Application Programming 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 CE software in general, and serve as a reference guide for the command line commands for the following product:

- Cisco TelePresence SX20 Codec

The guide describes the API for on-premise registered video systems (CUCM, VCS) as well as video systems registered to Cisco's cloud service (Cisco Spark). For Cisco Spark registered systems only a subset of the API is available, and the user role (integrator and roomcontrol) of the local user determines which commands are available.

Downloading the user documentation

You can download the user documentation from the Cisco web site, go to:  http://www.cisco.com/go/sx-docs

For Spark registered systems, go to:
  https://support.ciscospark.com

Guidelines for how to find the documentation on the Cisco web site are included in the User documentation on the Cisco web site appendix.
Cisco TelePresence SX20 Codec

API Reference Guide

What’s new in CE9.1

This section provides an overview of the new and changed system settings, and the new features and improvements in the Cisco Collaboration Endpoint software version 9.1 (CE9.1) compared to CE9.0.

For more details, we recommend reading the Software release notes:


New features and improvements

New wake-up experience

The new wake-up experience introduces a Halfwake state, which leads to a calmer wake-up of the system, and gives users better guidance on how to get started.

When wake-up on motion detection is enabled the system will automatically wake to the Halfwake state when people enter the room. It will also wake to this state when a user pairs a Cisco Proximity client to the system.

Additions for Room Analytics

Detect people presence in the room: The video system has the capability to find whether there are people present in the room. The feature is based on ultrasound, and it does not keep record of who was in the room, only whether or not the room is in use.
System configuration changes in CE9.1

**New configurations**
RoomAnalytics PeoplePresenceDetector

**Configurations that are removed**
None.

**Configurations that are modified**
Conference DefaultCal Rate
  - OLD: Default value: 3072
  - NEW: Default value: 6000
Network[ 1] IEEE8021X Password
  - OLD: Valuespace: String(0, 32)
  - NEW: Valuespace: String(0, 50)
Video Input Connector [n] PresentationSelection
  - OLD: Valuespace: AutoShare/Manual/OnConnect
  - NEW: Valuespace: AutoShare/Desktop/Manual/OnConnect
System command changes in CE9.1

New commands
- SystemUnit FirstTimeWizard Stop
- UserInterface Extensions Set

Commands that are removed
None.

Commands that are modified
- SystemUnit FactoryReset (All products)
  OLD: Keep: LocalSetup/Network/Spark/Provisioning
  NEW: Keep: LocalSetup/Network/Spark/Provisioning/SerialPort/Certificates (not in use)
System status changes in CE9.1

New statuses

- RoomAnalytics PeoplePresence
- SystemUnit Software OptionKeys Encryption

Statuses that are removed

None

Statuses that are modified

**Diagonstics Message Type**


NEW: Value space: Standby/EnteringStandby/Halfwake/Off

Standby State

OLD: Value space: Standby/EnteringStandby/Off

NEW: Value space: Standby/EnteringStandby/Halfwake/Off
What’s new in CE9.0

This section provides an overview of the new and changed system settings, and the new features and improvements in the Cisco Collaboration Endpoint software version 9.0 (CE9.0) compared to CE8.3.

For more details, we recommend reading the Software release notes:


New features and improvements

Updated user interface

The user interfaces on the Touch 10, on screen, and on the integrated touch screen have been updated. The main menu items on the home screen have been replaced with more prominent activities.

Some of the setting have been removed from the Touch 10 advanced settings menu to align with the on-screen display menu.

Wakeup on motion detection

Wakeup on motion detection senses when a person walks into the conference room and the system wakes up automatically. You need to enable the following setting for this feature to work:

xConfiguration Standby WakeupOnMotionDetection

You can’t manually place the system in standby when this feature is enabled.

Updated In-Room Control Editor

The In-Room Control editor is updated with a new look, improved logic and usability for producing a control interface more efficiently. In addition, a new directional pad widget and an In-Room Control simulator is added.

Added language support

We have added support for Portuguese (Portugal) to the on-screen display and Touch controller menus.

Other changes

- Support for HTTPS client certificates has been added.
- Unplugging the presentation cable instantly stops the presentation sharing.
System configuration changes in CE9.0

New configurations
NetworkServices HTTPS Server MinimumTLSVersion
NetworkServices HTTPS StrictTransportSecurity
NetworkServices UPnP Mode

Configurations that are removed
Audio Microphones PhantomVoltage

Configurations that are modified
Cameras Camera [n] *
  OLD: User role: ADMIN, USER
  NEW: User role: ADMIN, INTEGRATOR
Conference MultiStream Mode
  OLD: Value space: Auto/Off
  NEW: Value space: Off
UserInterface Language
  NEW: Portuguese added to value space

xConfigurations with INTERATOR user role
A new user role - INTEGRATOR - is introduced in CE9.0. It has been added to the following configurations:
Audio DefaultVolume
Audio Input Line [n] *
Audio Input Microphone [n] *
Audio Microphones Mute Enabled
Audio Output Line [n] *
Audio SoundsAndAlerts *
Cameras Camera [n] *
Conference DefaultCall Rate
Conference DoNotDisturb DefaultTimeout

Peripherals Profile *
SerialPort BaudRate
SerialPort Mode
Standby *
SystemUnit Name
Time Zone
UserInterface OSD Output
Video Input Connector [n] CameraControl CameraId
Video Input Connector [n] CameraControl Mode
Video Input Connector [n] InputSourceType
Video Input Connector [n] Name
Video Input Connector [n] PresentationSelection
Video Input Connector [n] Quality
Video Input Connector [n] Visibility
Video Monitors
Video Output Connector [n] CEC Mode
Video Output Connector [n] MonitorRole
Video Output Connector [n] Resolution
Video Presentation DefaultPIPPosition
Video Selfview Default *
Video Selfview OnCall *

<path> * means that the change applies to all configurations starting with <path>.
xCommand changes in CE9.0

New commands
- Audio Microphones ToggleMute
- Audio Volume ToggleMute
- Audio Sound Play
- Audio Sound Stop
- SystemUnit SignInBanner Clear
- SystemUnit SignInBanner Get
- SystemUnit SignInBanner Set

Commands that are modified
- SystemUnit FactoryReset
  NEW: Keep: LocalSetup, Network, Spark, Provisioning

xCommand with INTEGRATOR user role
- Audio Microphones Mute
- Audio Microphones ToggleMute
- Audio Microphones Unmute
- Audio Sound Play
- Audio SoundsAndAlerts Ringtone List
- Audio SoundsAndAlerts Ringtone Play
- Audio Sound Stop
- Peripherals Connect
- Peripherals List
- Standby Activate
- Standby Deactivate
- SystemUnit Boot
- UserInterface Extensions Clear
- UserInterface Extensions List
- UserInterface Extensions Widget SetValue
- UserInterface Extensions Widget UnsetValue
- UserInterface Message Alert Clear
- UserInterface Message Alert Display
- UserInterface Message Prompt Clear
- UserInterface Message Prompt Display
- UserInterface Message Prompt Response
- UserInterface Message TextLine Clear
- UserInterface Message TextLine Display
- UserInterface Presentation ExternalSource Add
- UserInterface Presentation ExternalSource List
- UserInterface Presentation ExternalSource Remove
- UserInterface Presentation ExternalSource RemoveAll
- UserInterface Presentation ExternalSource Select
- UserInterface Presentation ExternalSource State Set
- UserManagement User Passphrase Change
- Video Input SetMainVideoSource
xStatus changes in CE9.0

New statuses
Video Output Connector [n] ConnectedDevice CEC [n] Name
Video Output Connector [n] ConnectedDevice CEC [n] VendorId

Statuses that are modified
Diagnostics Message [n] Type
OLD: CAPFOperationState, CTLinstallation, CUCMVendorConfigurationFile, CallProtocolDualStackConfig, CallProtocolIpStackPlatformCompatibility, CallProtocolVcsProvisioningCompatibility, CameraId, CameraPairing, CameraSerial, CameraSoftwareVersion, CamerasDetected, ConfigurationFile, DefaultCallProtocolRegistered, EthernetDuplexMatches, FanStatus, PresenterTrack, H320GatewayStatus, H323GatekeeperStatus, HasValidReleaseKey, IpCameraStatus, IPv4Assignment, IPv6Assignment, IPv6Mtu, ISDNLinkCompatibility, ISDNLinkIpvStack, ITLinstallation, InvalidSIPTransportConfig, LockDown, RoomControl, MediaBlockingDetected, NetLinkStatus, NetSpeedAutoNegotiated, NetworkQuality, NTPStatus, OSDVideoOutput, OutputConnectorLocations, ProvisioningStatus, SIPEncryption, SIPListenPortAndOutboundMode, SIPProfileRegistration, SIPProfileType, SelectedVideoInputSourceConnected, SipIceAndAnatConflict, TCPMediaFallback, TemperatureCheck, TLSVerifyRequiredCerts, TouchPanelConnection, ControlSystemConnection, TurnBandwidth, UdpPortRangeViolation, UltrasoundSpeakerAvailability, ValidPasswords, VideoFromInternalCamera, VideoInputStability, VideoInputSignalQuality, SparkConnectivity, SpeakerTrackFrontPanelMountedCorrectly, SpeakerTrackMicrophoneConnection, SpeakerTrackVideoInputs, SpeakerTrackEtherConnection, ANATOnVCS, ECReferenceDelay, AudioECRefDelay, AudioPairingNoise, AudioPairingRate, AudioPairingSNR, AudioPairingInterference, AudioPairingTokenDecode, AudioInternalSpeakerDisabled, AbnormalCallTermination, HasActiveCallProtocol, SipOrH323ButNotBothEnabled, PresentationSourceSelection, SoftwareUpgrade, PlatformSanity, ContactInfoMismatch, MicrophoneReinforcement, FirstTimeWizardNotCompleted, CaptivePortalDetected, MonitorDelay

NEW: CAPFOperationState, CTLinstallation, CUCMVendorConfigurationFile, CallProtocolDualStackConfig, CallProtocolIpStackPlatformCompatibility, CallProtocolVcsProvisioningCompatibility, CameraId, CameraPairing, CameraSerial, CameraSoftwareVersion, CameraStatus, CamerasDetected, ConfigurationFile, DefaultCallProtocolRegistered, EthernetDuplexMatches, FanStatus, PresenterTrack, H320GatewayStatus, H323GatekeeperStatus, HasValidReleaseKey, IpCameraStatus, IPv4Assignment, IPv6Assignment, IPv6Mtu, ISDNLinkCompatibility, ISDNLinkIpvStack, ITLinstallation, InvalidSIPTransportConfig, LockDown, RoomControl, MediaBlockingDetected, NetLinkStatus, NetSpeedAutoNegotiated, NetworkQuality, NTPStatus, OSDVideoOutput, OutputConnectorLocations, ProvisioningDeveloperOptions, ProvisioningStatus, SIPEncryption, SIPListenPortAndOutboundMode, SIPProfileRegistration, SIPProfileType, SelectedVideoInputSourceConnected, SipIceAndAnatConflict, SIPListenPortAndRegistration, TCPMediaFallback, TemperatureCheck, TLSVerifyRequiredCerts, TouchPanelConnection, ControlSystemConnection, TurnBandwidth, UdpPortRangeViolation, UltrasoundSpeakerAvailability, ValidPasswords, VideoFromInternalCamera, VideoInputStability, VideoInputSignalQuality, SparkConnectivity, SpeakerTrackFrontPanelMountedCorrectly, SpeakerTrackMicrophoneConnection, SpeakerTrackVideoInputs, SpeakerTrackEtherConnection, ANATOnVCS, ECReferenceDelay, AudioECRefDelay, AudioPairingNoise, AudioPairingRate, AudioPairingSNR, AudioPairingInterference, AudioPairingTokenDecode, AudioInternalSpeakerDisabled, AbnormalCallTermination, HasActiveCallProtocol, SipOrH323ButNotBothEnabled, PresentationSourceSelection, SoftwareUpgrade, PlatformSanity, ContactInfoMismatch, MicrophoneReinforcement, FirstTimeWizardNotCompleted, CaptivePortalDetected, MonitorDelay

xStatus with INTEGRATOR user role
Audio Input Connectors Microphone[n] ConnectionStatus
Audio Microphones Mute
Audio Output Connectors Line[n] DelayMs
Audio Volume
Call[n] FacilityServiceId
Call[n] ReceiveCallRate
Call[n] TransmitCallRate
Cameras Camera[n] Capabilities Options
Cameras Camera[n] Connected
Cameras Camera[n] Flip
Cameras Camera[n] HardwareId
Cameras Camera[n] MacAddress
Cameras Camera[n] Manufacturer
Cameras Camera[n] Model
Cameras Camera[n] Position Focus
Cameras Camera[n] Position Pan
Cameras Camera[n] Position Tilt
Cameras Camera[n] Position
Cameras Camera[n] SerialNumber
Cameras Camera[n] SoftwareID
Conference Presentation CallId
Conference Presentation LocalInstance[n] SendingMode
Conference Presentation LocalInstance[n] Source
Conference Presentation Mode
Peripherals ConnectedDevice[n] HardwareInfo
Peripherals ConnectedDevice[n] ID
Peripherals ConnectedDevice[n] Name
Peripherals ConnectedDevice[n] SoftwareInfo
Peripherals ConnectedDevice[n] Status
Peripherals ConnectedDevice[n] Type
Peripherals ConnectedDevice[n] UpgradeStatus
Standby State
SystemUnit State NumberOfActiveCalls
SystemUnit State NumberOfInProgressCalls
Time SystemTime
UserInterface Extensions Widget[n] Value
UserInterface Extensions Widget[n] WidgetId
Video ActiveSpeaker PIPPosition
Video Input Connector[n] Connected
Video Input Connector[n] SignalState
Video Input Connector[n] SourceId
Video Input Connector[n] Type
Video Input Source[n] ConnectorId
Video Input Source[n] FormatStatus
Video Input Source[n] FormatType
Video Output Connector[n] Connected
Video Output Connector[n] ConnectedDevice CEC[n] DeviceType
Video Output Connector[n] ConnectedDevice CEC[n] Name
Video Output Connector[n] ConnectedDevice CEC[n] PowerControl
Video Output Connector[n] ConnectedDevice CEC[n] PowerStatus
Video Output Connector[n] ConnectedDevice CEC[n] VendorId
Video Output Connector[n] ConnectedDevice Name
Video Output Connector[n] ConnectedDevice PreferredFormat
Video Selfview FullscreenMode
Video Selfview Mode
Video Selfview OnMonitorRole
Video Selfview PIPPosition
Chapter 2

About the API
API fundamentals

This chapter contains a top-level view of the mechanisms supported by the codec API.

