfig/ConfigError>

Example:
xStatus Provisioning Status
*s Provisioning Status: Provisioned
** end

xStatus Provisioning Reason
Shows the cause when provisioning has failed.

Value space of the result returned:
<String>

Example:
xStatus Provisioning Reason
*s Provisioning Reason: ""
** end

xStatus Provisioning Server
Identifies the server the system is provisioned to. This address may either be defined in the
xConfiguration ExternalManager Address setting, or provided by DHCP.

Value space of the result returned:
<String>

Example:
xStatus Provisioning Server
*s Provisioning Server: "192.0.2.0"
** end

xStatus Provisioning NextRetry
If provisioning has failed, returns the date and time for the next automatic provisioning attempt.

Value space of the result returned:
<String>

Example:
xStatus Provisioning NextRetry
*s Provisioning NextRetry: "2014-04-30T14:02:22Z"
** end

xStatus Provisioning Software PreviousUpgrade Changed
Shows the date and time for the previous software upgrade.

Value space of the result returned:
<String>

Example:
xStatus Provisioning Software PreviousUpgrade Changed
*s Provisioning Software PreviousUpgrade Changed: "2014-07-06T09:32:39Z"
** end

xStatus Provisioning Software PreviousUpgrade Status
Shows the status of the previous software upgrade.

Value space of the result returned:
<None/InProgress/Failed/InstallationFailed/Succeeded>

Example:
xStatus Provisioning Software PreviousUpgrade Status
*s Provisioning Software PreviousUpgrade Status: None
** end
xStatus Provisioning Software PreviousUpgrade Message
Shows the system message for the previous software upgrade.

Value space of the result returned:
<String>

Example:
```
xStatus Provisioning Software PreviousUpgrade Message
'*s Provisioning Software PreviousUpgrade Message: ""
** end
```

xStatus Provisioning Software PreviousUpgrade VersionId
Shows the version ID of the software uploaded and installed in the previous installation.

Value space of the result returned:
<String>

Example:
```
xStatus Provisioning Software PreviousUpgrade VersionId
'*s Provisioning Software PreviousUpgrade VersionId: "s52000tc7_2_0.pkg"
** end
```

xStatus Provisioning Software PreviousUpgrade URL
Shows the URL that the previously installed software version was uploaded and installed from.

Value space of the result returned:
<String>

Example:
```
xStatus Provisioning Software PreviousUpgrade URL
'*s Provisioning Software PreviousUpgrade URL: "http:// 192.0.2.0.6970/s52000tc7_2_0.pkg"
** end
```

xStatus Provisioning Software UpgradeStatus SessionId
Shows the ID of the session for the software upgrade.

Value space of the result returned:
<String>

Example:
```
xStatus Provisioning Software UpgradeStatus SessionId
'*s Provisioning Software UpgradeStatus SessionId: ""
** end
```

xStatus Provisioning Software UpgradeStatus LastChange
Shows the date and time for the latest software upgrade.

Value space of the result returned:
<String>

Example:
```
xStatus Provisioning Software UpgradeStatus LastChange
'*s Provisioning Software UpgradeStatus LastChange: "2011-06-07T07:20:03Z"
** end
```

xStatus Provisioning Software UpgradeStatus Status
Shows the status of the software upgrade.

Value space of the result returned:
<None/InProgress/Failed/InstallationFailed/Succeeded>

Example:
```
xStatus Provisioning Software UpgradeStatus Status
'*s Provisioning Software UpgradeStatus Status: None
** end
```

xStatus Provisioning Software UpgradeStatus Phase
Shows the phase of the software upgrade.

Value space of the result returned:
<None/DownloadPending/FormingHierarchy/Downloading/DownloadPaused/DownloadDone/Seeding/AboutToInstallUpgrade/Postponed/PeripheralsReady/UpgradingPeripherals/Installing/UpgradingPeripherals>

Example:
```
xStatus Provisioning Software UpgradeStatus Phase
'*s Provisioning Software UpgradeStatus Phase: None
** end
```

xStatus Provisioning Software UpgradeStatus Message
Shows the system message for the latest software upgrade.

Value space of the result returned:
<String>

Example:
```
xStatus Provisioning Software UpgradeStatus Message
'*s Provisioning Software UpgradeStatus Message: ""
** end
```
xStatus Provisioning Software UpgradeStatus Message
Shows the system message for the software upgrade.

Value space of the result returned:
<String>

Example:
  xStatus Provisioning Software UpgradeStatus Message
  "s Provisioning Software UpgradeStatus Message: ""
  ** end

xStatus Provisioning Software UpgradeStatus VersionId
Shows the version ID of the software currently being uploaded and installed.

Value space of the result returned:
<String>

Example:
  xStatus Provisioning Software UpgradeStatus VersionId
  "s Provisioning Software UpgradeStatus VersionId: "s52000tc5_1_0.pkg"
  ** end

xStatus Provisioning Software UpgradeStatus URL
Shows the URL that the new software currently is being uploaded and installed from.

Value space of the result returned:
<String>

Example:
  xStatus Provisioning Software UpgradeStatus URL
  "s Provisioning Software UpgradeStatus URL: "http://.../s52000tc5_1_0.pkg"
  ** end

xStatus Provisioning Software UpgradeStatus SecondsUntilUpgrade
Indicates how many seconds remain before the software upgrade is automatically installed. The upgrade installation can be started manually by issuing the command xCommand Provisioning CompleteUpgrade or postponed with the command xCommand Provisioning PostponeUpgrade.

Value space of the result returned:
<Integer>

Example:
  xStatus Provisioning Software UpgradeStatus SecondsUntilUpgrade
  "s Provisioning Software UpgradeStatus SecondsUntilUpgrade: 0"
  ** end

xStatus Provisioning Software Current VersionId
Shows the version ID of the current software.

Value space of the result returned:
<String>

Example:
  xStatus Provisioning Software Current VersionId
  "s Provisioning Software Current VersionId: "s52000tc5_1_0.pkg"
  ** end

xStatus Provisioning Software Current URL
Shows the URL that the current software was uploaded from.

Value space of the result returned:
<String>

Example:
  xStatus Provisioning Software Current URL
  "s Provisioning Software Current URL: "http://.../s52000tc5_1_0.pkg"
  ** end
xStatus Provisioning Software Current CompletedAt
Shows date and time for when the current software upgrade was completed.

Value space of the result returned:
<String>

Example:
```
xStatus Provisioning Software Current CompletedAt
*s Provisioning Software Current CompletedAt: "2011-06-07T07:20:03Z"
** end
```

xStatus Provisioning CUCM CAPF Mode
Shows the authentication mode required for a pending CAPF operation, if any.
IgnoreAuth: No pending or ongoing CAPF operation.
NullAuth: Pending or ongoing CAPF operation that does not require authentication.
StringAuth: Pending or ongoing CAPF operation that requires string authentication.
LSCAuth: Pending or ongoing CAPF operation that requires authentication by Locally Significant Certificate.
MICAUth: Pending or ongoing CAPF operation that requires authentication by Manufacturer Installed Certificate.

Value space of the result returned:
<IgnoreAuth/NullAuth/StringAuth/LSCAuth/MICA>

Example:
```
xStatus Provisioning CUCM CAPF Mode
*s Provisioning CUCM CAPF Mode: IgnoreAuth
** end
```

xStatus Provisioning CUCM CAPF ServerName
Shows the CAPF server name. This can be a hostname, a FQDN or an IP address.

Value space of the result returned:
<IgnoreAuth/NullAuth/StringAuth/LSCAuth/MICA>

Example:
```
xStatus Provisioning CUCM CAPF ServerName
*s Provisioning CUCM CAPF ServerName: "192.168.0.1"
** end
```

xStatus Provisioning CUCM CAPF ServerPort
Shows the port number to be used for CAPF operations.

Value space of the result returned:
<Integer>

Example:
```
xStatus Provisioning CUCM CAPF ServerPort
*s Provisioning CUCM CAPF ServerPort: 3804
** end
```

xStatus Provisioning CUCM CAPF LSC
Shows whether a Locally Significant Certificate (LSC) is installed or not.

Value space of the result returned:
<NotInstalled/Installed>

Example:
```
xStatus Provisioning CUCM CAPF LSC
*s Provisioning CUCM CAPF LSC: NotInstalled
** end
```

xStatus Provisioning CUCM CAPF OperationState
Shows the state of the current CAPF operation, if any.
Pending: A CAPF operation is pending.
NonPending: There is no CAPF operation in progress.
InProgress: A CAPF operation is in progress.
Failed: The CAPF operation has failed.

Value space of the result returned:
<Pending/NonPending/InProgress/Failed>

Example:
```
xStatus Provisioning CUCM CAPF OperationState
*s Provisioning CUCM CAPF OperationState: NonPending
** end
```
xStatus Provisioning CUCM CAPF OperationResult

Shows the result of the last CAPF operation.