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 stays 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 configurations, apart from password, can be set from the System configuration menu on the web interface or from the command line interface. All of the examples are for the command line interface.

Password

The video system is delivered with a default user account with full credentials. The user name is admin, and initially, no password is set for the default user.

It is mandatory to set a password for the admin user in order to restrict access to system configuration. You should in addition set a password for any other user with similar credentials.

You can set the password on the codec’s web interface. Open a web browser and enter the IP address of the video system in the address bar and log in. Click your user name in the upper right corner and choose Change password in the drop down menu.

SSH

SSH is a secure TCP/IP connection and it is enabled by default on the codec. It can be disabled. You need a SSH client, such as PuTTY, to access the API over SSH.

```
xConfiguration NetworkServices SSH Mode: <Off,On>
```

Telnet

Telnet can be viewed as the equivalent of the serial protocol in the TCP/IP world. Telnet is disabled by default. Before connecting to the codec with Telnet you have to enable it.

To enable Telnet service, configure the following setting on the codec. Changing this setting does not require a reboot of the device, but it may take some time to take effect.

```
xConfiguration NetworkServices Telnet Mode: <Off,On>
```

HTTP/HTTPS

As HTTP/HTTPS are connectionless protocols, there is no persistent connection. There are several ways of communicating with the API over HTTP.

In order to enable or disable the HTTP and HTTPS services, configure the following setting on the codec.

```
xConfiguration NetworkServices HTTP Mode: <Off/HTTP+HTTPS/HTTPS>
```

Connecting

You can inspect the API by entering the IP-address or host name of the codec in your favorite web browser. In the web interface, you can find the API documents under the menu section Integration > Developer API. The HTTP POST and GET methods are used to execute commands and get feedback from the codec. This is described in "Using HTTP" on page 24 in this document.
RS-232 / serial connection

The serial connection can be used without an IP address, DNS or a network. Serial connection is allowed by default.

  xConfiguration SerialPort Mode: <Off/On>

For the SX20 codec you need a USB to RS-232 adapter to connect to the USB port.

Baud-rate and other serial port parameters

The serial port uses 8 data bits, no parity and 1 stop bit. The default baud rate is set to 38400 bps.

The codec can give very much feedback. We therefore recommend keeping the connection at this speed or higher to avoid sluggishness.

You can change the baud rate if required.

  xConfiguration SerialPort BaudRate: <9600/19200/38400/57600/115200>

During the initial boot sequence, the codec uses a baud rate of 38400 bps regardless of the baud rate you have set.

Login and password

You can choose whether login is required or not for serial connections. For security reasons the password prompting is turned on by default, but it can be turned off if preferred.

  xConfiguration SerialPort LoginRequired: <Off/On>

User roles

A user account may hold one or a combination of user roles. A user account with full access rights, like the default admin user, should possess the ADMIN, USER and AUDIT roles.

These are the user roles:

  ADMIN: A user with this role can create new users, change most settings, make calls, and search the contact lists. The user cannot upload audit certificates and change the security audit settings.

  USER: A user with this role can make calls and search the contact lists. The user can modify a few settings, for example adjust the ringtone volume and set the time and date format.

  AUDIT: A user with this role can change the security audit settings and upload audit certificates.

  ROOMCONTROL: A user with this role can create in-room controls. The user has access to the in-room control editor and corresponding development tools.

  INTEGRATOR: A user with this role has access to settings, commands and status that are required to set up advanced AV scenarios, and to integrate our video systems with 3rd party equipment. Such a user can also create in-room controls.

Cisco Spark registered systems

If a video system is registered to Cisco’s cloud service (Cisco Spark), only local users with the INTEGRATOR and ROOMCONTROL user roles are available.
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.
- **JSON**: JSON format is convenient when integrating with web based systems.

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 Audio Volume Set Level: 50
```

Example: Layout command in XML mode
```
<Command>
  <Audio>
    <Volume>
      <Set command="True">
        <Level>50</Level>
      </Set>
    </Volume>
  </Audio>
</Command>
```
Using the command line

Help

To get a list of all supported top level commands you can type ? or help after connecting to the TelePresence System using RS-232, Telnet or SSH (Example 1).

Bye

Typing the bye command closes the command line interface.

Example 1:

```
?                                    - User Commands -
help                                 xcommand      xconfiguration xevent       xfeedback
xgetxml                               xdocument     xpreferences   xtransaction   xstatus
bye                                   echo          log            systemtools
OK
```

API commands

**xConfiguration**

Configurations are system settings, such as system name and network settings. These are persistent across boots. Refer to »"Configurations" on page 20.

**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 20.

**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 20.

**xFeedback**

The Feedback commands are used to specify what parts of the configuration and status hierarchies to monitor. Feedback is only issued on the RS-232, 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 22.

**xPreferences**

The xPreferences command is used to set preferences for the RS-232, Telnet and SSH sessions. Refer to »"API output" on page 17.

**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 user input is not 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 21.

**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 22.

Other commands

**Systemtools**

The systemtools commands are a set of command line tools for administrative control and diagnostics. The commands can be used for advanced troubleshooting together with Cisco technical support. Systemtools are not a part of the programming API. Refer to »"The SystemTools commands" on page 191.

**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).

NOTE: 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.

Example 1:
List all configurations that include words that starts with OUT and HDMI:

```
xconfiguration //out//hdmi
```

```
*c xConfiguration Audio Output HDMI 1 Level: 0
*c xConfiguration Audio Output HDMI 1 Mode: On
*c xConfiguration Audio Output HDMI 2 Level: 0
*c xConfiguration Audio Output HDMI 2 Mode: Off
** end
```

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

```
xStatus //vid//res//wid
```

```
*s Video Input Source 1 Resolution Width: 1920
*s Video Input Source 2 Resolution Width: 0
*s Video Input Source 3 Resolution Width: 0
*s Video Input Source 4 Resolution Width: 0
*s Video Output Connector 1 Resolution Width: 1920
*s Video Output Connector 2 Resolution Width: 1280
*s Video Output Connector 3 Resolution Width: 1280
** end
```

Value types and formats

The system supports the following value types:

- **Integer values**: <x..y>
  Defines the valid range for an integer input. x = min value, y = 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.

Example:

```
Correct: xCommand dial number: “my number contains spaces”
Correct: 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
```
**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.

When issuing a `xCommand`, the command consists of one argument and one required parameter. In this document the command usage is described for all `xCommands`, with both required and optional parameters. The optional parameters are in brackets.

**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 some of the configurations, write `xConfiguration` followed by one or more parts of the configuration paths.

**Example: Set the H323 Alias ID**

Write in:

```
xConfiguration H323 Profile 1 H323AliasID: "changed@company.com"
```

**Example: Get the H323 Alias ID**

Write in:

```
xConfiguration H323 Profile 1 H323AliasID
```

Result:

```
*c xConfiguration H323 Profile 1 H323AliasID: "changed@company.com"
*end
```

**Status**

A status contains the current state of the codec, such as connected calls, the status of the gatekeeper registration, connected inputs and output sources.

Writing `xStatus ?` on the command line lists all top level statuses.

Writing `xStatus` lists all statuses and their current values.

To list out only some of the statuses, write `xstatus` followed by the relevant part of the status path (address expression):

```
xStatus <address expression>
```
Events

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

*e 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.

*e CallDisconnect 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.

** end

Example 4: FECC Action request

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

*e FeccActionInd 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

Example 5: TString message received

TString message received is an event reported when far end has sent a TString message.

*e TString CallId: 132 Message: “ee”
** end

Example 6: SString message received

SString message received is an event reported when far end has sent a SString message.

*e SString String: “ee” Id: 132
** end
Feedback mechanism

To build solutions that can reliably keep the state between your application and the codec synchronized, you can 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 you have explicitly told the codec to do so. You can subscribe to the feedback by registering feedback expressions. How you register 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. See the ‘Feedback from codec over HTTP’ on page 26 for more information.

Feedback expressions

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

<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>Config</td>
<td>xConfiguration</td>
<td>/Configuration</td>
</tr>
<tr>
<td>Event</td>
<td>xEvent</td>
<td>/Event</td>
</tr>
</tbody>
</table>

The syntax for feedback registering is:

```
xFeedback register <path>
```

Never register for all status feedback by issuing `xFeedback register /Status`. It is safe to register for all configuration changes using `xFeedback register /Configuration`, as configuration changes will most likely not occur that often.

By going through some examples, we can see how this information can be used to build feedback expressions. A good way to verify the expressions is to point your browser to `http://<ip-address>/getxml?location=path` or to execute `xgetxml <path>` from the terminal, and check that the output matches the nodes you want feedback on.

WARNING: A codec may give very much feedback, especially when calls are connected and disconnected. Do only subscribe to the feedback 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.

Example 1: Microphones Mute status.

Terminal query

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

Equivalent feedback expression

```
xFeedback register /Status/Audio/Microphones/Mute
```

Example 2: Name of all video input connectors.

Terminal query

```
xConfiguration Video Input Connector Name
  *c xConfiguration Video Input Connector 1 Name: "NameA"
  *c xConfiguration Video Input Connector 2 Name: "NameB"
  *c xConfiguration Video Input Connector 3 Name: "NameC"
  *c xConfiguration Video Input Connector 4 Name: "NameD"
  *c xConfiguration Video Input Connector 5 Name: "NameE"
  ** end
```

Equivalent feedback expression

```
xFeedback register /Configuration/Video/Input/Connector/Name
```

Example 3: Name of video input connector 3.

Terminal query

```
xConfiguration Video Input Connector 3 Name
  *c xConfiguration Video Input Connector 3 Name: "NameC"
  ** end
```

Equivalent feedback expression

```
xFeedback register /Configuration/Video/Input/Connector[@item='3']/Name
```
Terminal connections

Managing feedback subscriptions

To register, list and deregister feedback expressions you use the command xFeedback and its corresponding subcommands.

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.

HTTP XMLAPI Authentication

Access to the XMLAPI requires the user to authenticate using HTTP Basic Access Authentication as a user with 'ADMIN' role. Unauthenticated requests prompt a 401 HTTP response containing a Basic Access Authentication challenge. How to use HTTP Basic Access Authentication varies according to the HTTP library or tool that you are using.

If your application will be issuing multiple commands through the API, we highly recommend that you use Session Authentication (see below). The standard basic authentication does a full re-authentication per request, which may affect the performance of your application.

HTTP XMLAPI Session Authentication

Authenticating with your username and password combination for each API request might introduce too much latency for some use-cases. To mitigate this, the API supports a session-based authentication mechanism.

Example: Starting a HTTP XMLAPI session

Request:
POST /xmlapi/session/begin HTTP/1.1
Authorization: Basic <Base64 encoded authentication string>
Response:
HTTP/1.1 204 No Content
Server: nginx/1.8.0
Connection: keep-alive
Set-Cookie: SessionId=f08102c8ce5aaf8fba23a7238cc2ef464b990e18bfb7fbb048820c0e28955c54; Path=/; HttpOnly

Note that when using API Session Authentication, it is important to explicitly close the session when you are done. Failing to do so may cause the device to run out of sessions, as there are a limited number of concurrent sessions available, and they do not time out automatically.

Example: Closing a HTTP XMLAPI session

Request:
POST /xmlapi/session/end HTTP/1.1
Cookie: SessionId=f08102c8ce5aaf8fba23a7238cc2ef464b990e18bfb7fbb048820c0e28955c54
Response:
HTTP/1.1 204 No Content
Server: nginx/1.8.0
Connection: keep-alive
Set-Cookie: SessionId=; Max-Age=0; Path=/; HttpOnly

URL cheat sheet

The following tables contain the main URLs used when accessing the API over HTTP.

<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>GET</td>
<td>http://&lt;ip-address&gt;/getxml?location=&lt;path&gt;</td>
<td>Retrieve document based on a path</td>
</tr>
<tr>
<td>POST</td>
<td>http://&lt;ip-address&gt;/putxml</td>
<td>Configurations and commands in HTTP body</td>
</tr>
</tbody>
</table>

Example: Using a HTTP XMLAPI session

Request:
GET /configuration.xml HTTP/1.1
Cookie: SessionId=f08102c8ce5aaf8fba23a7238cc2ef464b990e18bfb7fbb048820c0e28955c54
Response:
HTTP/1.1 200 OK
Server: nginx/1.8.0
Content-Type: text/xml; charset=UTF-8
Content-Length: 43549
Connection: keep-alive
<?xml version="1.0"?>
<Configuration product="Cisco Codec" version="ce8.2.0" apiVersion="4"> ... </Configuration>
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 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

<Configuration>
  <SystemUnit>
    <Name>newName</Name>
  </SystemUnit>
</Configuration>

Example 2: Setting the camera position.
Request

POST /putxml HTTP/1.1
Content-Type: text/xml

<Command>
  <Camera>
    <PositionSet command="True">
      <CameraId>1</CameraId>
      <Pan>200</Pan>
      <Tilt>200</Tilt>
    </PositionSet>
  </Camera>
</Command>

Response

HTTP/1.1 200 OK
Content-Type: text/xml
Content-Length: 91

<?xml version="1.0"?>
<Command>
  <CameraPositionSetResult item="1" status="OK"/>
</Command>
Feedback from codec over HTTP

You can get the device to post http feedback messages (also known as webhooks) on changes to the API state, e.g. statuses, events and configuration updates. The HTTP Post feedback messages will be sent to the specified ServerURL. You can choose between events being posted in either XML or JSON format. You can subscribe to changes on multiple parts of the API by register up to 15 different feedback expressions.

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: 1, 2048>
  Format: <XML/JSON>
  Expression: <S: 1, 255>
  Expression: <S: 1, 255>
  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 to the HTTP server where you want the codec to post the HTTP feedback messages to.

Format: Set the format for the feedback from the HTTP server to XML or JSON.

Expression 1-15: The XPath expression specifies which parts of the Status, Configuration or Event documents are monitored. You can have from 1 to 15 XPath expressions.

Register the expressions you want to receive feedback on. See the "Feedback mechanism" on page 22 section for more information about the expression formats.

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

```
POST /putxml HTTP/1.1
Content-Type: text/xml

<Command>
  <HttpFeedback>
    <Register command="True">
      <Register command="True">
        <FeedbackSlot>1</FeedbackSlot>
        <ServerUrl>http://127.0.0.1/myhttppostscripturl</ServerUrl>
        <Format>XML</Format>
        <Expression item="1">/Configuration</Expression>
        <Expression item="2">/Event/Calldisconnect</Expression>
        <Expression item="3">/Status/Call</Expression>
      </Register>
      <Register>
        <ServerUrl>http://127.0.0.1/myhttppostscripturl</ServerUrl>
        <Format>XML</Format>
        <Expression item="1">/Event/Calldisconnect</Expression>
      </Register>
    </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 URL.

Example: Audio volume changed.

```
<Configuration xmlns="http://www.company.com/XML/ CUIL/2.0">
  <Identification>
    <SystemName>My System Name</SystemName>
    <MACAddress>00:00:de:ad:be:ef</MACAddress>
    <IPAddress>192.168.1.100</IPAddress>
    <ProductType>Cisco Codec</ProductType>
    <ProductID>Cisco Codec SX20</ProductID>
    <SWVersion>CE8.3.0.199465</SWVersion>
    <HWBoard>101401-S [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 volume level

Terminal
   xCommand Audio Volume Set Level: 50

XML
   <Command>
      <Audio>
         <Volume>
            <Set command="True">
               <Level>50</Level>
            </Set>
         </Volume>
      </Audio>
   </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 the input source type for video input connector 2.

Terminal
   xConfiguration Video Input Connector 2
      InputSourceType: camera

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

Here are some best practices when programming the Cisco SX series API.

AVOID remote control emulation

The use of xCommand UserInterface OSD Key Click and xCommand UserInterface OSD Key Press 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.
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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Audio configuration

xConfiguration Audio DefaultVolume

Define the default volume for the speakers. The volume is set to this value when you switch on
or restart the video system. Use the Touch controller or remote control to change the volume
while the video system is running. You may also use API commands (xCommand Audio Volume)
to change the volume while the video system is running, and to reset to default value.

Requires user role: ADMIN, INTEGRATOR, USER
Default value: 50

USAGE:
xConfiguration Audio DefaultVolume: DefaultVolume

where

   DefaultVolume: Integer (0..100)

   Select a value between 1 and 100. This corresponds to the dB range from -34.5 dB to
   15 dB, in steps of 0.5 dB. If set to 0 the audio is switched off.

xConfiguration Audio Microphones Mute Enabled

Define the microphone mute behaviour on the video system.

Requires user role: ADMIN, INTEGRATOR
Default value: True

USAGE:
xConfiguration Audio Microphones Mute Enabled: Enabled

where

   Enabled: 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.

xConfiguration Audio SoundsAndAlerts RingTone

Define which ringtone to use for incoming calls.

Requires user role: ADMIN, INTEGRATOR, USER
Default value: Sunrise

USAGE:
xConfiguration Audio SoundsAndAlerts RingTone: RingTone

   where

      RingTone: Sunrise/Mischief/Ripples/Reflections/Vibes/Delight/Evolve/Playful/Ascent/
                 Calculation/Mellow/Ringer

      Select a ringtone from the list.

xConfiguration Audio SoundsAndAlerts RingVolume

Define the ring volume for incoming calls.

Requires user role: ADMIN, INTEGRATOR, USER
Default value: 50

USAGE:
xConfiguration Audio SoundsAndAlerts RingVolume: RingVolume

   where

      RingVolume: Integer (0..100)

      The value goes in steps of 5 from 0 to 100 (from -34.5 dB to 15 dB). Volume 0 = Off.
xConfiguration Audio Input Line [1] VideoAssociation MuteOnInactiveVideo

The audio source can be associated with a video source on the video input connector, and you can determine whether to play or mute audio depending on whether the video source is presented or not.

Requires user role: ADMIN, INTEGRATOR
Default value: On

 USAGE:

\[
xConfiguration \text{ Audio Input Line } n \text{ VideoAssociation MuteOnInactiveVideo:}
\]

\[
\text{MuteOnInactiveVideo: Off/On}
\]

Off: The audio source is not associated with a video source. The audio will be played locally and to far end regardless of whether the video source is presented.

On: The audio source is associated with a video source. The audio will be played (locally and to far end) when the associated video source is presented. The audio will be muted when the video source is not presented.

xConfiguration Audio Input Line [1] VideoAssociation VideoInputSource

The audio source can be associated with a video source on the video input connector.

Requires user role: ADMIN, INTEGRATOR
Default value: 2

 USAGE:

\[
xConfiguration \text{ Audio Input Line } n \text{ VideoAssociation VideoInputSource:}
\]

\[
\text{VideoInputSource: 1/2}
\]

Select the video input connector to associate the audio source with.

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 significant, the echo canceller may take a second or two to re-adjust.

Requires user role: ADMIN, INTEGRATOR
Default value: On

 USAGE:

\[
xConfiguration \text{ Audio Input Microphone } n \text{ EchoControl Mode: Mode}
\]

\[
\text{Mode: Off/On}
\]

Off: Turn off the echo control. Recommended if external echo cancellation or playback equipment is used.

On: Turn on the echo control. Recommended, in general, to prevent the far end from hearing their own audio. Once selected, echo cancellation is active at all times.

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

The system has built-in noise reduction, which reduces stationary background noise, for example noise from air-conditioning systems, cooling fans etc. In addition, a high pass filter (Humfilter) reduces very low frequency noise. Noise reduction requires that Audio Input Microphone [n] EchoControl Mode is enabled.

Requires user role: ADMIN, INTEGRATOR
Default value: On

 USAGE:

\[
xConfiguration \text{ Audio Input Microphone } n \text{ EchoControl NoiseReduction: NoiseReduction}
\]

\[
\text{NoiseReduction: Off/On}
\]

Off: Turn off the noise reduction.

On: Turn on the noise reduction. Recommended in the presence of low frequency noise.
**xConfiguration Audio Input Microphone [1..2] EchoControl Dereverberation**

The system has built-in signal processing to reduce the effect of room reverberation. Dereverberation requires that Audio Input Microphone [n] EchoControl Mode is enabled.

Requires user role: ADMIN, INTEGRATOR
Default value: Off

**USAGE:**
```
xConfiguration Audio Input Microphone n EchoControl Dereverberation: Dereverberation
where
  n: Unique ID that identifies the microphone input. Range: 1..2
  Dereverberation: Off/On
    Off: Turn off the dereverberation.
    On: Turn on the dereverberation.
```

**xConfiguration Audio Input Microphone [1..2] Level**

Define the audio level of the Microphone input connector.

Requires user role: ADMIN, INTEGRATOR
Default value: 14

**USAGE:**
```
xConfiguration Audio Input Microphone n Level: Level
where
  n: Unique ID that identifies the microphone input. Range: 1..2
  Level: Integer (0..24)
    Select a value between 0 and 24, in steps of 1 dB.
```

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

Disable or enable audio on the microphone connector.

Requires user role: ADMIN, INTEGRATOR
Default value: On

**USAGE:**
```
xConfiguration Audio Input Microphone n Mode: Mode
where
  n: Unique ID that identifies the microphone input. Range: 1..2
  Mode: Off/On
    Off: Disable the audio input microphone connector.
    On: Enable the audio input microphone connector.
```

**xConfiguration Audio Output Line [1] Delay DelayMs**

To obtain lip-synchronization, you can configure each audio line output with an extra delay that compensates for delay in other connected devices, for example TVs and external loudspeakers. The delay that you set here is either fixed or relative to the delay on the HDMI output, as defined in the Audio Output Line [n] Delay Mode setting.

Requires user role: ADMIN, INTEGRATOR
Default value: 0

**USAGE:**
```
xConfiguration Audio Output Line n Delay DelayMs: DelayMs
where
  n: Unique ID that identifies the audio line output. Range: 1..6
  DelayMs: Integer (0..290)
    The delay in milliseconds.
```
xConfiguration Audio Output Line [1] Delay Mode

You may add extra delay to an audio line output with the Audio Output Line [n] Delay DelayMs setting. The extra delay added is either a fixed number of milliseconds, or a number of milliseconds relative to the detected delay on the HDMI output (typically introduced by the connected TV).

Requires user role: ADMIN, INTEGRATOR
Default value: RelativeToHDMI

 USAGE:

xConfiguration Audio Output Line [n] Delay Mode: Mode

where

n: Unique ID that identifies the audio line output. Range: 1..6
Mode: Fixed/RelativeToHDMI

Fixed: Any extra delay (DelayMs) added to the output, will be a fixed number of millisecond.
RelativeToHDMI: Any extra delay (DelayMs) added to the output, will be relative to the detected delay on the HDMI output. The actual delay is HDMI-delay + DelayMs. The Audio Output Connectors Line [n] DelayMs status reports the actual delay.

Cameras configuration

xConfiguration Cameras Camera [1] Backlight DefaultMode

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, INTEGRATOR
Default value: Off

 USAGE:

xConfiguration Cameras Camera [n] Backlight DefaultMode: DefaultMode

where

n: Unique ID that identifies the camera. Range: 1..1
DefaultMode: Off/On

Off: Turn off the camera backlight compensation.
On: Turn on the camera backlight compensation.

xConfiguration Cameras Camera [1] Brightness Mode

Define the camera brightness mode.

Requires user role: ADMIN, INTEGRATOR
Default value: Auto

 USAGE:

xConfiguration Cameras Camera [n] Brightness Mode: Mode

where

n: Unique ID that identifies the camera. Range: 1..1
Mode: Auto/Manual

Auto: The camera brightness is automatically set by the system.
**xConfiguration Cameras Camera [1] Brightness DefaultLevel**

Define the brightness level. Requires the Cameras Camera [n] Brightness Mode to be set to Manual.

Requires user role: ADMIN, INTEGRATOR
Default value: 20

**USAGE:**
```
xConfiguration Cameras Camera n Brightness DefaultLevel: DefaultLevel
```

where

- `n`: Unique ID that identifies the camera. Range: 1..1
- `DefaultLevel`: Integer (1..31)
  - The brightness level.

**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: ADMIN, INTEGRATOR
Default value: Auto

**USAGE:**
```
xConfiguration Cameras Camera n Flip: Flip
```

where

- `n`: Unique ID that identifies the camera. Range: 1..1
- `Flip`: 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.

**xConfiguration Cameras Camera [1] Focus Mode**

Define the camera focus mode.

Requires user role: ADMIN, INTEGRATOR
Default value: Auto

**USAGE:**
```
xConfiguration Cameras Camera n Focus Mode: Mode
```

where

- `n`: Unique ID that identifies the camera. Range: 1..1
- `Mode`: 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.

**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, INTEGRATOR
Default value: Auto

**USAGE:**
```
xConfiguration Cameras Camera n Gamma Mode: Mode
```

where

- `n`: Unique ID that identifies the camera. Range: 1..1
- `Mode`: 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 [n] Gamma Level.
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 Cameras Camera [n] Gamma Mode to be set to Manual.

Requires user role: ADMIN, INTEGRATOR
Default value: 0

**USAGE:**