- **NotSet**: No CAPF operation has been executed yet.
- **CAPFUnknown**: Unknown CAPF failure.
- **CAPFInvalidAuthStrLen**: Invalid length of authentication string (should be 4-10 digits).
- **CAPFInvalidInitReason**: Invalid init reason specified.
- **CAPFInvalidAuthMode**: Invalid authentication mode.
- **CAPFNotNone**: Last CAPF session is still running.
- **CAPFNullClnt**: Invalid client.
- **CAPFNullClntcontext**: Invalid client context.
- **CAPFInvalidUsageStartSession**: Session context data is empty.
- **CAPFInvalidSession**: Invalid CAPF session.
- **CAPFNullParameters**: Invalid server parameters.
- **CAPFNoStat**: Empty status.
- **CAPFTimeout**: The operation has timed out.
- **CAPFConnLost**: Connection to the CAPF server has been lost.
- **CAPFAbort**: CAPF operation has been terminated.
- **CAPFKeyGenFailed**: Key generation has failed.
- **CAPFConnectFailed**: Failed to connect to CAPF server.
- **CAPFFenceError**: Unknown internal CAPF failure.
- **CAPFServerBusy**: CAPF server is busy.
- **CAPFAuthRejected**: Authentication has been rejected.
- **CAPFInvalidParms**: Invalid parameters.
- **CAPFCancelled**: CAPF operation has been canceled.
- **CAPFFailed**: CAPF operation has failed.
- **CAPFSuccess**: CAPF operation has succeeded.
- **CAPFKeyGenFailed**
- **CAPFConnectFailed**
- **CAPFFenceError**
- **CAPFServerBusy**
- **CAPFAuthRejected**
- **CAPFInvalidParms**
- **CAPFCancelled**
- **CAPFFailed**
- **CAPFSuccess**
- **CAPFKeyGenFailed**
- **CAPFConnectFailed**
- **CAPFFenceError**
- **CAPFServerBusy**
- **CAPFAuthRejected**
- **CAPFInvalidParms**
- **CAPFCancelled**
- **CAPFFailed**
- **CAPFSuccess**
- **xStatus Provisioning CUCM CAPF OperationResult**

Example:

```plaintext
*xs Provisioning CUCM CAPF OperationResult: NotSet
** end
```

xStatus Provisioning CUCM ProvisionSecurity

Shows the provisioned configuration file type.

- **None**: The provisioned configuration file is plain text or the endpoint has not been provisioned.
- **Signed**: The provisioned configuration file is signed.
- **Encrypted**: The provisioned configuration file is signed and encrypted.

Value space of the result returned:

- `<None/Signed/Encrypted>`

Example:

```plaintext
*xs Provisioning CUCM ProvisionSecurity
*xs Provisioning CUCM ProvisionSecurity: None
** end
```

xStatus Provisioning CUCM UserId

Returns the current UCM user id for this device. When the Extension Mobility service is in use, this command returns the signed in UserId.

Value space of the result returned:

- `<String>`

Example:

```plaintext
*xs Provisioning CUCM UserId
*xs Provisioning CUCM UserId: 
** end
```

xStatus Provisioning CUCM CTL State

 Shows whether the Certificate Trust List (CTL) file is installed or not.

Value space of the result returned:

- `<NotInstalled/Installed>`

Example:

```plaintext
*xs Provisioning CUCM CTL State
*xs Provisioning CUCM CTL State: Installed
** end
```
xStatus Provisioning CUCM ITL State
Shows whether the Identity Trust List (ITL) file is installed or not.

Value space of the result returned:
<NotInstalled/Installed>

Example:
```
xStatus Provisioning CUCM ITL State
's Provisioning CUCM ITL State: Installed
** end
```

xStatus Provisioning CUCM ExtensionMobility Enabled
Indicates if Extension Mobility is enabled for the UCM registered device.

Value space of the result returned:
<Ture/False>

Example:
```
xStatus Provisioning CUCM ExtensionMobility Enabled
's Provisioning CUCM ExtensionMobility Enabled: False
** end
```

xStatus Provisioning CUCM ExtensionMobility LoggedIn
Indicates whether you are logged in to Extension Mobility or not.

Value space of the result returned:
<Ture/False>

Example:
```
xStatus Provisioning CUCM ExtensionMobility LoggedIn
's Provisioning CUCM ExtensionMobility LoggedIn: False
** end
```

xStatus Provisioning CUCM ExtensionMobility LastLoggedInUserId
Returns the user id last logged in to the system. Only in use if UCM Extension Mobility is enabled, and UCM is configured to remember the last logged in user on an endpoint.

Value space of the result returned:
<String>

Example:
```
xStatus Provisioning CUCM ExtensionMobility LastLoggedInUserId
's Provisioning CUCM ExtensionMobility LastLoggedInUserId: "User 1"
** end
```

xStatus Provisioning CUCM TVS Proxy [n] Server
Returns the address of the TVS server in form of a hostname, FQDN or IPv4 address.

Value space of the result returned:
<String>

Example:
```
xStatus Provisioning CUCM TVS Proxy 1 Server
's Provisioning CUCM TVS Proxy 1 Server: "192.0.2.0"
** end
```

xStatus Provisioning CUCM TVS Proxy [n] IPv6Address
Returns the address of the TVS server in form of a hostname, FQDN or IPv6 address.

Value space of the result returned:
<String>

Example:
```
xStatus Provisioning CUCM TVS Proxy 1 IPv6Address
's Provisioning CUCM TVS Proxy 1 IPv6Address: 
** end
```

xStatus Provisioning CUCM TVS Proxy [n] Port
Returns the number of the port the TVS is running on.

Value space of the result returned:
<Integer>

Example:
```
xStatus Provisioning CUCM TVS Proxy 1 Port
's Provisioning CUCM TVS Proxy 1 Port: 2445
** end
```

xStatus Provisioning CUCM TVS Proxy [n] Priority
Returns the Priority of the TVS proxy in use. Lowest priority proxy is preferred.

Value space of the result returned:
<Integer>

Example:
```
xStatus Provisioning CUCM TVS Proxy 1 Priority
's Provisioning CUCM TVS Proxy 1 Priority: 0
** end
```
xStatus Provisioning CUCM Phonebook URL
Shows the current URL used for phonebook when the system is using CUCM or CUCM via Expressway provisioning. The URL gets updated in failover scenarios.

Value space of the result returned:
<String>

Example:
```
xStatus Provisioning CUCM Phonebook URL
*s Provisioning CUCM Phonebook URL: "https://company.cisco.com:8443/cucm-uds/users"
** end
```

Security status

xStatus Security
Shows the top level overview of the security status.

xStatus Security FIPS Mode
Shows the FIPS mode status.

Value space of the result returned:
<On/Off>

Example:
```
xStatus Security FIPS Mode
*s Security FIPS Mode: Off
** end
```

xStatus Security Persistency Configurations
Shows whether the systems all configurations are set to persistent or non-persistent mode. Persistent is the default mode.

Value space of the result returned:
<NonPersistent/Persistent>

Example:
```
xStatus Security Persistency Configurations
*s Security Persistency Configurations: Persistent
** end
```

xStatus Security Persistency CallHistory
Shows whether call history logging is set to persistent or non-persistent mode. Persistent is the default mode.

Value space of the result returned:
<NonPersistent/Persistent>

Example:
```
xStatus Security Persistency CallHistory
*s Security Persistency CallHistory: Persistent
** end
```
xStatus Security Persistency InternalLogging
Shows whether internal logging is set to persistent or non-persistent mode. Persistent is the default mode.

Value space of the result returned:
<NonPersistent/Persistent>

Example:
```
  xStatus Security Persistency InternalLogging
  *s Security Persistency InternalLogging: Persistent
  ** end
```

xStatus Security Persistency LocalPhonebook
Shows whether local phone book is set to persistent or non-persistent mode. Persistent is the default mode.

Value space of the result returned:
<NonPersistent/Persistent>

Example:
```
  xStatus Security Persistency LocalPhonebook
  *s Security Persistency LocalPhonebook: Persistent
  ** end
```

xStatus Security Persistency DHCP
Shows whether DHCP logging is set to persistent or non-persistent mode. Persistent is the default mode.

Value space of the result returned:
<NonPersistent/Persistent>

Example:
```
  xStatus Security Persistency DHCP
  *s Security Persistency DHCP: Persistent
  ** end
```

xStatus Security Audit Server Port
Returns information on which syslog server port the audit logs are configured to be sent to.

Value space of the result returned:
<Integer>

Example:
```
  xStatus Security Audit Server Port
  *s Security Audit Server Port: 514
  ** end
```
SIP status

xStatus SIP
Shows the top level overview of the SIP status.

xStatus SIP Proxy [1] Status
Shows the status of the communication between the endpoint and the SIP Proxy server.
Active: The communication between the endpoint and the SIP Proxy is active.
DNSFailed: The attempt to establish communication to the DNS server failed.
Off: There is no communication between the endpoint and the SIP Proxy.
Timeout: The attempt to establish communication to the SIP Proxy timed out.
UnableTCP: The system is unable to use TCP as the transport method.
UnableTLS: The system is unable to use TLS as the transport method.
Unknown: The status of the communication is not known.
AuthenticationFailed: Wrong user name or password.

Value space of the result returned:
<Active/DNSFailed/Off/Timeout/UnableTCP/UnableTLS/Unknown/AuthenticationFailed>

Example:
```
xStatus SIP Proxy 1 Status
*s SIP Proxy 1 Status: Active
** end
```

xStatus SIP Proxy [1] Address
Shows the address of the SIP Proxy that the system communicates with.

Value space of the result returned:
<String>

Example:
```
xStatus SIP Proxy 1 Address
*s SIP Proxy 1 Address: "192.0.2.50"
** end
```

xStatus SIP Proxy [1] Secure
Shows the encryption status of the signaling with the SIP Proxy server.

Value space of the result returned:
<Ture/False>

Example:
```
xStatus SIP Proxy 1 Secure
*s SIP Proxy 1 Secure: True
** end
```

xStatus SIP Proxy [1] Verified
Shows whether or not the SSL certificate of the server that the video system / codec tries to register to is included in the codec's trusted CA-list. The server is typically a Cisco VCS or CUCM.
True: The server's SIP certificate is checked against the trusted CA-list on the codec and found valid. Additionally, the fully qualified domain name of the server matches the valid certificate.
False: A TLS connection is not set up because the SIP certificate verification failed or the domain name did not match. Note that the status also returns False when TLS is not used (xConfiguration SIP Profile 1 DefaultTransport not set to TLS) or certificate verification is switched off (xConfiguration SIP Profile TlsVerify set to Off).

Value space of the result returned:
<Ture/False>

Example:
```
xStatus SIP Proxy 1 Verified
*s SIP Proxy 1 Verified: False
** end
```
xStatus SIP Registration [n] Status
Shows the status of the registration to the SIP Proxy Server.
Deregister: The system is in the process of de-registering to the SIP Proxy.
Failed: The system failed to register to the SIP Proxy.
Inactive: The system is not registered to any SIP Proxy.
Registered: The system is registered to the SIP Proxy.
Registering: The system is in the process of registering to the SIP Proxy.
Value space of the result returned:
<Deregister/Failed/Inactive/Registered/Registering>
Example:
```
xStatus SIP Registration 1 Status
*s SIP Registration 1 Status: Registered
** end
```

xStatus SIP Registration [n] Reason
Shows a message to explain the reason why the SIP registration failed.
Value space of the result returned:
<String>
Example:
```
xStatus SIP Registration 1 Reason
*s SIP Registration 1 Reason: "404 Not Found"
** end
```

xStatus SIP Registration [n] URI
Shows the URI used for registration to the SIP Proxy server.
Value space of the result returned:
<String>
Example:
```
xStatus SIP Registration 1 URI
*s SIP Registration 1 URI: "firstname.lastname@company.com"
** end
```

xStatus SIP Profile 1 Proxy [1] Status
Shows the status of the communication between the endpoint and the SIP Proxy server.
Active: The communication between the endpoint and the SIP Proxy is active.
DNSFailed: The attempt to establish communication to the DNS server failed.
Off: There is no communication between the endpoint and the SIP Proxy.
Timeout: The attempt to establish communication to the SIP Proxy timed out.
UnableTCP: The system is unable to use TCP as the transport method.
UnableTLS: The system is unable to use TLS as the transport method.
Unknown: The status of the communication is not known.
AuthenticationFailed: Wrong user name or password.
Value space of the result returned:
<Active/DNSFailed/Off/Timeout/UnableTCP/UnableTLS/Unknown/AuthenticationFailed>
Example:
```
xStatus SIP Profile 1 Proxy 1 Status
*s SIP Profile 1 Proxy 1 Status: Active
** end
```
xStatus SIP Profile 1 Proxy Address
Shows the address of the SIP Proxy that the system communicates with.

Value space of the result returned:
<String>

Example:
```
xStatus SIP Profile 1 Proxy 1 Address
*s SIP Profile 1 Proxy 1 Address: "192.0.2.50"
** end
```

xStatus SIP Profile 1 Secure
Shows the encryption status of the signaling with the SIP Proxy server.

Value space of the result returned:
<Boolean>

Example:
```
xStatus SIP Profile 1 Secure
*s SIP Profile 1 Secure: True
** end
```

xStatus SIP Profile 1 Verified
Shows whether or not the SSL certificate of the server that the video system / codec tries to register to is included in the codec’s trusted CA-list. The server is typically a Cisco VCS or CUCM.

True: The server’s SIP certificate is checked against the trusted CA-list on the codec and found valid. Additionally, the fully qualified domain name of the server matches the valid certificate.

False: A TLS connection is not set up because the SIP certificate verification failed or the domain name did not match. Note that the status also returns False when TLS is not used (xConfiguration SIP Profile 1 DefaultTransport not set to TLS) or certificate verification is switched off (xConfiguration SIP Profile TlsVerify set to Off).

Value space of the result returned:
<Boolean>

Example:
```
xStatus SIP Profile 1 Verified
*s SIP Profile 1 Verified: False
** end
```

xStatus SIP Profile 1 Authentication
Shows which authentication mechanism is used when registering to the SIP Proxy Server.

Digest: Uses the Digest access authentication method, as specified by RFC 2069.

NTLM: Uses the NTLM authentication method, which is a Microsoft authentication protocol.

Off: No authentication mechanism is used.

Value space of the result returned:
<Boolean>

Example:
```
xStatus SIP Profile 1 Authentication
*s SIP Profile 1 Authentication: Off
** end
```

xStatus SIP Profile 1 Mailbox MessagesWaiting
Indicates how many new messages are in the mailbox.

Value space of the result returned:
<Integer>

Example:
```
xStatus SIP Profile 1 Mailbox MessagesWaiting
*s SIP Profile 1 Mailbox MessagesWaiting: 0
** end
```

xStatus SIP Profile 1 CallForward Mode
Indicates whether the call forward mode for SIP is set to on or off.

Value space of the result returned:
<Boolean>

Example:
```
xStatus SIP Profile 1 CallForward Mode
*s SIP Profile 1 CallForward Mode: Off
** end
```
xStatus SIP Profile 1 CallForward URI
Indicates the address the incoming calls are directed to when call forward mode is set on.

Value space of the result returned:
<String>

Example:
```
xStatus SIP Profile 1 CallForward URI
*s SIP Profile 1 CallForward URI: ""
** end
```

xStatus SIP Profile 1 CallForward DisplayName
Returns the URI that is displayed on the user interface for the forwarded call.

Value space of the result returned:
<String>

Example:
```
xStatus SIP Profile 1 CallForward DisplayName
*s SIP Profile 1 CallForward DisplayName: ""
** end
```

xStatus SIP Profile 1 Registration [n] Status
Shows the status of the registration to the SIP Proxy Server.
Deregister: The system is in the process of de-registering to the SIP Proxy.
Failed: The system failed to register to the SIP Proxy.
Inactive: The system is not registered to any SIP Proxy.
Registered: The system is registered to the SIP Proxy.
Registering: The system is in the process of registering to the SIP Proxy.

Value space of the result returned:
<Deregister/Failed/Inactive/Registered/Registering>

Example:
```
xStatus SIP Profile 1 Registration 1 Status
*s SIP Profile 1 Registration 1 Status: Registered
** end
```

xStatus SIP Profile 1 Registration [n] Reason
Shows a message to explain the reason why the SIP registration failed.

Value space of the result returned:
<String>

Example:
```
xStatus SIP Profile 1 Registration 1 Reason
*s SIP Profile 1 Registration 1 Reason: "404 Not Found"
** end
```

xStatus SIP Profile 1 Registration [n] URI
Returns the URI used for registration to the SIP Proxy server.

Value space of the result returned:
<String>

Example:
```
xStatus SIP Profile 1 Registration 1 URI
*s SIP Profile 1 Registration 1 URI: "firstname.lastname@company.com"
** end
```

xStatus SIP Profile 1 DirectoryURI Primary URI
Returns the primary directory URI set for the endpoint in UCM. Directory URI is associated with a directory number, and can be used to make calls and identify callers. Up to five directory URIs can be set, but only one of them can be set as primary.

Value space of the result returned:
<String>

Example:
```
xStatus SIP Profile DirectoryURI Primary URI
*s SIP Profile 1 DirectoryURI Primary URI: "123456@company.com"
** end
```

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Standby status

xStatus Standby Active
Shows if the system is in standby or not.

Value space of the result returned:
<On/Off>

Example:
  xStatus Standby Active
  *s Standby Active: Off
  ** end

SystemUnit status

xStatus SystemUnit
Shows the top level overview of the system unit status.

xStatus SystemUnit ProductType
Shows the product type.

Value space of the result returned:
<String>

Example:
  xStatus SystemUnit ProductType
  *s SystemUnit ProductType: "Cisco TelePresence Codec"
  ** end

xStatus SystemUnit ProductId
Shows the product identity.

Value space of the result returned:
<String>

Example:
  xStatus SystemUnit ProductId
  *s SystemUnit ProductId: "Cisco TelePresence Codec C90"
  ** end

xStatus SystemUnit ProductPlatform
Shows the product platform.

Value space of the result returned:
<String>

Example:
  xStatus SystemUnit ProductPlatform
  *s SystemUnit ProductPlatform: "C90"
  ** end
xStatus SystemUnit Uptime
Shows the number of seconds since the last restart of the codec.

Value space of the result returned:
<Integer>

Example:
  xStatus SystemUnit Uptime
  *s SystemUnit Uptime: 597095
  ** end

xStatus SystemUnit Software Application
Shows which software application is running on the codec.

Value space of the result returned:
<String>

Example:
  xStatus SystemUnit Software Application
  *s SystemUnit Software Application: "Endpoint"
  ** end

xStatus SystemUnit Software Version
Shows the software version installed on the codec.