```
xConfiguration Cameras Camera n Gamma Level: Level
```

where

- **n**: Unique ID that identifies the camera. Range: 1..1
- **Level**: Integer (0..7)

Define the gamma level.

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, INTEGRATOR
Default value: Auto

**USAGE:**

```
xConfiguration Cameras Camera n Mirror: Mirror
```

where

- **n**: Unique ID that identifies the camera. Range: 1..1
- **Mirror**: 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.

xConfiguration Cameras Camera [1] Whitebalance Mode

Define the camera white balance mode.

Requires user role: ADMIN, INTEGRATOR
Default value: Auto

**USAGE:**

```
xConfiguration Cameras Camera n Whitebalance Mode: Mode
```

where

- **n**: Unique ID that identifies the camera. Range: 1..1
- **Mode**: Auto/Manual
  
  - **Auto**: The camera will continuously adjust the white balance depending on the camera view.
  

xConfiguration Cameras Camera [1] Whitebalance Level


Requires user role: ADMIN, INTEGRATOR
Default value: 1

**USAGE:**

```
xConfiguration Cameras Camera n Whitebalance Level: Level
```

where

- **n**: Unique ID that identifies the camera. Range: 1..1
- **Level**: Integer (1..16)

The white balance level.
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
Default value: Auto

USAGE:
xConfiguration Cameras Preset TriggerAutofocus: TriggerAutofocus
where
  TriggerAutofocus: 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.

Conference configuration

xConfiguration Conference AutoAnswer Mode
Define 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
Default value: Off

USAGE:
xConfiguration Conference AutoAnswer Mode: Mode
where
  Mode: 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.

xConfiguration Conference AutoAnswer Mute
Define if the microphone shall be muted when an incoming call is automatically answered.
Requires that AutoAnswer Mode is switched on.
Requires user role: ADMIN
Default value: Off

USAGE:
xConfiguration Conference AutoAnswer Mute: Mute
where
  Mute: Off/On
  Off: The incoming call will not be muted.
  On: The incoming call will be muted when automatically answered.
xConfiguration Conference 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
Default value: 0

**USAGE:**
`xConfiguration Conference AutoAnswer Delay: Delay`
where
- `Delay`: Integer (0..50)
  - The auto answer delay (seconds).

xConfiguration Conference DefaultCall Protocol
Define the Default Call Protocol to be used when placing calls from the system.

Requires user role: ADMIN
Default value: Auto

**USAGE:**
`xConfiguration Conference DefaultCall Protocol: Protocol`
where
- `Protocol`: Auto/H320/H323/Sip/Spark
  - 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, the auto-selection chooses H323.
  - H320: All calls are set up as H.320 calls (only applicable if connected to Cisco TelePresence ISDN Link).
  - H323: All calls are set up as H.323 calls.
  - Sip: All calls are set up as SIP calls.
  - Spark: Reserved for Spark registered systems. Do not use.

xConfiguration Conference DefaultCall Rate
Define the Default Call Rate to be used when placing calls from the system.

Requires user role: ADMIN, INTEGRATOR
Default value: 6000

**USAGE:**
`xConfiguration Conference DefaultCall Rate: Rate`
where
- `Rate`: Integer (64..6000)
  - The default call rate (kbps).

xConfiguration Conference 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. The default value is 60 minutes.

Requires user role: ADMIN, INTEGRATOR
Default value: 60

**USAGE:**
`xConfiguration Conference DoNotDisturb DefaultTimeout: DefaultTimeout`
where
- `DefaultTimeout`: Integer (1..1440)
  - The number of minutes (maximum 1440 minutes = 24 hours) before the Do Not Disturb session times out automatically.
xConfiguration Conference 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 CE-NC software (no crypto) is installed on the video system, the encryption mode is always Off.

Requires user role: ADMIN
Default value: BestEffort

USAGE:
```
xConfiguration Conference Encryption Mode: Mode
```
where

```
Mode: 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.

xConfiguration Conference 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
Default value: On

USAGE:
```
xConfiguration Conference FarEndControl Mode: Mode
```
where

```
Mode: 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.

xConfiguration Conference MaxReceiveCallRate

Define 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
Default value: 6000

USAGE:
```
xConfiguration Conference MaxReceiveCallRate: MaxReceiveCallRate
```
where

```
MaxReceiveCallRate: Integer (64..6000)
```
The maximum receive call rate (kbps).

xConfiguration Conference MaxTransmitCallRate

Define 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
Default value: 6000

USAGE:
```
xConfiguration Conference MaxTransmitCallRate: MaxTransmitCallRate
```
where

```
MaxTransmitCallRate: Integer (64..6000)
```
The maximum transmit call rate (kbps).
**xConfiguration Conference MaxTotalReceiveCallRate**

This configuration applies when using a video system’s built-in MultiSite feature (optional) to host a multipoint video conference.

Define 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
Default value: 6000

**USAGE:**

```
xConfiguration Conference MaxTotalReceiveCallRate: MaxTotalReceiveCallRate
where
  MaxTotalReceiveCallRate: Integer (64..6000)
  The maximum receive call rate (kbps).
```

**xConfiguration Conference MaxTotalTransmitCallRate**

This configuration applies when using a video system’s built-in MultiSite feature (optional) to host a multipoint video conference.

Define 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
Default value: 6000

**USAGE:**

```
xConfiguration Conference MaxTotalTransmitCallRate: MaxTotalTransmitCallRate
where
  MaxTotalTransmitCallRate: Integer (64..6000)
  The maximum transmit call rate (kbps).
```

**xConfiguration Conference MultiStream Mode**

The video system supports multistream video for conferences.

Requires user role: ADMIN
Default value: Off

**USAGE:**

```
xConfiguration Conference MultiStream Mode: Mode
where
  Mode: Off
  Off: Multistream is disabled.
```

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API Reference Guide

xConfiguration API Reference

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xConfiguration Conference MaxTotalReceiveCallRate

This configuration applies when using a video system’s built-in MultiSite feature (optional) to host a multipoint video conference.

Define 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
Default value: 6000

**USAGE:**

```
xConfiguration Conference MaxTotalReceiveCallRate: MaxTotalReceiveCallRate
where
  MaxTotalReceiveCallRate: Integer (64..6000)
  The maximum receive call rate (kbps).
```

**xConfiguration Conference MaxTotalTransmitCallRate**

This configuration applies when using a video system’s built-in MultiSite feature (optional) to host a multipoint video conference.

Define 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
Default value: 6000

**USAGE:**

```
xConfiguration Conference MaxTotalTransmitCallRate: MaxTotalTransmitCallRate
where
  MaxTotalTransmitCallRate: Integer (64..6000)
  The maximum transmit call rate (kbps).
```

**xConfiguration Conference MultiStream Mode**

The video system supports multistream video for conferences.

Requires user role: ADMIN
Default value: Off

**USAGE:**

```
xConfiguration Conference MultiStream Mode: Mode
where
  Mode: Off
  Off: Multistream is disabled.
```
H323 configuration

xConfiguration H323 Authentication Mode
Define the authentication mode for the H.323 profile.

Requires user role: ADMIN
Default value: Off

**USAGE:**
xConfiguration H323 Authentication Mode: \texttt{Mode}
where

\texttt{Mode}: Off/On

\texttt{Off}: The system will not try to authenticate itself to a H.323 Gatekeeper, but will still try a normal registration.

\texttt{On}: If an H.323 Gatekeeper indicates that it requires authentication, the system will try to authenticate itself to the gatekeeper. Requires the H323 Authentication LoginName and H323 Authentication Password settings to be defined on both the codec and the Gatekeeper.

xConfiguration H323 Authentication LoginName
The system sends the H323 Authentication Login Name and the H323 Authentication Password to an 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 Authentication Mode to be enabled.

Requires user role: ADMIN
Default value: ""

**USAGE:**
xConfiguration H323 Authentication Password: "\texttt{Password}"
where

\texttt{Password}: String (0, 50)

The authentication password.

xConfiguration H323 CallSetup Mode
Defines whether to use a Gatekeeper or Direct calling when establishing H.323 calls.
Direct H.323 calls can be made also when H323 CallSetup Mode is set to Gatekeeper.

Requires user role: ADMIN
Default value: Gatekeeper

**USAGE:**
xConfiguration H323 CallSetup Mode: \texttt{Mode}
where

\texttt{Mode}: Direct/Gatekeeper

\texttt{Direct}: You can only make an H.323 call by dialing an IP address directly.

\texttt{Gatekeeper}: The system uses a Gatekeeper to make an H.323 call. When choosing this option, the H323 Gatekeeper Address must also be configured.
**xConfiguration H323 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
Default value: Min1024bit

**USAGE:**

xConfiguration H323 Encryption KeySize: `KeyId`  
where  
KeyId: Min1024bit/Max1024bit/Min2048bit  
Min1024bit: The minimum size is 1024 bit.  
Max1024bit: The maximum size is 1024 bit.  
Min2048bit: The minimum size is 2048 bit.

**xConfiguration H323 Gatekeeper Address**

Define the IP address of the Gatekeeper. Requires H323 CallSetup Mode to be set to Gatekeeper.

Requires user role: ADMIN
Default value: ""

**USAGE:**

xConfiguration H323 Gatekeeper Address: "Address"  
where  
Address: String (0, 255)  
A valid IPv4 address, IPv6 address or DNS name.

**xConfiguration H323 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
Default value: ""

**USAGE:**

xConfiguration H323 H323Alias E164: "E164"  
where  
E164: String (0, 30)  
The H.323 Alias E.164 address. Valid characters are 0-9, *, and #.

**xConfiguration H323 H323Alias ID**

Define 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.

Requires user role: ADMIN
Default value: ""

**USAGE:**

xConfiguration H323 H323Alias ID: "ID"  
where  
ID: String (0, 49)  
The H.323 Alias ID. Example: "firstname.lastname@company.com", "My H.323 Alias ID"
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
Default value: Off

USAGE:

```
xConfiguration H323 NAT Mode: Mode
```

where

- **Mode**: 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.

xConfiguration H323 NAT Address

Define 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
Default value: ""

USAGE:

```
xConfiguration H323 NAT Address: Address
```

where

- **Address**: String (0, 64)
  - A valid IPv4 address or IPv6 address.
Network configuration

xConfiguration Network [1] DNS Domain Name

The 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, USER
Default value: ""

USAGE:
xConfiguration Network [1] DNS Domain Name: "Name"

where
  n: Index that identifies the network. Range: 1..1
  Name: String (0, 64)
  The DNS domain name.


Define the network addresses for DNS servers. Up to three addresses may be specified. If the network addresses are unknown, contact your administrator or Internet Service Provider.

Requires user role: ADMIN, USER
Default value: ""

USAGE:

where
  n: Index that identifies the network. Range: 1..1
  m: Index that identifies the DNS server. Maximum three DNS servers are allowed. Range: 1..3
  Address: String (0, 64)
  A valid IPv4 address or IPv6 address.

xConfiguration Network [1] IEEE8021X Mode

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, USER
Default value: Off

USAGE:

xConfiguration Network [1] IEEE8021X Mode: Mode

where
  n: Index that identifies the network. Range: 1..1
  Mode: Off/On

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

xConfiguration Network [1] IEEE8021X TlsVerify

Verification of the server-side certificate of an IEEE802.1x 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] IEEE8021X Eap Tls is enabled (On).

Requires user role: ADMIN, USER
Default value: Off

USAGE:


where
  n: Index that identifies the network. Range: 1..1
  TlsVerify: 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.
xConfiguration Network [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, USER
Default value: Off

**USAGE:**

\[
xConfiguration Network \_ IEEE8021X UseClientCertificate: \text{UseClientCertificate}
\]

where

- \( n \): Index that identifies the network. Range: 1..1
- UseClientCertificate: 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.

xConfiguration Network [1] IEEE8021X Identity
Define the user name for 802.1X authentication.
Requires user role: ADMIN, USER
Default value: ""

**USAGE:**

\[
xConfiguration Network \_ IEEE8021X Identity: \"Identity\"
\]

where

- \( n \): Index that identifies the network. Range: 1..1
- Identity: String (0, 64)
  - The user name for 802.1X authentication.

xConfiguration Network [1] IEEE8021X Password
Define the password for 802.1X authentication.
Requires user role: ADMIN, USER
Default value: ""

**USAGE:**

\[
xConfiguration Network \_ IEEE8021X Password: \"Password\"
\]

where

- \( n \): Index that identifies the network. Range: 1..1
- Password: String (0, 50)
  - The password for 802.1X authentication.

The 802.1X Anonymous ID string is to be used as unencrypted identity with EAP (Extensible Authentication Protocol) types that support different tunnelled 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, USER
Default value: ""

**USAGE:**

\[
xConfiguration Network \_ IEEE8021X AnonymousIdentity: \"AnonymousIdentity\"
\]

where

- \( n \): Index that identifies the network. Range: 1..1
- AnonymousIdentity: String (0, 64)
  - The 802.1X Anonymous ID string.
Define 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, USER
Default value: On

USAGE:
```
xConfiguration Network n IEEE8021X Eap Md5: Md5
```
where
```
n: Index that identifies the network. Range: 1..1
Md5: Off/On
```
- Off: The EAP-MD5 protocol is disabled.
- On: The EAP-MD5 protocol is enabled (default).

xConfiguration Network [1] IEEE8021X Eap Ttls
Define 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, USER
Default value: On

USAGE:
```
xConfiguration Network n IEEE8021X Eap Ttls: Ttls
```
where
```
n: Index that identifies the network. Range: 1..1
Ttls: Off/On
```
- Off: The EAP-TTLS protocol is disabled.
- On: The EAP-TTLS protocol is enabled (default).

xConfiguration Network [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, USER
Default value: On

USAGE:
```
xConfiguration Network n IEEE8021X Eap Tls: Tls
```
where
```
n: Index that identifies the network. Range: 1..1
Tls: Off/On
```
- Off: The EAP-TLS protocol is disabled.
- On: The EAP-TLS protocol is enabled (default).

xConfiguration Network [1] IEEE8021X Eap Peap
Define 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, USER
Default value: On

USAGE:
```
xConfiguration Network n IEEE8021X Eap Peap: Peap
```
where
```
n: Index that identifies the network. Range: 1..1
Peap: Off/On
```
- Off: The EAP-PEAP protocol is disabled.
- On: The EAP-PEAP protocol is enabled (default).
xConfiguration Network [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, USER
Default value: Dual

**USAGE:**

```
xConfiguration Network [1] IPStack: IPStack
```

where

- \( n \): Index that identifies the network. Range: 1..1
- **IPStack**: 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.

xConfiguration Network [1] IPv4 Assignment

Define how the system will obtain its IPv4 address, subnet mask and gateway address. This setting applies only to systems on IPv4 networks.

Requires user role: ADMIN, USER
Default value: DHCP

**USAGE:**

```
xConfiguration Network [1] IPv4 Assignment: Assignment
```

where

- \( n \): Index that identifies the network. Range: 1..1
- **Assignment**: 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.

xConfiguration Network [1] IPv4 Address

Define the static IPv4 network address for the system. Applicable only when Network IPv4 Assignment is set to Static.

Requires user role: ADMIN, USER
Default value: ""

**USAGE:**

```
xConfiguration Network [1] IPv4 Address: "Address"
```

where

- \( n \): Index that identifies the network. Range: 1..1
- **Address**: String (0, 64)
  - A valid IPv4 address.

xConfiguration Network [1] IPv4 Gateway

Define the IPv4 network gateway address. Applicable only when the Network IPv4 Assignment is set to Static.

Requires user role: ADMIN, USER
Default value: ""

**USAGE:**

```
xConfiguration Network [1] IPv4 Gateway: "Gateway"
```

where

- \( n \): Index that identifies the network. Range: 1..1
- **Gateway**: String (0, 64)
  - A valid IPv4 address.
xConfiguration Network [1] IPv4 SubnetMask
Define the IPv4 network subnet mask. Applicable only when the Network IPv4 Assignment is set to Static.

Requires user role: ADMIN, USER
Default value: **

USAGE:

```
xConfiguration Network [1] IPv4 SubnetMask: "SubnetMask"
```

where

- \( n \): Index that identifies the network. Range: 1..1
- \( SubnetMask \): String (0, 64)
  - A valid IPv4 address.

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

Requires user role: ADMIN, USER
Default value: Autoconf

USAGE:

```
xConfiguration Network [1] IPv6 Assignment: Assignment
```

where

- \( n \): Index that identifies the network. Range: 1..1
- \( Assignment \): Static/DHCPv6/Autoconf
  - Static: The codec and gateway IP addresses must be configured manually using the Network IPv6 Address and Network IPv6 Gateway settings. The options, for example NTP and DNS server addresses, must either be set manually or obtained from a DHCPv6 server. The Network IPv6 DHCPOptions setting determines which method to use.
  - 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 either be set manually or obtained from a DHCPv6 server. The Network IPv6 DHCPOptions setting determines which method to use.

xConfiguration Network [1] IPv6 Address
Define the static IPv6 network address for the system. Applicable only when the Network IPv6 Assignment is set to Static.

Requires user role: ADMIN, USER
Default value: **

USAGE:

```
xConfiguration Network [1] IPv6 Address: "Address"
```

where

- \( n \): Index that identifies the network. Range: 1..1
- \( Address \): String (0, 64)
  - A valid IPv6 address including a network mask. Example: 2001:DB8::/48

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

Requires user role: ADMIN, USER
Default value: **

USAGE:

```
```

where

- \( n \): Index that identifies the network. Range: 1..1
- \( Gateway \): String (0, 64)
  - A valid IPv6 address.
xConfiguration Network [1] IPv6 DHCPOptions
Retrieve a set of DHCP options, for example NTP and DNS server addresses, from a DHCPv6 server.

Requires user role: ADMIN, USER
Default value: On

**USAGE:**
xConfiguration Network n IPv6 DHCPOptions: DHCPOptions
where
- n: Index that identifies the network. Range: 1..1
- DHCPOptions: Off/On
  - Off: Disable the retrieval of DHCP options from a DHCPv6 server.
  - On: Enable the retrieval of a selected set of DHCP options from a DHCPv6 server.

xConfiguration Network [1] MTU
Define the Ethernet MTU (Maximum Transmission Unit) size. The MTU size must be supported by your network infrastructure. The minimum size is 576 for IPv4 and 1280 for IPv6.

Requires user role: ADMIN, USER
Default value: 1500

**USAGE:**
xConfiguration Network n MTU: MTU
where
- n: Index that identifies the network. Range: 1..1
- MTU: Integer (576..1500)
  - Set a value for the MTU (bytes).

xConfiguration Network [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, USER
Default value: Diffserv

**USAGE:**
xConfiguration Network n QoS Mode: Mode
where
- n: Index that identifies the network. Range: 1..1
- Mode: 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.
xConfiguration Network [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, USER
Default value: 0

USAGE:
xConfiguration Network n QoS Diffserv Audio: Audio
where
n: Index that identifies the network. Range: 1..1
Audio: Integer (0..63)
Set the priority of the audio packets in the IP network - the higher the number, the higher the priority. The default value is 0 (best effort).

xConfiguration Network [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, USER
Default value: 0

USAGE:
xConfiguration Network n QoS Diffserv Video: Video
where
n: Index that identifies the network. Range: 1..1
Video: Integer (0..63)
Set the priority of the video packets in the IP network - the higher the number, the higher the priority. The default value is 0 (best effort).
xConfiguration Network [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, USER
Default value: 0

**USAGE:**

```
xConfiguration Network n QoS Diffserv Data: Data
```

where

- `n`: Index that identifies the network. Range: 1..1
- `Data`: Integer (0..63)

Set the priority of the data packets in the IP network - the higher the number, the higher the priority. The default value is 0 (best effort).

---

xConfiguration Network [1] QoS Diffserv Signalling

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, USER
Default value: 0

**USAGE:**

```
xConfiguration Network n QoS Diffserv Signalling: Signalling
```

where

- `n`: Index that identifies the network. Range: 1..1
- `Signalling`: Integer (0..63)

Set the priority of the signalling packets in the IP network - the higher the number, the higher the priority. The default value is 0 (best effort).
xConfiguration Network [1] QoS Diffserv ICMPv6
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, USER
Default value: 0

USAGE:
```
xConfiguration Network n QoS Diffserv ICMPv6: ICMPv6
```
where
- n: Index that identifies the network. Range: 1..1
- ICMPv6: Integer (0..63)
  Set the priority of the ICMPv6 packets in the IP network - the higher the number, the higher the priority. The default value is 0 (best effort).

xConfiguration Network [1] QoS Diffserv NTP
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, USER
Default value: 0

USAGE:
```
xConfiguration Network n QoS Diffserv NTP: NTP
```
where
- n: Index that identifies the network. Range: 1..1
- NTP: Integer (0..63)
  Set the priority of the NTP packets in the IP network - the higher the number, the higher the priority. The default value is 0 (best effort).

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, USER
Default value: ""

USAGE:
```
xConfiguration Network n RemoteAccess Allow: "Allow"
```
where
- n: Index that identifies the network. Range: 1..1
- Allow: String (0, 255)
  A valid IPv4 address or IPv6 address.
xConfiguration Network [1] Speed

Define the Ethernet link speed. We recommend not to change from the default value, which negotiates with the network to set the speed automatically. If you do not use autonegotiation, make sure that the speed you choose is supported by the closest switch in your network infrastructure.

Requires user role: ADMIN, USER
Default value: Auto

USAGE:

```
xConfiguration Network [1] Speed: Speed
where
  n: Index that identifies the network. Range: 1..1
  Speed: 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.
```

xConfiguration Network [1] VLAN Voice Mode

Define 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, USER
Default value: Auto

USAGE:

```
xConfiguration Network [1] VLAN Voice Mode: Mode
where
  n: Index that identifies the network. Range: 1..1
  Mode: 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.
```

xConfiguration Network [1] VLAN Voice VlanId

Define the VLAN voice ID. This setting will only take effect if Network VLAN Voice Mode is set to Manual.

Requires user role: ADMIN, USER
Default value: 1

USAGE:

```
xConfiguration Network [1] VLAN Voice VlanId: VlanId
where
  n: Index that identifies the network. Range: 1..1
  VlanId: Integer (1..4094)
  Set the VLAN voice ID.
```
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
Default value: On

USAGE:
xConfiguration NetworkServices CDP Mode: Mode
where
	Mode: Off/On
	Off: The CDP daemon is disabled.
	On: The CDP daemon is enabled.

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

Requires user role: ADMIN
Default value: On

USAGE:
xConfiguration NetworkServices H323 Mode: Mode
where
	Mode: 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).

xConfiguration NetworkServices HTTP Mode
Define whether or not to allow access to the video system using the HTTP or HTTPS (HTTP Secure) protocols. Note that the video system’s web interface use HTTP or HTTPS. If this setting is switched Off, you cannot use the web interface.

If you need extra security (encryption and decryption of requests, and pages that are returned by the web server), allow only HTTPS.

Requires user role: ADMIN
Default value: HTTP+HTTPS

USAGE:
xConfiguration NetworkServices HTTP Mode: Mode
where
	Mode: Off/HTTP+HTTPS/HTTPS
	Off: Access to the video system not allowed via HTTP or HTTPS.
	HTTP+HTTPS: Access to the video system allowed via both HTTP and HTTPS.
	HTTPS: Access to the video system allowed via HTTPS, but not via HTTP.

xConfiguration NetworkServices HTTPS Server MinimumTLSVersion
Set the lowest version of the TLS (Transport Layer Security) protocol that is allowed.

Requires user role: ADMIN
Default value: TLSv1.1

USAGE:
xConfiguration NetworkServices HTTPS Server MinimumTLSVersion: MinimumTLSVersion
where
	MinimumTLSVersion: TLSv1.1/TLSv1.2
	TLSv1.1: Support of TLS version 1.1 or higher.
	TLSv1.2: Support of TLS version 1.2 or higher.
xConfiguration NetworkServices HTTPS StrictTransportSecurity

The HTTP Strict Transport Security header lets a web site inform the browser that it should never load the site using HTTP and should automatically convert all attempts to access the site using HTTP to HTTPS requests instead.

Requires user role: ADMIN
Default value: Off

**USAGE:**

```
xConfiguration NetworkServices HTTPS StrictTransportSecurity : on/off
```

where

- Off: The HTTP strict transport security feature is disabled.
- On: The HTTP strict transport security feature is enabled.

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
Default value: Off

**USAGE:**

```
xConfiguration NetworkServices HTTPS VerifyServerCertificate:
VerifyServerCertificate
```

where

- VerifyServerCertificate: 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.

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
Default value: Auto

**USAGE:**