Value space of the result returned:
<String>

Example:
  xStatus SystemUnit Software Version
  *s SystemUnit Software Version: "TC5.1.0"
  ** end

xStatus SystemUnit Software Name
Shows the name of the software that is installed on the codec.

Value space of the result returned:
<String>

Example:
  xStatus SystemUnit Software Name
  *s SystemUnit Software Name: "s52010"
  ** end

xStatus SystemUnit Software ReleaseDate
Shows the release date of the software installed on the codec.

Value space of the result returned:
<String>

Example:
  xStatus SystemUnit Software ReleaseDate
  *s SystemUnit Software ReleaseDate: "2012-02-22"
  ** end

xStatus SystemUnit Software MaxVideoCalls
Shows the maximum number of simultaneous video calls that is supported.

Value space of the result returned:
<Integer>

Example:
  xStatus SystemUnit Software MaxVideoCalls
  *s SystemUnit Software MaxVideoCalls: 3
  ** end

xStatus SystemUnit Software MaxAudioCalls
Shows the maximum number of simultaneous audio calls that is supported.

Value space of the result returned:
<Integer>

Example:
  xStatus SystemUnit Software MaxAudioCalls
  *s SystemUnit Software MaxAudioCalls: 3
  ** end

xStatus SystemUnit Software ReleaseKey
Shows if there is a valid release key for the software version that is installed on the codec.

Value space of the result returned:
<String>

Example:
  xStatus SystemUnit Software ReleaseKey
  *s SystemUnit Software ReleaseKey: "true"
  ** end
xStatus SystemUnit Software OptionKeys NaturalPresenter
Shows if the system has the option key installed that supports the NaturalPresenter functionality.

Value space of the result returned:
<String>

Example:
```
status SystemUnit Software OptionKeys NaturalPresenter
  *s SystemUnit Software OptionKeys NaturalPresenter: "true"
  ** end
```

xStatus SystemUnit Software OptionKeys MultiSite
Shows if the system has the option key installed that supports the MultiSite functionality.

Value space of the result returned:
<String>

Example:
```
status SystemUnit Software OptionKeys MultiSite
  *s SystemUnit Software OptionKeys MultiSite: "true"
  ** end
```

xStatus SystemUnit Software OptionKeys PremiumResolution
Shows if the system has the option key installed that supports the PremiumResolution functionality.

Value space of the result returned:
<String>

Example:
```
status SystemUnit Software OptionKeys PremiumResolution
  *s SystemUnit Software OptionKeys PremiumResolution: "true"
  ** end
```

xStatus SystemUnit Software OptionKeys HighDefinition
Shows if the system has the option key installed that supports the HighDefinition functionality.

Value space of the result returned:
<String>

Example:
```
status SystemUnit Software OptionKeys HighDefinition
  *s SystemUnit Software OptionKeys HighDefinition: "true"
  ** end
```

xStatus SystemUnit Software OptionKeys DualDisplay
Shows if the system has the option key installed that supports the DualDisplay functionality.

Value space of the result returned:
<String>

Example:
```
status SystemUnit Software OptionKeys DualDisplay
  *s SystemUnit Software OptionKeys DualDisplay: "true"
  ** end
```

xStatus SystemUnit Software OptionKeys RemoteMonitoring
Shows if the system has the option key installed that supports the remote monitoring functionality. Added in TC7.3.3.

Value space of the result returned:
<String>

Example:
```
status SystemUnit Software OptionKeys RemoteMonitoring
  *s SystemUnit Software OptionKeys RemoteMonitoring: "true"
  ** end
```

xStatus SystemUnit Hardware Module SerialNumber
Shows the serial number of the hardware module in the codec.

Value space of the result returned:
<String>

Example:
```
status SystemUnit Hardware Module SerialNumber
  *s SystemUnit Hardware Module SerialNumber: "F9AA99A00090"
  ** end
```

xStatus SystemUnit Hardware Module Identifier
Shows the revision of the hardware module in the codec.

Value space of the result returned:
<String>

Example:
```
status SystemUnit Hardware Module Identifier
  *s SystemUnit Hardware Module Identifier: "1"
  ** end
```
xStatus SystemUnit Hardware MainBoard SerialNumber
Shows the serial number of the main board in the codec.

Value space of the result returned:
<String>

Example:
  xStatus SystemUnit Hardware MainBoard SerialNumber
  *s SystemUnit Hardware MainBoard SerialNumber: "PH0999989"
  ** end

xStatus SystemUnit Hardware MainBoard Identifier
Shows the revision of the main board in the codec.

Value space of the result returned:
<String>

Example:
  xStatus SystemUnit Hardware MainBoard Identifier
  *s SystemUnit Hardware MainBoard Identifier: "101400-5 [06]"
  ** end

xStatus SystemUnit Hardware BootSoftware
Shows the version of the boot software that is installed on the codec.

Value space of the result returned:
<String>

Example:
  xStatus SystemUnit Hardware BootSoftware
  *s SystemUnit Hardware BootSoftware: "U-Boot 2010.04-30"
  ** end

xStatus SystemUnit Hardware MonitoringSoftware
The feedback shows the monitoring software id.

Value space of the result returned:
<String>

Example:
  xStatus SystemUnit Hardware MonitoringSoftware
  *s SystemUnit Hardware MonitoringSoftware: "39"
  ** end

xStatus SystemUnit Hardware Monitoring Fan [n] Status
The feedback shows the speed (rpm) for the specified fan.

Value space of the result returned:
<String>

Example:
  xStatus SystemUnit Hardware Monitoring Fan 1 Status
  *s SystemUnit Hardware Monitoring Fan 1 Status: "locked on 1096 rpm"
  ** end

xStatus SystemUnit Hardware Temperature
The feedback shows the current maximum temperature (degree Celsius) measured in the codec/system.

Value space of the result returned:
<String>

Example:
  xStatus SystemUnit Hardware Temperature
  *s SystemUnit Hardware Temperature: "64.0"
  ** end

xStatus SystemUnit Hardware TemperatureThreshold
Returns information on the maximum temperature for the codec. If this temperature is exceeded the system automatically shuts down.

Value space of the result returned:
<String>

Example:
  xStatus SystemUnit Hardware TemperatureThreshold
  *s SystemUnit Hardware TemperatureThreshold: "85"
  ** end
**xStatus SystemUnit State System**
Shows what state the system is in.
- InCall: The system is in a call.
- Initialized: The system is ready for use.
- Initializing: The system is initializing.
- Multisite: The system is in a Multisite conference.
- Sleeping: The system is in sleep mode.

Value space of the result returned:
<InCall/Initialized/Initializing/Multisite/Sleeping>

Example:
```plaintext
xStatus SystemUnit State System
*s SystemUnit State System: Initialized
** end
```

**xStatus SystemUnit State MaxNumberOfCalls**
Shows the the maximum number of simultaneous calls.

Value space of the result returned:
<0..5>

Example:
```plaintext
xStatus SystemUnit State MaxNumberOfCalls
*s SystemUnit State MaxNumberOfCalls: 3
** end
```

**xStatus SystemUnit State MaxNumberOfActiveCalls**
Shows the the maximum number of simultaneous active calls. Calls that are set on hold/transfer are not counted as active.

Value space of the result returned:
<0..5>

Example:
```plaintext
xStatus SystemUnit State MaxNumberOfActiveCalls
*s SystemUnit State MaxNumberOfActiveCalls: 3
** end
```

**xStatus SystemUnit State NumberOfActiveCalls**
Shows the number of active calls.

Value space of the result returned:
<0..5>

Example:
```plaintext
xStatus SystemUnit State NumberOfActiveCalls
*s SystemUnit State NumberOfActiveCalls: 0
** end
```

**xStatus SystemUnit State NumberOfSuspendedCalls**
Shows the number of suspended calls.

Value space of the result returned:
<0..5>

Example:
```plaintext
xStatus SystemUnit State NumberOfSuspendedCalls
*s SystemUnit State NumberOfSuspendedCalls: 0
** end
```

**xStatus SystemUnit State NumberOfInProgressCalls**
Shows the number of calls in progress.

Value space of the result returned:
<0..5>

Example:
```plaintext
xStatus SystemUnit State NumberOfInProgressCalls
*s SystemUnit State NumberOfInProgressCalls: 0
** end
```
xStatus SystemUnit State Subsystem Application
Shows the status of the sub system application.
Initialized: The sub-system application is initialized.
Initializing: The sub-system application is initializing.

Value space of the result returned:
<Initialized/Initializing>

Example:
```c
*s SystemUnit State Subsystem Application: Initialized
** end
```

xStatus SystemUnit ContactInfo
Returns the system’s active contact information. This is the address which is used to reach this system.

Value space of the result returned:
<String>

Example:
```c
*s SystemUnit ContactInfo: "firstname.lastname@company.com"
** end
```

xStatus SystemUnit ContactName
Returns the system’s active contact name. The result depends on which protocol, if any, the system is registered on. Unlike Contact Info, Contact Name is not configurable and is automatically set by the system.

Value space of the result returned:
<String>

Example:
```c
Not registered to a protocol
*s SystemUnit ContactName: "192.0.2.0"
** end
```

Example 2: Registered on SIP
```c
*xStatus SystemUnit ContactName: "1234@192.0.2.0"
** end
```

xStatus SystemUnit Notifications Notification [n] Type
Lists the system notification types. Notifications are issued e.g. when a system is rebooted because of a software upgrade, or when a factory reset is performed.
FactoryResetOK: This value is returned after a successful factory reset.
FactoryResetFailed: This value is returned after a failed factory reset attempt.
SoftwareUpgradeOK: This value is returned after a successful software upgrade.
SoftwareUpgradeFailed: This value is returned after a failed software upgrade attempt.
RebootRequired: This value is returned when a reboot is required.
Other: This value is returned for any other notifications.