```
xConfiguration NetworkServices NTP Mode: mode
```

where

- Mode: 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 Server [n] Address setting will be used.
  - Manual: The system will use the NTP server that is specified in the NetworkServices NTP Server [n] Address setting for time reference.
  - Off: The system will not use an NTP server. The NetworkServices NTP Server [n] Address setting will be ignored.
xConfiguration NetworkServices NTP Server [1..3] 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
Default value: 0.tandberg.pool.ntp.org

**USAGE:**
xConfiguration NetworkServices NTP Server n Address: "Address"

where

n: Unique ID that identifies the NTP server. Range: 1..3
Address: String (0, 255)

A valid IPv4 address, IPv6 address or DNS name.

xConfiguration NetworkServices SIP Mode

Define whether the system should be able to place and receive SIP calls or not.

Requires user role: ADMIN
Default value: On

**USAGE:**
xConfiguration NetworkServices SIP Mode: Mode

where

Mode: Off/On

Off: Disable the possibility to place and receive SIP calls.
On: Enable the possibility to place and receive SIP calls (default).

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
Default value: ReadOnly

**USAGE:**
xConfiguration NetworkServices SNMP Mode: Mode

where

Mode: 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.

xConfiguration NetworkServices SNMP Host [1..3] Address

Define 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
Default value: ""

**USAGE:**
xConfiguration NetworkServices SNMP Host n Address: "Address"

where

n: Identifies the SNMP host. Maximum three SNMP hosts are allowed. Range: 1..3
Address: String (0, 255)

A valid IPv4 address, IPv6 address or DNS name.
xConfiguration NetworkServices SNMP CommunityName
Define 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
Default value: **

USAGE:
```cisco
xConfiguration NetworkServices SNMP CommunityName: "CommunityName"
```
where
```
CommunityName: String (0, 50)
```
The SNMP community name.

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

Requires user role: ADMIN
Default value: **

USAGE:
```cisco
xConfiguration NetworkServices SNMP SystemContact: "SystemContact"
```
where
```
SystemContact: String (0, 50)
```
The name of the SNMP system contact.

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

Requires user role: ADMIN
Default value: **

USAGE:
```cisco
xConfiguration NetworkServices SNMP SystemLocation: "SystemLocation"
```
where
```
SystemLocation: String (0, 50)
```
The name of the SNMP system location.

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
Default value: On

USAGE:
```cisco
xConfiguration NetworkServices SSH Mode: Mode
```
where
```
Mode: Off/On
```
Off: The SSH protocol is disabled.
On: The SSH protocol is enabled.
**xConfiguration NetworkServices Telnet Mode**

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

Requires user role: ADMIN

Default value: Off

**USAGE:**

```
xConfiguration NetworkServices Telnet Mode: Mode
```

where

```
Mode: Off/On
```

On: The Telnet protocol is enabled.

**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. Use the video system’s web interface to set the timeout.

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

Default value: On

**USAGE:**

```
xConfiguration NetworkServices UPnP Mode: Mode
```

where

```
Mode: <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.

**xConfiguration NetworkServices WelcomeText**

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

Requires user role: ADMIN

Default value: On

**USAGE:**

```
xConfiguration NetworkServices WelcomeText: WelcomeText
```

where

```
WelcomeText: Off/On
```

On: The welcome text is: Welcome to <system name>; Software version; Software release date; Login successful.

Off: The welcome text is: Login successful.
Peripherals configuration

xConfiguration Peripherals Profile Cameras
Define the number of cameras 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 cameras does not match this setting, the diagnostics service will report it as an inconsistency.

Requires user role: ADMIN, INTEGRATOR
Default value: Minimum1

USAGE:
xConfiguration Peripherals Profile Cameras: Cameras
where
Cameras: NotSet/Minimum1/0/1/2/3/4/5/6/7
NotSet: No camera check is performed.
Minimum1: At least one camera should be connected to the video system.
0-7: Select the number of cameras that are expected to be connected to the video system.

xConfiguration Peripherals Profile ControlSystems
Define if a third-party control system, for example Crestron or AMX, is expected to be connected to the video system. This information is used by the video system's diagnostics service. If the number of connected control systems does not match this setting, the diagnostics service will report it as an inconsistency. Note that only one third-party control system is supported.

If set to 1, the control system must send heart beats to the video system using xCommand Peripherals Pair and HeartBeat commands. Failing to do so will cause the in-room control extensions to show a warning that the video system has lost connectivity to the control system.

Requires user role: ADMIN, INTEGRATOR
Default value: NotSet

USAGE:
xConfiguration Peripherals Profile ControlSystems: ControlSystems
where
ControlSystems: 1/NotSet
1: One third-party control system should be connected to the video system.
NotSet: No check for a third-party control system is performed.

xConfiguration Peripherals Profile TouchPanels
Define the number of Cisco Touch controllers 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 controllers does not match this setting, the diagnostics service will report it as an inconsistency.

Requires user role: ADMIN, INTEGRATOR
Default value: NotSet

USAGE:
xConfiguration Peripherals Profile TouchPanels: TouchPanels
where
TouchPanels: NotSet/Minimum1/0/1/2/3/4/5
NotSet: No touch panel check is performed.
Minimum1: At least one Cisco Touch controller should be connected to the video system.
0-5: Select the number of Touch controllers that are expected to be connected to the video system. Note that only one Cisco Touch controller is officially supported.
Phonebook configuration

xConfiguration Phonebook Server [1] ID

Define a name for the external phone book.

Requires user role: ADMIN
Default value: ""

**USAGE:**

```
xConfiguration Phonebook Server [1] ID: "ID"
```

where

- `n`: Unique ID that identifies the phonebook server. Range: 1..1
- `ID`: String (0, 64)
- The name for the external phone book.

xConfiguration Phonebook Server [1] Type

Select the phonebook server type.

Requires user role: ADMIN
Default value: Off

**USAGE:**

```
xConfiguration Phonebook Server [1] Type
```

where

- `n`: Unique ID that identifies the phonebook server. Range: 1..1
- `Type`: Off/CUCM/Spark/TMS/VCS
  - Off: Do not use a phonebook.
  - CUCM: The phonebook is located on the Cisco Unified Communications Manager.
  - Spark: The phonebook is located on Spark.
  - TMS: The phonebook is located on the Cisco TelePresence Management Suite server.
  - VCS: The phonebook is located on the Cisco TelePresence Video Communication Server.

xConfiguration Phonebook Server [1] URL

Define the address (URL) to the external phone book server.

Requires user role: ADMIN
Default value: ""

**USAGE:**

```
xConfiguration Phonebook Server [1] URL: "URL"
```

where

- `n`: Unique ID that identifies the phonebook server. Range: 1..1
- `URL`: String (0, 255)
  - A valid address (URL) to the phone book server.
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, USER
Default value: Auto

USAGE:
xConfiguration Provisioning Connectivity: \textit{Connectivity}
where
\textit{Connectivity}: 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.

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, USER
Default value: Auto

USAGE:
xConfiguration Provisioning Mode: \textit{Mode}
where
\textit{Mode}: Off/Auto/CUCM/Edge/Spark/TMS/VCS
- Off: The video system is not configured by a provisioning system.
- Auto: Automatically select the provisioning server.
- CUCM: Push configurations to the video system from CUCM (Cisco Unified Communications Manager).
- Edge: Push configurations to the video system from CUCM (Cisco Unified Communications Manager). The system connects to CUCM via the Collaboration Edge infrastructure.
- Spark: Push configurations to the video system from Spark.
- TMS: Push configurations to the video system from TMS (Cisco TelePresence Management System).
- VCS: Push configurations to the video system from VCS (Cisco TelePresence Video Communication Server).
xConfiguration Provisioning LoginName
This is the username 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.

Requires user role: ADMIN, USER
Default value: ""

USAGE:
xConfiguration Provisioning LoginName: "LoginName"
where
   LoginName: String (0, 80)
   A valid username.

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.

Requires user role: ADMIN, USER
Default value: ""

USAGE:
xConfiguration Provisioning Password: "Password"
where
   Password: String (0, 64)
   A valid password.

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

Requires user role: ADMIN, USER
Default value: POST

USAGE:
xConfiguration Provisioning HttpMethod: HttpMethod
where
   HttpMethod: GET/POST
   GET: Select GET when the provisioning server supports GET.
   POST: Select POST when the provisioning server supports POST.

xConfiguration Provisioning ExternalManager Address
Define 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, USER
Default value: ""

USAGE:
xConfiguration Provisioning ExternalManager Address: "Address"
where
   Address: String (0, 64)
   A valid IPv4 address, IPv6 address or DNS name.
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. Define 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, USER
Default value: ""

USAGE:
```
xConfiguration Provisioning ExternalManager AlternateAddress: "AlternateAddress"
```

where
```
AlternateAddress: String (0, 64)
```
A valid IPv4 address, IPv6 address or DNS name.

xConfiguration Provisioning ExternalManager Protocol

Define whether to use the HTTP (unsecure communication) or HTTPS (secure communication) protocol when sending requests to the external manager / provisioning system. The selected protocol must be enabled in the NetworkServices HTTP Mode setting.

Requires user role: ADMIN, USER
Default value: HTTP

USAGE:
```
xConfiguration Provisioning ExternalManager Protocol: Protocol
```

where
```
Protocol: HTTPS/HTTP
```
HTTP: Send requests via HTTP.
HTTPS: Send requests via HTTPS.

xConfiguration Provisioning ExternalManager Path

Define 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, USER
Default value: ""

USAGE:
```
xConfiguration Provisioning ExternalManager Path: Path
```

where
```
Path: String (0, 255)
```
A valid path to the external manager or provisioning system.

xConfiguration Provisioning ExternalManager Domain

Define the SIP domain for the VCS provisioning server.

Requires user role: ADMIN, USER
Default value: ""

USAGE:
```
xConfiguration Provisioning ExternalManager Domain: Domain
```

where
```
Domain: String (0, 64)
```
A valid domain name.
Proximity configuration

xConfiguration Proximity Mode
Determine whether the video system will emit ultrasound pairing messages or not.
When the video system emits ultrasound, Proximity clients can detect that they are close to the video system.
In order to use a client, at least one of the Proximity services must be enabled (refer to the Proximity Services settings). In general, Cisco recommends enabling all the Proximity services.

Requires user role: ADMIN, USER
Default value: Off

**USAGE:**

```
xConfiguration Proximity Mode: Mode
    where
        Mode: Off/On
```

- Off: The video system does not emit ultrasound, and Proximity services cannot be used.
- On: The video system emits ultrasound, and Proximity clients can detect that they are close to the video system. Enabled Proximity services can be used.

xConfiguration Proximity Services CallControl
Enable or disable basic call control features on Proximity clients. When this setting is enabled, you are able to control a call using a Proximity client (for example dial, mute, adjust volume and hang up). This service is supported by mobile devices (iOS and Android). Proximity Mode must be On for this setting to take any effect.

Requires user role: ADMIN, USER
Default value: Disabled

**USAGE:**

```
xConfiguration Proximity Services CallControl: CallControl
    where
        CallControl: Enabled/Disabled
```

- Enabled: Call control from a Proximity client is enabled.
- Disabled: Call control from a Proximity client is disabled.

xConfiguration Proximity Services ContentShare FromClients
Enable or disable content sharing from Proximity clients. When this setting is enabled, you can share content from a Proximity client wirelessly on the video system, e.g. share your laptop screen. This service is supported by laptops (OS X and Windows). Proximity Mode must be On for this setting to take any effect.

Requires user role: ADMIN, USER
Default value: Enabled

**USAGE:**

```
xConfiguration Proximity Services ContentShare FromClients: FromClients
    where
        FromClients: Enabled/Disabled
```

- Enabled: Content sharing from a Proximity client is enabled.
- Disabled: Content sharing from a Proximity client is disabled.

xConfiguration Proximity Services ContentShare ToClients
Enable or disable content sharing to Proximity clients. When enabled, Proximity clients will receive the presentation from the video system. You can zoom in on details, view previous content and take snapshots. This service is supported by mobile devices (iOS and Android). Proximity Mode must be On for this setting to take any effect.

Requires user role: ADMIN, USER
Default value: Disabled

**USAGE:**

```
xConfiguration Proximity Services ContentShare ToClients: ToClients
    where
        ToClients: Enabled/Disabled
```

- Enabled: Content sharing to a Proximity client is enabled.
- Disabled: Content sharing to a Proximity client is disabled.
**RoomAnalytics configuration**

**xConfiguration RoomAnalytics PeoplePresenceDetector**

The video system has the capability to find whether or not people are present in the room, and report the result in the RoomAnalytics PeoplePresence status. This feature is based on ultrasound. It takes a minimum of 2 minutes to detect whether people are present or not in the room, and it may take up to 2 minutes for the status to change after the room becomes vacant.

Requires user role: ADMIN, INTEGRATOR, USER
Default value: Off

**USAGE:**

```plaintext
xConfiguration RoomAnalytics PeoplePresenceDetector: PeoplePresenceDetector
where

PeoplePresenceDetector: Off/On
  Off: The video system’s status does not show whether or not there are people present in the room.
  On: The video system’s status shows whether or not there are people present in the room.
```

**SerialPort configuration**

**xConfiguration SerialPort Mode**

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

Requires user role: ADMIN, INTEGRATOR
Default value: On

**USAGE:**

```plaintext
xConfiguration SerialPort Mode: Mode
where

Mode: Off/On
  Off: Disable the serial port.
  On: Enable the serial port.
```

**xConfiguration SerialPort BaudRate**

Define the baud rate (data transmission rate, bits per second) for the serial port.
Other connection parameters for the serial port are: Data bits: 8; Parity: None; Stop bits: 1; Flow control: None.