All the notifications can be removed from the list by issuing the xCommand SystemUnit Notifications RemoveAll command.

Value space of the result returned:
<FactoryResetOK, FactoryResetFailed, SoftwareUpgradeOK, SoftwareUpgradeFailed, RebootRequired, Other>

Example:
```c
*s SystemUnit Notifications Notification 1 Type: SoftwareUpgradeOK
** end
```

xStatus SystemUnit Notifications Notification [n] Text
Lists text related to important system notifications. Notifications are issued e.g. when a system was rebooted because of a software upgrade, or when a factory reset has been performed.

All the notifications can be removed from the list by issuing the xCommand SystemUnit Notifications RemoveAll command.

Value space of the result returned:
<String>

Example:
```c
*s SystemUnit Notifications Notification 1 Text: "OK"
** end
```
xStatus SystemUnit Diagnostics LastRun
Shows when the SystemUnit diagnostics was last run on the codec.

Value space of the result returned:
<String>

Example:
```
xStatus SystemUnit Diagnostics LastRun
"SystemUnit Diagnostics LastRun: "2012-08-17, 16:23:27"
** end
```

xStatus SystemUnit Diagnostics Message [n] Type
Returns information on the results of the latest diagnostics on the system.

Value space of the result returned:
<CUCMVendorConfigurationFile/CallProtocolDualStackConfig/
CallProtocolIPStackPlatformCompatibility/CallProtocolVcsProvisioningCompatibility/
CameraPairing/CameraSoftwareVersion/CameraStatus/CamerasDetected/
DefaultCallProtocolRegistered/EthernetDuplexMatches/H320GatewayStatus/
H323GatekeeperStatus/HasValidReleaseKey/IPv4Assignment/IPv6Assignment/IPv6Mtu/
ISDNLinkCompatibility/ISDNLinkIpStack/NTPStatus/NetSpeedAutoNegotiated/OSDVideoOutput/
ProvisioningStatus/SIPConfigurationException/SIPListenPortAndOutboundMode/SIPProfileRegistration/
SIPProfileType/SelectedVideoInputSourceConnected/SipIceAndAnatConflict/
TLSVerifyRequiredCerts/TouchPanelConnection/TurnBandwidth/UdpPortRangeViolation/
ValidPasswords/VideoFromInternalCamera/VideoInputStability/TemperatureCheck>

Example:
```
xStatus SystemUnit Diagnostics Message 1 Type: InvalidAdminPassword
** end
```

xStatus SystemUnit Diagnostics Message [n] Level
Returns information on the level of the diagnostics message.
Error: There is an error in the system. The system can still be used, but there can be some restrictions.
Warning: A problem is detected and a more specific report follows indicating the exact problem.
Critical: The warning level is critical. The system cannot be used.

Value space of the result returned:
<Error/Warning/Critical>

Example:
```
xStatus SystemUnit Diagnostics Message Level
"Status (status=Error):
  Reason: No match on address expression
  XPath: Status/SystemUnit/Diagnostics/Message/Level
** end
```

xStatus SystemUnit Diagnostics Message [n] Description
A description of the current diagnostics alerts.

Value space of the result returned:
<String>

Example:
```
xStatus SystemUnit Diagnostics Message Description
"SystemUnit DiagnosticsResult Message 1 Description: "IP configuration incomplete"
** end
```

xStatus SystemUnit Diagnostics Message [n] References
Additional information on the diagnostics alert, if available.

Value space of the result returned:
<String>

Example:
```
xStatus SystemUnit Diagnostics Message References
"SystemUnit DiagnosticsResult Message 1 References: ""
** end
```
Time status

xStatus Time
Shows the top level overview of the time status.

xStatus Time Zone Olson
Shows the current time zone in Olson format.

Value space of the result returned:
<String>

Example:
  xStatus Time Zone Olson
  *s Time Zone Olson: Europe/Berlin
  ** end

xStatus Time System Time
Returns the date and time set on the system.

Value space of the result returned:
<String>

Example:
  xStatus Time System Time
  *s Time System Time: "2014-04-25T10:04:03Z"
  ** end

Video status

xStatus Video Input
Shows the top level overview of the video input status.

xStatus Video Monitors
Returns the monitor layout mode.
Single: The same layout is shown on all monitors.
Dual: The layout is distributed on two monitors.
DualPresentationOnly: All participants in the call will be shown on the first monitor, while the presentation (if any) will be shown on the second monitor.
Quadruple: The layout is distributed on four monitors, so that each remote participant and the presentation will be shown on separate monitors.

Value space of the result returned:
<String/Dual/DualPresentationOnly/Triple/Quadruple>

Example:
  xStatus Video Monitors
  *s Video Monitors: Single
  ** end

xStatus Video Input Last Connected Source
Shows the last connected video input source.

Value space of the result returned:
<integer>

Example:
  xStatus Video Input Last Connected Source
  *s Video Input Last Connected Source: 0
  ** end
xStatus Video Input MainVideoSource
Returns the local video input currently used as the main source. The main video source is set with the xConfiguration Video Input VideoMainSource command.

Value space of the result returned:
<Integer>

Example:
xStatus Video Input MainVideoSource
*s Video Input MainVideoSource: 1
** end

xStatus Video Input Source [n] Resolution Height
Shows the resolution height (in pixels) for the video input source.

Value space of the result returned:
<0..3000>

Example:
xStatus Video Input Source 1 Resolution Height
*s Video Input Source 1 Resolution Height: 1080
** end

xStatus Video Input Source [n] Resolution Width
Shows the resolution width (in pixels) for the video input source.

Value space of the result returned:
<0..4000>

Example:
xStatus Video Input Source 1 Resolution Width
*s Video Input Source 1 Resolution Width: 1920
** end

xStatus Video Input Source [n] Resolution RefreshRate
Shows the resolution refresh rate (Hz) for the video input source.

Value space of the result returned:
<0..300>

Example:
xStatus Video Input Source 1 Resolution RefreshRate
*s Video Input Source 1 Resolution RefreshRate: 50
** end
xStatus Video Input HDMI [1] Connected
Shows if there is something connected to the HDMI connector. Not all connections can be detected.

Value space of the result returned:
<T/False/Unknown>

Example:
  xStatus Video Input HDMI 1 Connected
  *s Video Input HDMI 1 Connected: True
  ** end

xStatus Video Input HDMI [1] SignalState
Shows the signal state for the HDMI input.
Unknown: The signal format is unknown.
OK: A signal is detected and the signal format is supported.
Unsupported: A signal is detected, but the signal format is not supported.

Value space of the result returned:
<Unknown/OK/Unsupported>

Example:
  xStatus Video Input HDMI 1 SignalState
  *s Video Input HDMI 1 SignalState: OK
  ** end

xStatus Video Input DVI [2] Connected
Shows if there is something connected to the DVI connector. Not all connections can be detected.

Value space of the result returned:
<T/False/Unknown>

Example:
  xStatus Video Input DVI 2 Connected
  *s Video Input DVI 2 Connected: False
  ** end

xStatus Video Input DVI [2] SignalState
Shows the signal state for the DVI-I input.
Unknown: The signal format is unknown.
OK: A signal is detected and the signal format is supported.
Unsupported: A signal is detected, but the signal format is not supported.

Value space of the result returned:
<Unknown/OK/Unsupported>

Example:
  xStatus Video Input DVI 2 SignalState
  *s Video Input DVI 2 SignalState: OK
  ** end

xStatus Video Input USB 3 Connected
Shows if there is something connected to the USB connector. Not all connections can be detected.

Value space of the result returned:
<T/False/Unknown>

Example:
  xStatus Video Input USB 3 Connected
  *s Video Input USB 3 Connected: False
  ** end

xStatus Video Input USB 3 SignalState
Shows the signal state for the USB input.
Unknown: The signal format is unknown.
OK: A signal is detected and the signal format is supported.
Unsupported: A signal is detected, but the signal format is not supported.

Value space of the result returned:
<Unknown/OK/Unsupported>

Example:
  xStatus Video Input USB 3 SignalState
  *s Video Input USB 3 SignalState: Unknown
  ** end
xStatus Video Input HDMI [n] SourceId
Shows the identifier of the input source that the connector is associated with.

Value space of the result returned:
<Integer>

xStatus Video Input HDMI [n] Type
Shows the connector type.

Value space of the result returned:
<Camera/Composite/DVI/HD-SDI/HDMI/USB/Unknown/VGA/YC/YPbPr>

xStatus Video Input DVI [n] SourceId
Shows the identifier of the input source that the connector is associated with.

Value space of the result returned:
<Integer>

xStatus Video Input DVI [n] Type
Shows the connector type.

Value space of the result returned:
<Camera/Composite/DVI/HD-SDI/HDMI/USB/Unknown/VGA/YC/YPbPr>

xStatus Video Input USB [n] SourceId
Shows the identifier of the input source that the connector is associated with.

Value space of the result returned:
<Integer>

xStatus Video Input USB [n] Type
Shows the connector type.

Value space of the result returned:
<Camera/Composite/DVI/HD-SDI/HDMI/USB/Unknown/VGA/YC/YPbPr>

xStatus Video Output
Shows the top level overview of the video output status.

xStatus Video Output HDMI [n] MonitorRole
Describes which video stream is shown on the monitor connected to the video output HDMI connector.
First/Second/Third/Fourth: The role of the monitor in a multi-monitor setup. In a single-monitor setup, there is no difference between First, Second, Third and Fourth. PresentationOnly: Shows presentation video stream if active. Recorder: Shows all participants, including the local main video. If active, shows also the presentation. InternalSetup: Determined by the system, when xConfiguration Video Output HDMI [n] MonitorRole is set to Auto.

Value space of the result returned:
<First/Second/Third/Fourth/PresentationOnly/Recorder/InternalSetup>

Example:
```plaintext
xStatus Video Output HDMI 1 MonitorRole
*s Video Output HDMI 1 MonitorRole: First
** end
```

xStatus Video Output HDMI [1, 2] Resolution Height
Shows the resolution height (in pixels) for the video output HDMI.

Value space of the result returned:
<120..3000>

Example:
```plaintext
xStatus Video Output HDMI 1 Resolution Height
*s Video Output HDMI 1 Resolution Height: 720
** end
```

xStatus Video Output HDMI [1, 2] Resolution Width
Shows the resolution width (in pixels) for the video output HDMI.

Value space of the result returned:
<176..4000>

Example:
```plaintext
xStatus Video Output HDMI 1 Resolution Width
*s Video Output HDMI 1 Resolution Width: 1280
** end
```
xStatus Video Output HDMI [1, 2] Resolution RefreshRate
Shows the resolution refresh rate (Hz) for the video output HDMI.

Value space of the result returned:
<1..300>

Example:
```
xStatus Video Output HDMI 1 Resolution RefreshRate
*s Video Output HDMI 1 Resolution RefreshRate: 60
** end
```

xStatus Video Output HDMI [1, 2] Connected
Indicates whether a display is connected to the HDMI video output or not. NOTE: When a display enters standby mode, the endpoint may not be able to detect it. The connector status will then return False/Unknown even if the display is physically connected.

True - A display is connected to the video output connector.
False - No display is connected to the video output.

Value space of the result returned:
<True/False>

Example:
```
xStatus Video Output HDMI Connected
*s Video Output HDMI 1 Connected: False
** end
```

xStatus Video Output HDMI [1, 2] Type
Shows the connector type.

Value space of the result returned:
<HDMI/DVI/LCD/Legacy/Internal>

Example:
```
xStatus Video Output HDMI Type
*s Video Output HDMI 1 Type: HDMI
** end
```

xStatus Video Output DVI ConnectedDevice Name
Shows the name of the monitor connected to the DVI port as defined in the monitors EDID.

Value space of the result returned:
<String>

Example:
```
xStatus Video Output DVI ConnectedDevice Name
*s Video Output DVI 2 ConnectedDevice Name: ""
*s Video Output DVI 4 ConnectedDevice Name: ""
** end
```

xStatus Video Output DVI ConnectedDevice PreferredFormat
 Shows the preferred input format of the monitor connected to the DVI port as defined in the monitors EDID. This is not necessarily the format the codec is sending out.

Value space of the result returned:
<String>

Example:
```
xStatus Video Output DVI ConnectedDevice PreferredFormat
*s Video Output DVI 2 ConnectedDevice PreferredFormat: ""
** end
```

xStatus Video Output HDMI ConnectedDevice Name
Shows the name of the monitor connected to the HDMI port as defined in the monitors EDID.

Value space of the result returned:
<String>

Example:
```
xStatus Video Output HDMI ConnectedDevice Name
*s Video Output HDMI 1 ConnectedDevice Name: ""
*s Video Output HDMI 3 ConnectedDevice Name: ""
** end
```
xStatus Video Output HDMI ConnectedDevice PreferredFormat
Shows the preferred input format of the monitor connected to the HDMI port as defined in the monitors EDID. This is not necessarily the format the codec is sending out.

Value space of the result returned:
<String>

Example:
```
xStatus Video Output HDMI ConnectedDevice PreferredFormat
*s Video Output HDMI 1 ConnectedDevice PreferredFormat: ""
** end
```

xStatus Video Output HDMI ConnectedDevice CEC DeviceType
Shows the type of CEC enabled device connected to the HDMI output the codec has detected. This information is only available when the device connected to the HDMI output has the CEC feature configured on and the codec has the configuration xConfiguration Video Output HDMI [n] CEC Mode set to on.

Value space of the result returned:
 Unknown/TV/Reserved/Recorder/Tuner/Playback/Audio

Example:
```
xStatus Video Output HDMI ConnectedDevice CEC DeviceType
*s Video Output HDMI 1 ConnectedDevice CEC 1 DeviceType: TV
** end
```

xStatus Video Output HDMI ConnectedDevice CEC PowerControl
Shows whether the codec is controlling the CEC enabled device connected to the HDMI output. This information is only available when the device connected to the HDMI output has the CEC feature configured on and the codec has the configuration xConfiguration Video Output HDMI [n] CEC Mode set to on.

Value space of the result returned:
 Unknown/Ok/In progress/Failed to power on/Failed to standby

Example:
```
xStatus Video Output HDMI ConnectedDevice CEC PowerControl
*s Video Output HDMI 1 ConnectedDevice CEC 1 PowerControl: Ok
** end
```

xStatus Video Output HDMI ConnectedDevice CEC PowerStatus
Shows the state of the CEC enabled devise connected to the HDMI output. This information is only available when the device connected to the HDMI output has the CEC feature configured on and the codec has the configuration xConfiguration Video Output HDMI [n] CEC Mode set to on.

Value space of the result returned:
 Unknown/Ok/In progress/Failed to power on/Failed to standby

Example:
```
xStatus Video Output HDMI ConnectedDevice CEC PowerStatus
*s Video Output HDMI 1 ConnectedDevice CEC 1 PowerStatus: Standby
** end
```

xStatus Video Layout
Shows the top level overview of the video layout status.

xStatus Video Layout Mode
Indicates type of layout currently used by the codec, custom or default.

Value space of the result returned:
 Unknown/Default/Custom

Example:
```
xStatus Video Layout Mode
*s Video Layout Mode: Default
** end
```

xStatus Video Layout PresentationView
Returns information about the presentation view mode.

Value space of the result returned:
 Unknown/Default/Maximized/Minimized

Example:
```
xStatus Video Layout PresentationView
*s Video Layout PresentationView: "Default"
** end
```
xStatus Video Layout Site [n] Output [n] FamilyName
Shows the name of the video layout family.

Value space of the result returned:
<String>

Example:
xStatus Video Layout Site 1 Output 1 FamilyName
  "fullscreen"

** end

xStatus Video Layout Site [n] Output [n] FullFamilyName
Shows the name, included information about self-view on/off, for the video layout family.

Value space of the result returned:
<String>

Example:
xStatus Video Layout Site 1 Output 1 FullFamilyName
  "fullscreen-local-single-camctrl"

** end

xStatus Video Layout Site [n] Output [n] GraphicName
Shows the name of the graphic layout. The name identifies the layout used right now at the specified output.

NOTE: Note that while the FamilyName is constant as long as the configurations on the system does not change, the GraphicName varies depending on system state (the number of participants for instance).

Value space of the result returned:
<String>

Example:
xStatus Video Layout Site 1 Output 1 GraphicName
  "full-pip"

** end

xStatus Video Layout Site [n] Output [n] Frame [n] PositionX
Shows the horizontal position of the upper left corner of the frame.

Value space of the result returned:
<0..10000>

Example:
xStatus Video Layout Site 1 Output 1 Frame 1 PositionX
  0

** end

xStatus Video Layout Site [n] Output [n] Frame [n] PositionY
Shows the vertical position of the upper left corner of the frame.

Value space of the result returned:
<0..10000>

Example:
xStatus Video Layout Site 1 Output 1 Frame 1 PositionY
  0

** end

xStatus Video Layout Site [n] Output [n] Frame [n] Width
Shows the width of the frame.

Value space of the result returned:
<0..10000>

Example:
xStatus Video Layout Site 1 Output 1 Frame 1 Width
  10000

** end

xStatus Video Layout Site [n] Output [n] Frame [n] Height
Shows the height of the frame.

Value space of the result returned:
<0..10000>

Example:
xStatus Video Layout Site 1 Output 1 Frame 1 Height
  10000

** end
xStatus Video Layout Site [n] Output [n] Frame [n] Layer
Shows the layer of the frame.

Value space of the result returned:
<1..6>

Example:

```
*s Video Layout Site 1 Output 1 Frame 1 Layer: 1
** end
```

xStatus Video Layout Site [n] Output [n] Frame [n] MediaChannelId
For internal use only.

Value space of the result returned:
<Integer>

Example:

```
*s Video Layout Site 1 Output 1 Frame 1 MediaChannelId: 157
*s Video Layout Site 1 Output 2 Frame 1 MediaChannelId: 157
*s Video Layout Site 1 Output 3 Frame 1 MediaChannelId: 157
*s Video Layout Site 1 Output 4 Frame 1 MediaChannelId: 157
*s Video Layout Site 1 Output 5 Frame 1 MediaChannelId: 157
** end
```

xStatus Video Layout Site [n] Output [n] Frame [n] VideoSourceType
Describes the video source type in the frame.