Requires user role: ADMIN, INTEGRATOR
Default value: 38400

**USAGE:**

```plaintext
xConfiguration SerialPort BaudRate: BaudRate
where

BaudRate: 9600/19200/38400/57600/115200
  Set a baud rate from the baud rates listed (bps).
```
**xConfiguration SerialPort LoginRequired**
Define if login shall be required when connecting to the serial port.

Requires user role: ADMIN
Default value: On

**USAGE:**

```plaintext
xConfiguration SerialPort LoginRequired: LoginRequired

where
  LoginRequired: 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.
```

---

**SIP configuration**

**xConfiguration SIP Authentication UserName**
This is the user name part of the credentials used to authenticate towards the SIP proxy.

Requires user role: ADMIN
Default value: ""

**USAGE:**

```plaintext
xConfiguration SIP Authentication UserName: "UserName"

where
  UserName: String (0, 128)
  A valid username.
```

---

**xConfiguration SIP Authentication Password**
This is the password part of the credentials used to authenticate towards the SIP proxy.

Requires user role: ADMIN
Default value: ""

**USAGE:**

```plaintext
xConfiguration SIP Authentication Password: "Password"

where
  Password: String (0, 128)
  A valid password.
```
xConfiguration SIP DefaultTransport

Select the transport protocol to be used over the LAN.

Requires user role: ADMIN
Default value: Auto

**USAGE:**

```
xConfiguration SIP DefaultTransport: DefaultTransport
```

```
where

DefaultTransport: 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.

xConfiguration SIP DisplayName

When configured the incoming call will report the display name instead of the SIP URI.

Requires user role: ADMIN
Default value: ""

**USAGE:**

```
xConfiguration SIP DisplayName: "DisplayName"
```

```
where

DisplayName: String (0, 550)
```

The name to be displayed instead of the SIP URI.

xConfiguration SIP Ice Mode

ICE (Interactive Connectivity Establishment, RFC 5245) is a NAT traversal solution that the video systems can use to discover the optimized media path. Thus the shortest route for audio and video is always secured between the video systems.

Requires user role: ADMIN
Default value: Auto

**USAGE:**

```
xConfiguration SIP Ice Mode: Mode
```

```
where

Mode: Auto/Off/On
```

Auto: ICE is enabled if a TURN server is provided, otherwise ICE is disabled.

Off: ICE is disabled.

On: ICE is enabled.

xConfiguration SIP Ice DefaultCandidate

The ICE protocol needs some time to reach a conclusion about which media route to use (up to the first 5 seconds of a call). During this period media for the video system will be sent to the Default Candidate as defined in this setting.

Requires user role: ADMIN
Default value: Host

**USAGE:**

```
xConfiguration SIP Ice DefaultCandidate: DefaultCandidate
```

```
where

DefaultCandidate: Host/Rflx/Relay
```

Host: Send media to the video system's private IP address.

Rflx: Send media to the video system's public IP address, as seen by the TURN server.

Relay: Send media to the IP address and port allocated on the TURN server.
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).

Requires user role: ADMIN
Default value: On

**USAGE:**

```
xConfiguration SIP ListenPort: ListenPort
    where
      ListenPort: 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.
```

xConfiguration SIP Proxy [1..4] Address

The Proxy Address is the manually configured address for the outbound proxy. It is possible to use a fully qualified domain name, or an IP address. The default port is 5060 for TCP and UDP but another one can be provided.

Requires user role: ADMIN
Default value: ""

**USAGE:**

```
xConfiguration SIP Proxy n Address: "Address"
    where
      n: Index that identifies the proxy (maximum 4 proxys can be defined). Range: 1..4
      Address: String (0, 255)
      A valid IPv4 address, IPv6 address or DNS name.
```

xConfiguration SIP Turn Server

Define the address of the TURN (Traversal Using Relay NAT) server. 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
Default value: ""

**USAGE:**

```
xConfiguration SIP Turn Server: "Server"
    where
      Server: String (0, 255)
      The preferred format is DNS SRV record (e.g. _turn._udp.<domain>), or it can be a valid IPv4 or IPv6 address.
```

xConfiguration SIP Turn UserName

Define the user name needed for accessing the TURN server.

Requires user role: ADMIN
Default value: ""

**USAGE:**

```
xConfiguration SIP Turn UserName: "UserName"
    where
      UserName: String (0, 128)
      A valid user name.
```

xConfiguration SIP Turn Password

Define the password needed for accessing the TURN server.

Requires user role: ADMIN
Default value: ""

**USAGE:**

```
xConfiguration SIP Turn Password: "Password"
    where
      Password: String (0, 128)
      A valid password.
```
xConfiguration SIP 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
Default value: ""

**Usage:**

xConfiguration SIP URI: "URI"

where

URI: String (0, 255)

An address (URI) that is compliant with the SIP URI syntax.

Standby configuration

xConfiguration Standby Control

Define whether the system should go into standby mode or not.

Requires user role: ADMIN, INTEGRATOR
Default value: On

**Usage:**

xConfiguration Standby Control: Control

where

Control: Off/On

Off: The system will not enter standby mode.

On: The system will enter standby mode when the Standby Delay has timed out.

Requires the Standby Delay to be set to an appropriate value.

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, INTEGRATOR
Default value: 10

**Usage:**

xConfiguration Standby Delay: Delay

where

Delay: Integer (1..480)

Set the standby delay (minutes).
xConfiguration Standby BootAction
Define the camera position after a restart of the codec.
Requires user role: ADMIN, INTEGRATOR, USER
Default value: RestoreCameraPosition

**USAGE:**

```mermaid
xConfiguration Standby BootAction: BootAction
where
  BootAction: None/DefaultCameraPosition/RestoreCameraPosition
  None: No action.
  DefaultCameraPosition: When the video system restarts, the camera returns to the position that it had before the restart.
  RestoreCameraPosition: When the video system restarts, the camera returns to the position that it had before the restart.
```

xConfiguration Standby StandbyAction
Define the camera position when going into standby mode.
Requires user role: ADMIN, INTEGRATOR
Default value: PrivacyPosition

**USAGE:**

```mermaid
xConfiguration Standby StandbyAction: StandbyAction
where
  StandbyAction: None/PrivacyPosition
  None: No action.
  PrivacyPosition: When the video system enters standby, the camera turns to a sideways position for privacy.
```

xConfiguration Standby WakeupAction
Define the camera position when leaving standby mode.
Requires user role: ADMIN, INTEGRATOR, USER
Default value: RestoreCameraPosition

**USAGE:**

```mermaid
xConfiguration Standby WakeupAction: WakeupAction
where
  WakeupAction: None/RestoreCameraPosition/DefaultCameraPosition
  None: No action.
  RestoreCameraPosition: When the video system leaves standby, the camera returns to the position that it had before entering standby.
  DefaultCameraPosition: When the video system leaves standby, the camera moves to the factory default position.
```
**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.

Requires user role: ADMIN
Default value: ""

**USAGE:**

```
xConfiguration SystemUnit Name: "Name"
```

where

- **Name**: String (0, 50)
  - Define the system name.

**Time configuration**

**xConfiguration Time TimeFormat**

Define the time format.

Requires user role: ADMIN, USER
Default value: 24H

**USAGE:**

```
xConfiguration Time TimeFormat: TimeFormat
```

where

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

**xConfiguration Time DateFormat**

Define the date format.

Requires user role: ADMIN, USER
Default value: DD_MM_YY

**USAGE:**