Value space of the result returned:
<String>

Example:

```
*s Video Layout Site 1 Output 1 Frame 1 VideoSourceType: "graphic"
** end
```

xStatus Video Layout Site [n] Output [n] Frame [n] VideoSourceId
Shows the video source Id which is used when adding or updating frames. See the xCommand Video Layout Frame Add and xCommand Video Layout Frame Update.

Value space of the result returned:
<Integer>

Example:

```
*s Video Layout Site 1 Output 1 Frame 1 VideoSourceId
** end
```

xStatus Video Layout Site [n] Output [n] Frame [n] InputNumber
Shows the layout input number.

Value space of the result returned:
<1..2>

Example:

```
*s Video Layout Site 1 Output 1 Frame 1 InputNumber: 1
** end
```

xStatus Video Layout Site [n] Output [n] Frame [n] Filename
Shows the filename of the layout frame.

Value space of the result returned:
<String>

Example:

```
*s Video Layout Site 1 Output 1 Frame 1 Filename: "/user/posters/wallpaper.png"
** end
```
xStatus Video Layout Site [n] Output [n] Frame [n] VideoSourceContent
Shows the video source content type of each layout frame.
noSource: There is no source.
black: The frame is black.
main: The frame displays the main image from a local or a remote user.
self-view: The frame displays the self-view image.
selfviewPip: The frame displays the self-view image in PiP format.
speaker: The frame displays the image of the speaker.
speakerPip: The frame displays the image of the speaker in PiP format.
presentation: The frame displays the image of the presentation.
presentationPip: The frame displays the image of the presentation in PiP format.
presentationPreview: The frame displays the preview image of the presentation.
localInput: The frame displays the image of the local input source.
wallpaper: The frame displays the wallpaper.
gui: The frame displays the user interface.
internal: For internal use.

Value space of the result returned:
<noSource/black/main/selfview/selfviewPip/speaker/speakerPip/presentation/presentationPip/
presentationPreview/localInput/wallpaper/gui/internal>

Example:
*xStatus Video Layout Site Output Frame VideoSourceContent
*s Video Layout Site 1 Output 1 Frame 1 VideoSourceContent: wallpaper
*s Video Layout Site 1 Output 2 Frame 1 VideoSourceContent: wallpaper
*s Video Layout Site 1 Output 3 Frame 1 VideoSourceContent: wallpaper
*s Video Layout Site 1 Output 3 Frame 2 VideoSourceContent: gui
*s Video Layout Site 1 Output 4 Frame 1 VideoSourceContent: wallpaper
*s Video Layout Site 1 Output 5 Frame 1 VideoSourceContent: wallpaper
** end

xStatus Video Layout Site [n] Output [n] FrameContainer [n] PositionX
For internal use only.

Value space of the result returned:
<Integer>

xStatus Video Layout Site [n] Output [n] FrameContainer [n] PositionY
For internal use only.

Value space of the result returned:
<Integer>

For internal use only.

Value space of the result returned:
<Integer>

xStatus Video Layout Site [n] Output [n] FrameContainer [n] Height
For internal use only.

Value space of the result returned:
<Integer>

xStatus Video Layout Site [n] Output [n] FrameContainer [n] Content
For internal use only.

Value space of the result returned:
<Integer>

xStatus Video Layout Prediction Site [n] FrameContainer OutputRole [n] PositionX
For internal use only.

Value space of the result returned:
<Integer>

xStatus Video Layout Prediction Site [n] FrameContainer OutputRole [n] PositionY
For internal use only.

Value space of the result returned:
<Integer>
xStatus Video Layout Prediction Site [n] FrameContainer OutputRole [n] Width
For internal use only.
Value space of the result returned:
<Integer>

xStatus Video Layout Prediction Site [n] FrameContainer OutputRole [n] Height
For internal use only.
Value space of the result returned:
<Integer>

xStatus Video Layout Prediction Site [n] Output [1..2] Frame [1..6] MediaChannelId
For internal use only.
Value space of the result returned:
<Integer>

Example:

```
xStatus Video Layout Prediction Site Output Frame MediaChannelId
*s Video Layout Prediction Site 1 Output 1 Frame 1 MediaChannelId: 157
*s Video Layout Prediction Site 1 Output 2 Frame 1 MediaChannelId: 157
*s Video Layout Prediction Site 1 Output 3 Frame 1 MediaChannelId: 157
*s Video Layout Prediction Site 1 Output 4 Frame 1 MediaChannelId: 157
*s Video Layout Prediction Site 1 Output 5 Frame 1 MediaChannelId: 157
** end
```

xStatus Video Layout Prediction Site [n] StatusIndex Family [n] Hidden
For internal use only.
Value space of the result returned:
<Boolean>

xStatus Video Selfview Mode
Shows whether selfview mode is set on or not.
Value space of the result returned:
<Boolean>

Example:

```
xStatus Video Selfview Mode
*s Video Selfview Mode: Off
** end
```

xStatus Video Selfview FullscreenMode
Shows whether selfview is set on full screen mode or not.
Value space of the result returned:
<Boolean>

Example:

```
xStatus Video Selfview FullscreenMode
*s Video Selfview FullscreenMode: Off
** end
```

xStatus Video Selfview PIPPosition
Shows the position of the selfview image on the screen.
Value space of the result returned:
<String>

Example:

```
xStatus Video Selfview PIPPosition
*s Video Selfview PIPPosition: LowerRight
** end
```
xStatus Video Selfview OnMonitorRole
Identifies which monitor(s) contains the selfview, if present.

Value space of the result returned:
<First/Second/Third/Fourth>

Example:
```
xStatus Video Selfview OnMonitorRole
*s Video Selfview OnMonitorRole: First
** end
```

xStatus Video PIP ActiveSpeaker Position
Shows the position of the active speaker’s image on the screen.

Value space of the result returned:
<UpperLeft/UpperCenter/UpperRight/CenterLeft/CenterRight/LowerLeft/LowerRight>

Example:
```
xStatus Video PIP ActiveSpeaker Position
*s Video PIP ActiveSpeaker Position: UpperCenter
** end
```

xStatus Video PIP Presentation Position
Shows the position of the presentation image on the screen.

Value space of the result returned:
<UpperLeft/UpperCenter/UpperRight/CenterLeft/CenterRight/LowerLeft/LowerRight>

Example:
```
xStatus Video PIP Presentation Position
*s Video PIP Presentation Position: CenterLeft
** end
```

xStatus Video OSD Output
Indicates which monitor is used for on-screen display output.

Value space of the result returned:
<Integer>

Example:
```
xStatus Video OSD Output
*s Video OSD Output: 3
** end
```

xStatus Video OSD Mode
Indicates whether on-screen display is in indicator or full mode.
Indicators: The on-screen display is in passive mode when a Touch controller is paired to the system.
Full: Full on-screen display menu is active and can be controlled with a remote control.

Value space of the result returned:
<Indicators/Full>

Example:
```
xStatus Video OSD Mode
*s Video OSD Mode: Full
** end
```

xStatus Video OSD Style
For internal use only.

Value space of the result returned:
<Classic/Default>
Experimental status

The Experimental status is for testing only and should not be used unless agreed with Cisco. These settings are not documented and WILL change in later releases.
Chapter 6

Appendices
Startup script

You can add a startup script on the codec to execute certain commands from the API during boot up.

Adding a startup script

The startup script can be used to execute certain commands from the API during boot up. To enable this feature one must log in to the codec as root and follow the below points.

Login to the codec

1. Connect to the codec through the network, using a command line interface (SSH, Telnet or SCP) and login as root.
2. Make a user directory using the following command: "mkdir /user/scripts.d"
3. Put an executable file (permission must be changed to executable) in this directory.

Example of the text in such a file:

```
#!/usr/bin/env tsh

xCommand Audio LocalInput Update InputId: 1
MixerMode: Fixed
```

The startup script file

- The file must start with the following sequence: 
  
  ```
  #!/usr/bin/env tsh
  ```
- The file can contain any xCommand or xConfiguration command
- The system executes the commands and configurations in sequence.
- The file can have any name as long as it is placed in this directory.
- For multiple commands you must use Unix end of line (LF). Windows end of line does not work.
Cisco TelePresence Remote Control

Function keys: Represents shortcuts and advanced functions. Each key reflects a soft key on screen.

Microphone: Press the key to toggle the microphones on/off.

Volume: Press plus (+) or minus (–) on the volume key to adjust the volume.

Mute the ringtone: Press minus (–) on the volume key to mute the ringtone on an incoming call.

OK/Select: Press the key to confirm your choice or selection.

Phone book: Press the key to display the local Phone book.

Home: Press the key to show the menu on screen.

Call: Using the key:

INITIATE A CALL: Select a name from the Phone book or enter the name, number or URI and press the Call key to initiate the call.

SHORTCUT TO RECENT CALLS: Use the Call key as a shortcut to Recent Calls when the Call menu is not visible.

Clear: Press the key to remove characters in a text field.

Presentation: Press the key to show/hide a presentation.

Zoom: Press the + or - on the key to zoom the camera in and out.

Arrows:

• Up/Down: Use the and keys to navigate in the menu.
• Arrow Right: Press the key to expand the selected menu item or to move to the right in a text field.
• Arrow Left: Press the key to go one step back in the menu or to move to the left in a text field.

Layout: Press the key to display the Layout menu, then select a view in the menu.

End call/Standby: Press the key to end a call, or when idle, press and hold the key to go into standby mode.

Alphanumeric keypad:

• 0-9, a-z, period (.), @, space, #: Press a key repeatedly to toggle between the options displayed on each key.
• abc/123 #: Press the # key to toggle between touch tones mode (long press), lower case characters and numbers.

IR transmitter range (DIP switch setting)

The IR transmitter has a short and long range. Open the battery cover and remove the batteries to set the DIP switch.

• Short range (1 m): Move the DIP switch down.
• Longer range: Move the DIP switch up.

Waking up the system

Grab the remote control and make sure your hand touches the rubber line sensors going along both sides of the remote control.

or: Press any key on the remote control.

Grab the remote control and make sure your hand touches the rubber line sensors going along both sides of the remote control.

or: Press any key on the remote control.
Remote control key map

The Cisco TelePresence Remote Control 5 has the following button codes and IR signal parameters.

### Button codes - Remote control 5

<table>
<thead>
<tr>
<th>Dec</th>
<th>Hex</th>
<th>Address</th>
<th>Button name</th>
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<td>Zoom out</td>
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<td>Volume down</td>
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<td>Volume up</td>
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<td>Microphone off</td>
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<td>Arrow up</td>
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<td>Arrow right</td>
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<td>Ok</td>
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<td>End call</td>
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<td>41</td>
<td>29</td>
<td></td>
<td></td>
</tr>
<tr>
<td>42</td>
<td>2A</td>
<td>0</td>
<td>Soft key 1</td>
</tr>
<tr>
<td>43</td>
<td>2B</td>
<td>0</td>
<td>Soft key 2</td>
</tr>
<tr>
<td>44</td>
<td>2C</td>
<td>0</td>
<td>Soft key 3</td>
</tr>
<tr>
<td>45</td>
<td>2D</td>
<td>0</td>
<td>Soft key 4</td>
</tr>
<tr>
<td>46</td>
<td>2E</td>
<td>0</td>
<td>Soft key 5</td>
</tr>
<tr>
<td>47</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>48</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>49</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>50</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>51</td>
<td>33</td>
<td>0</td>
<td>Home</td>
</tr>
</tbody>
</table>

### IR Signal parameters

<table>
<thead>
<tr>
<th>Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Protocol</td>
<td>Siemens SDA2208</td>
</tr>
<tr>
<td>Reference frequency</td>
<td>485 kHz</td>
</tr>
<tr>
<td>Address</td>
<td>4 and 7</td>
</tr>
<tr>
<td>IR wavelength</td>
<td>940 nm</td>
</tr>
<tr>
<td>IR carrier frequency</td>
<td>30 kHz</td>
</tr>
</tbody>
</table>
The SystemTools commands

Note: The systemtools commands are used for administrative control of the codec and is only available from a command line interface. Systemtools should not be used to program the codec.

Required parameters in angle brackets: <text>
Optional parameters in square brackets: [text]
To get an overview of the supported commands type “systemtools ?”.

Example:

    systemtools ?
    authorizedkeys
    boothalt
    camerarescue
    endeavourversion
    idefixversion
    touchpanelversion
    license
    network
    ntp
    pairing
    passwd
    pki
    rootsettings
    securitysettings
    securitystatus
    selectsw
    sudo
    whoami

To see the usage of the commands add a question mark after the command.

Example:

    systemtools authorizedkeys ?
    usage: authorizedkeys <add <method> <key> [comment] | delete <id> | list | clear>
    OK

    systemtools authorizedkeys add <method> <key> [comment]
    Add the SSH keys on the codec.
    method(r): The encryption method used, which can be SSH-rsa or SSH-dss.
    key(r): The public key as it is in the SSH public key file.
    comment: Optional comment.

    systemtools authorizedkeys delete <id>
    Delete the given SSH key on the codec, defined by the id.
    id(r): The id as as displayed in the authorized keys list.

    systemtools authorizedkeys list
    List the SSH keys on the codec.

    systemtools authorizedkeys clear
    Clear all SSH keys on the codec.

    systemtools boothalt allow
    Allow the user to stop the system during the boot loader startup sequence using a serial console.

    systemtools boothalt prevent
    Prevent the user from stopping the system during the boot loader startup sequence using a serial console.

    systemtools boothalt status
    Show whether or not the system can be stopped during a boot loader startup sequence.

    systemtools license list
    Lists all the licenses for the codec.

    systemtools license show <name>
    Shows the content of a license file, define by the name.
    name(r): The name of the license file.

    systemtools network ping <hostname>
    Network debug command.
    hostname(r): The IP address or URL of the host.

    systemtools network traceroute <hostname>
    Network debug command.
    hostname(r): The IP address or URL of the host.

    systemtools network netstat
    Network debug command.

    systemtools network addrs
    Shows the systems IP addresses.

    systemtools pairing unpair
    Remove association with Cisco TelePresence Touch controller.

    systemtools passwd
    Change the password for the logged in user.

    systemtools pki list
    Lists the codec certificate and CA list if they exist.

    systemtools pki delete <cert-name>
    Delete the codec certificate and CA list if they exist.
    cert-name(r): The name of the certificate.
systemtools securitysettings jtc
Set up security requirements so they meet JITC.
Set password and PIN polices enforced on the codec.

systemtools securitysettings isjtc
Check if the current settings are JTIC compliant.

systemtools securitysettings default
Revert to default security settings.

systemtools securitysettings ask
Query for the separate configurations. When issuing this command you can see each policy separately.

- Press enter to keep the current value.
- Enter a number and press enter to change the given policy.
- The default value "0" indicates no restrictions.

Max failed login attempts [0]? - Number of failed logins until a user is set inactive.
Suspend-time after max failed login attempts (minutes) [0]? - Number of minutes the user is set inactive after maximum failed login attempts have been exceeded.
Max simultaneous sessions total [0]? - Maximum number of users that can be logged in simultaneously to web and maximum number of users that can be logged in simultaneously to ssh/Telnet.
Max simultaneous sessions per user [0]? - Maximum number of simultaneous sessions per user.
Number of passwords to remember [0]? - Number of previous passwords that the new password must differ from.
Number of PINs to remember [0]? - Number of previous PINs that the new PIN must differ from.

Maximum time between password renewals (days) [0]?
- If the user has not changed the password within the renewal time the user will be set inactive.

Minimum time between password renewals (hours) [0]?
- The user can only change password once within this limit.

Maximum time between PIN renewals (days) [0]?
- If the user has not changed the PIN within the renewal time the user will be set inactive.

Minimum time between PIN renewals (hours) [0]?
- The user can only change PIN once within this limit.

Maximum time between logins (days) [0]?
- If the user has not logged in within this limit the user will be set inactive.

Max consecutive equal digits in PINs [0]?
- Maximum consecutive equal digits in PINs.

Minimum number of digits in PINs [0]?
- Minimum number of digits in PINs.

Maximum number of digits in PINs [0]?
- Maximum number of digits in PINs.

Max consecutive identical characters in passwords [0]?
- Maximum consecutive identical characters in passwords.

Minimum number of characters in passwords [0]?
- Minimum number of characters in passwords.

Maximum number of characters in passwords [0]?
- Maximum number of characters in passwords.

Minimum number of lower-case letters in passwords [0]?
- Minimum number of lower-case letters in passwords.

Minimum number of upper-case letters in passwords [0]?
- Minimum number of upper-case letters in passwords.

Minimum number of numerical characters in passwords [0]?
- Minimum number of numerical characters in passwords.

Minimum number of special characters in passwords [0]?
- Minimum number of special characters in passwords.

Minimum number of character groups in passwords [0]?
- Minimum number of character groups in passwords.

Minimum number of character changed from previous password [0]?
- Minimum number of character changed from previous password.

systemtools securitystatus
Shows the security status for the codec.
About disconnect cause types

The following parameters are logged when a call is disconnected. The disconnect cause types are used in disconnect events (xEvent) and also logged in xHistory CallLogs.

<table>
<thead>
<tr>
<th>CauseType</th>
<th>Describes why the call was disconnected. The value space is { OtherLocal, LocalDisconnect, UnknownRemoteSite, LocalBusy, LocalReject, InsufficientSecurity, OtherRemote, RemoteDisconnect, RemoteBusy, RemoteRejected, RemoteNoAnswer, CallForwarded, NetworkRejected }</th>
</tr>
</thead>
<tbody>
<tr>
<td>CauseString</td>
<td>Describes the Cause Code.</td>
</tr>
<tr>
<td>CauseCode</td>
<td>The disconnect Cause Codes are defined in SIP and Q.850.</td>
</tr>
<tr>
<td>CauseOrigin</td>
<td>SIP, Q.850, internal.</td>
</tr>
</tbody>
</table>

Example 1:

```
xHistory CallLogs Call 694
...
*h xHistory CallLogs Call 694 DisconnectCause: “Normal”
*h xHistory CallLogs Call 694 DisconnectCauseType: RemoteDisconnect
*h xHistory CallLogs Call 694 DisconnectCauseCode: 16
*h xHistory CallLogs Call 694 DisconnectCauseOrigin: Q850
...
** end
```