```
xConfiguration Time DateFormat: DateFormat
```

where

- **DateFormat**: 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
xConfiguration Time Zone

Define 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.

Requires user role: ADMIN, INTEGRATOR, USER

Default value: Etc/UTC

**USAGE:**

xConfiguration Time Zone: **Zone**

where

**Zone**:

- Africa/Abidjan, Africa/Accra, Africa/Addis_Ababa, Africa/Algiers, Africa/Asmara, Africa/Asmera, Africa/Bamako, Africa/Bangui, Africa/Banjul, Africa/Bissau, Africa/Blantyre, Africa/Brazzaville, Africa/Bujumbura, Africa/Cairo, Africa/Casablanca, Africa/Beirut, Africa/Cairo, Africa/Casablanca, Africa/Conakry, Africa/Dakar, Africa/Dar_es_Salaam, Africa/Djibouti, Africa/ Douala, Africa/Dakar, Africa/First, Africa/Freetown, Africa/Gaborone, Africa/Harare, Africa/Johannesburg, Africa/Juba, Africa/Kampala, Africa/Khartoum, Africa/Kigali, Africa/Kinshasa, Africa/Lagos, Africa/Libreville, Africa/Lome, Africa/Luanda, Africa/Lubumbashi, Africa/Lusaka, Africa/Malabo, Africa/Maputo, Africa/Maseru, Africa/Mbabane, Africa/Mogadishu, Africa/Monrovia, Africa/Nairobi, Africa/Ndjamena, Africa/Niamey, Africa/Nouakchott, Africa/Ouagadougou, Africa/Porto-Novo, Africa/Sao_Tome, Africa/Timbuktu, Africa/Tripoli, Africa/Tunis, Africa/Windhoek, America/Adak, America/Anchorage, America/Argentina, America/Aruba, America/Asuncion, America/Atikokan, America/Akta, America/Bahia, America/Bahia_Banderas, America/Barbados, America/Belem, America/Belize, America/Blanc-Sablon, America/Boa_Vista, America/Bogota, America/Boise, America/Boise, America/Buenos_Aires, America/Argentina/Catamarca, America/Argentina/ComodRivadavia, America/Argentina/Cordoba, America/Argentina/Jujuy, America/Argentina/La_Rioja, America/Argentina/Mendoza, America/Argentina/Rio_Gallegos, America/Argentina/Salta, America/Argentina/San_Juan, America/Argentina/San_Luis, America/Argentina/Tucuman, America/Argentina/Ushuaia, America/Aruba, America/Asuncion, America/Atikokan, America/Akta, America/Bahia, America/Bahia_Banderas, America/Barbados, America/Belem, America/Belize, America/Blanc-Sablon, America/Boa_Vista, America/Bogota, America/Boise, America/Buenos_Aires, America/Cambridge_Bay, America/Campo_Grande, America/Cancun, America/Caracas, America/Catamarca, America/Cayenne, America/Cayman, America/Chicago, America/Chihuahua, America/Chinacalco, America/Cordoba, America/Costa_Rica, America/Creston, America/Cuiaba, America/Curacao, America/Danmarkshavn, America/Dawson, America/Dawson_Creek, America/Denver, America/Detroit, America/Dominica, America/Edmonton, America/Eirunepé, America/El_Salvador, America/Ensenada, America/Fort_Nelson, America/Fort_Wayne, America/Fortaleza, America/Grace_Bay, America/Godthab, America/Goose_Bay, America/Grand_Turk, America/Grenada, America/Guadeloupe, America/Guatemala, America/Guayaquil, America/Guyana, America/Halifax, America/Havana, America/Hermosillo, America/Indiana/Indianapolis, America/Indiana/Knox, America/Indiana/Marengo, America/Indiana/Petersburg, America/Indiana/Tell_City, America/Indiana/Vevay, America/Indiana/Vincennes, America/Indiana/Winamac, America/Indiana/Indianapolis, America/Inuvik, America/Iqaluit, America/Jamaica, America/Jujuy, America/Juneau, America/Kentucky, America/Louisville, America/Kentucky/Monticello, America/Knox_IN, America/Kralendijk, America/La_Paz, America/Lima, America/Los_Angeles, America/Louisville, America/Lower_Prices, America/Maceio, America/Managua, America/Manaus, America/Marigot, America/Martine, America/Matamoros, America/Mazatlan, America/Mendoza, America/Menominee, America/Merida, America/Metlakatla, America/Mexico_City, America/Miquelon, America/Moncton, America/Monterrey, America/Montevideo, America/Montreal, America/Montserrat, America/Nassau, America/New_York, America/Nipigon, America/Nome, America/Noronha, America/North_Dakota/Beulah, America/North_Dakota/Centroid, America/North_Dakota/New_Salem, America/Ojinaga, America/ Panama, America/Pangnirtung, America/Paramaribo, America/Phoenix, America/Port-au-Prince, America/Port_of_Spain, America/Porto_Acre, America/Porto_Velho, America/Puerto_Rico, America/Rainy_River, America/Rankin_Inlet, America/Recife, America/Regina, America/Resolute, America/Rio_Branco, America/Rosario, America/Santa_Isabel, America/Santeram, America/Santiago, America/Santo_Domingo, America/Sao_Paulo, America/Scoresbysund, America/Shiprock, America/Stitka, America/St_Barthelemy, America/St_Johns, America/St_Kitts, America/St_Lucia, America/St_Thomas, America/St_Vincent, America/Swift_Current, America/Tegucigalpa, America/Thule, America/Thunder_Bay, America/Tijuana, America/Toronto, America/Tortola, America/Vancouver, America/Virgin, America/Wallis, America/Winnipeg, America/Yukon, America/Yellowknife, Antarctica/Cape_Horn, Antarctica/DumontD'Urville, Antarctica/Macquarie, Antarctica/Mawson, Antarctica/McMurdo, Antarctica/Palmer, Antarctica/Rothera, Antarctica/South_Pole, Antarctica/Syowa, Antarctica/Troll, Antarctica/Vostok, Arctic/Longyearbyen, Asia/Aden, Asia/Almaty, Asia/Amman, Asia/Anadyr, Asia/Aqtau, Asia/Aqtobe, Asia/Asghabat, Asia/Ashtabad, Asia/Baghdad, Asia/Bahrain, Asia/Baku, Asia/Bangkok, Asia/Barnaul, Asia/Beirut, Asia/Bishkek, Asia/Brunei, Asia/Caldutta, Asia/Chita, Asia/Choibalsan, Asia/Chongqing, Asia/Chungking, Asia/Colombo, Asia/Dacca, Asia/Damascus, Asia/Dhaka, Asia/Dili, Asia/Dubai, Asia/Dushanbe, Asia/Gaza, Asia/Harbin, Asia/Hebron, Asia/Ho_Chi Minh, Asia/Hong_Kong, Asia/Hovd, Asia/Irkutsk, Asia/Istanbul, Asia/Jakarta, Asia/Janayapura, Asia/Jerusalem, Asia/Kabul, Asia/Kamchatka, Asia/Karachi, Asia/Kashgar, Asia/Kathmandu, Asia/Katmandu, Asia/Khandyga, Asia/Kolkata, Asia/Krasnoyarsk, Asia/Kuala_Lumpur, Asia/Kuching, Asia/Kuwait, Asia/Macao, Asia/Macau, Asia/Magadan, Asia/Makassar, Asia/Manila, Asia/Muscat, Asia/Nicosia, Asia/Novokuznetsk, Asia/Novosibirsk, Asia/Omsk, Asia/Oral, Asia/Phnom_Penh, Asia/Pontianak, Asia/Pyongyang, Asia/Qatar, Asia/Qyzylorda, Asia/Rangoon, Asia/Riyadh, Asia/Saigon, Asia/Sakhalin, Asia/Samarkand, Asia/Seoul, Asia/Shanghai, Asia/Singapore, Asia/SredneKolymsk, Asia/Taipei, Asia/Tashkent, Asia/Tbilisi, Asia/Tehran, Asia/Tel_Aviv, Asia/Thimbu, Asia/Thimpu, Asia/Tokyo, Asia/Tomsk, Asia/Ujung_Pandang, Asia/Ulaanbaatar, Asia/Ulan_Bator, Asia/Urumqi, Asia/Ust_Nera, Asia/Vientiane, Asia/Vladivostok, Asia/Yakutsk, Asia/Yekaterinburg, Asia/Yerevan, Atlantic/Azores, Atlantic/Bermuda, Atlantic/Canary, Atlantic/Cape_Verde, Atlantic/Faeroe, Atlantic/Faroe, Atlantic/Jan_Mayen, Atlantic/Makeira, Atlantic/Reykjavik, Atlantic/South_Georgia, Atlantic/St_Helena, Atlantic/Stanley, Australia/ACT, Australia/Adelaide, Australia/Brisbane, Australia/Broken_Hill, Australia/Canberra, Australia/Currie, Australia/Darwin, Australia/Eucla, Australia/Hobart, Australia/LHI, Australia/Lindeman, Australia/Lord_Howe, Australia/Melbourne, Australia/NSW, Australia/North, Australia/Peter, Australia/Queensland, Australia/South, Australia/Sydney, Australia/Tasmania, Australia/Victoria, Australia/West, Australia/Yancowinna, Brazil/Acre, Brazil/DeNoronha, Brazil/East, Brazil/West,
UserInterface configuration

xConfiguration UserInterface ContactInfo Type

Choose which type of contact information to show in the status field in the upper left corner of the display and Touch controller.

Requires user role: ADMIN
Default value: Auto

USAGE:

xConfiguration UserInterface ContactInfo Type: Type

Type: Auto/None/IPv4/IPv6/H323Id/H320Number/E164Alias/SipUri/SystemName/DisplayName

Auto: Show the address which another system should dial to reach this video system. The address depends on the default call protocol and system registration.
None: Do not show any contact information.
IPv4: Show the system’s IPv4 address.
IPv6: Show the system’s IPv6 address.
H323Id: Show the system’s H.323 ID (refer to the H323 H323Alias ID setting).
H320Number: Show the system’s H.320 number as contact information (only applicable if connected to Cisco TelePresence ISDN Link).
E164Alias: Show the system’s H.323 E164 Alias as contact information (refer to the H323 H323Alias E164 setting).
SipUri: Show the system’s SIP URI (refer to the SIP URI setting).
SystemName: Show the system’s name (refer to the SystemUnit Name setting).
DisplayName: Show the system’s display name (refer to the SIP DisplayName setting).

Select a time zone from the list.
xConfiguration UserInterface KeyTones Mode
You can configure the system 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: ADMIN, USER
Default value: On

USAGE:
```
xConfiguration UserInterface KeyTones Mode: Mode
where
  Mode: Off/On
    Off: There is no key tone sound effect.
    On: The key tone sound effect is turned on.
```

xConfiguration UserInterface Language
Select the language to be used in menus and messages on the screen and Touch controller.

Requires user role: ADMIN, USER
Default value: English

USAGE:
```
xConfiguration UserInterface Language: Language
where
  Language: Arabic/Catalan/ChineseSimplified/ChineseTraditional/Czech/Danish/Dutch/
            English/EnglishUK/Finnish/French/FrenchCanadian/German/Hebrew/Hungarian/Italian/
            Japanese/Korean/ Norwegian/ Polish/Portuguese/PortugueseBrazilian/Russian/Spanish/
            SpanishLatin/Swedish/Turkish
    Select a language from the list. Arabic and Hebrew are not supported in this software version.
```

xConfiguration UserInterface OSD Output
Define on which monitor the on-screen information and indicators (OSD) should be displayed.

Requires user role: ADMIN, INTEGRATOR
Default value: Auto

USAGE:
```
xConfiguration UserInterface OSD Output: Output
where
  Output: Auto/1/2
    Auto: The system detects when a monitor is connected to a video output, and sends the on-screen information and indicators to the first monitor you connect. If you have a multi-monitor setup, and all monitors are connected before switching on the system, the on-screen information and indicators are sent to the video output with the lowest number, starting with Output Connector 1 (HDMI 1).
    Range 1-2: The system sends the on-screen information and indicators to the specified output. Choose n to send the on-screen information and indicators to the system’s Output Connector n.
```
UserManagement configuration

xConfiguration UserManagement LDAP Mode
The video system supports the use of an LDAP (Lightweight Directory Access Protocol) server as a central place to store and validate user names and passwords. Use this setting to configure whether or not to use LDAP authentication. Our implementation is tested for the Microsoft Active Directory (AD) service.

Requires user role: ADMIN
Default value: Off

Usage:
xConfiguration UserManagement LDAP Mode: Mode
where
Mode: Off/On
Off: LDAP authentication is not allowed.
On: For client certificate verification to work when LDAP authentication is enabled, the codec requires a CA (Certificate Authority) certificate, and the user must have a Client Certificate that matches their user distinguishing name (DN) in the active directory (AD).

xConfiguration UserManagement LDAP Server Address
Set the IP address or hostname of the LDAP server.

Requires user role: ADMIN
Default value: ""

Usage:
xConfiguration UserManagement LDAP Server Address: "Address"
where
Address: String (0, 255)
A valid IPv4 address, IPv6 address or hostname.

xConfiguration UserManagement LDAP Server Port
Set the port to connect to the LDAP server on. If set to 0, use the default for the selected protocol (see the UserManagement LDAP Encryption setting).

Requires user role: ADMIN
Default value: 0

Usage:
xConfiguration UserManagement LDAP Server Port: Port
where
Port: Integer (0..65535)
The LDAP server port number.

xConfiguration UserManagement LDAP Encryption
Define how to secure the communication between the video system and the LDAP server. You can override the port number by using the UserManagement LDAP Server Port setting.

Requires user role: ADMIN
Default value: LDAPS

Usage:
xConfiguration UserManagement LDAP Encryption: Encryption
where
Encryption: LDAPS/None/STARTTLS
LDAPS: Connect to the LDAP server on port 636 over TLS (Transport Layer Security).
None: Connect to LDAP server on port 389 with no encryption.
STARTTLS: Connect to LDAP server on port 389, then send STARTTLS to enable TLS encryption.
xConfiguration UserManagement LDAP MinimumTLSVersion

Set the lowest version of the TLS (Transport Layer Security) protocol that is allowed.

Requires user role: ADMIN
Default value: TLSv1.2

**USAGE:**
xConfiguration UserManagement LDAP MinimumTLSVersion: MinimumTLSVersion

where

MinimumTLSVersion: TLSv1.0/TLSv1.1/TLSv1.2
- TLSv1.0: Support TLS version 1.0 or higher.
- TLSv1.1: Support TLS version 1.1 or higher.
- TLSv1.2: Support TLS version 1.2 or higher.

xConfiguration UserManagement LDAP VerifyServerCertificate

When the video system connects to an LDAP server, the server will identify itself to the video system by presenting its certificate. Use this setting to determine whether or not the video system will verify the server certificate.

Requires user role: ADMIN
Default value: On

**USAGE:**
xConfiguration UserManagement LDAP VerifyServerCertificate: VerifyServerCertificate

where

VerifyServerCertificate: Off/On
- Off: The video system will not verify the LDAP server’s certificate.
- On: The video system must verify that the LDAP server’s certificate is signed by a trusted Certificate Authority (CA). The CA must be on the list of trusted CAs that are uploaded to the system in advance. Use the video system’s web interface to manage the list of trusted CAs (see more details in the administrator guide).

xConfiguration UserManagement LDAP Admin Filter

The LDAP filter is used to determine which users should be granted administrator privileges. If set, this setting takes precedence over the UserManagement LDAP Admin Group setting.

Requires user role: ADMIN
Default value: ""

**USAGE:**
xConfiguration UserManagement LDAP Admin Filter: "Filter"

where

Filter: String (0, 1024)
- Refer to the LDAP specification for the syntax of this string. Example: "(CN=adminuser)"

xConfiguration UserManagement LDAP Admin Group

Members of this AD (Active Directory) group will be given administrator access. This setting is a shorthand for saying (memberOf:1.2.840.113556.1.4.1941:=<group name>). If UserManagement LDAP Admin Filter is set, this setting is ignored.

Requires user role: ADMIN
Default value: ""

**USAGE:**
xConfiguration UserManagement LDAP Admin Group: "Group"

where

Group: String (0, 255)
- The distinguishing name of the AD group. Example: "CN=admin_group, OU=company groups, DC=company, DC=com"
xConfiguration UserManagement LDAP Attribute
The attribute used to map to the provided username. If not set, sAMAccountName is used.
Requires user role: ADMIN
Default value: **

**USAGE:**
xConfiguration UserManagement LDAP Attribute: "Attribute"
where

- **Attribute**: String (0, 255)
  - The attribute name.

Video configuration

xConfiguration Video DefaultMainSource
Define which video input source shall be used as the main video source.
Requires user role: ADMIN, USER
Default value: 1

**USAGE:**
xConfiguration Video DefaultMainSource: DefaultMainSource
where

- **DefaultMainSource**: 1/2
  - Set the source to be used as the main video source.

xConfiguration Video Input Connector [1..2] CameraControl Mode
Define whether the camera that is connected to this video input connector can be controlled or not.
Note that camera control is not available for Connector 2 (DVI-I)
Requires user role: ADMIN, INTEGRATOR
Default value: Connector 1: On   Connector 2: Off

**USAGE:**
xConfiguration Video Input Connector \(n\) CameraControl Mode: Mode
where

- \(n\): Unique ID that identifies the video input connector. Range: 1..2
- **Mode**: Connector 1: Off/On   Connector 2: Off
  - Off: Disable camera control.
  - On: Enable camera control.
xConfiguration Video Input Connector [1..2] CameraControl CameraId

The camera ID is a unique identifier of the cameras that are connected to the video input.

Requires user role: ADMIN, INTEGRATOR
Default value: 1

**USAGE:**
```
xConfiguration Video Input Connector n CameraControl CameraId: CameraId
```
where
```
CameraId: 1
```

The camera ID is fixed and cannot be changed.

xConfiguration Video Input Connector [2] DviType

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
Default value: AutoDetect

**USAGE:**
```
xConfiguration Video Input Connector n DviType: DviType
```
where
```
DviType: 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.

xConfiguration Video Input Connector [1..2] InputSourceType

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

Requires user role: ADMIN, INTEGRATOR
Default value: Connector 1: camera  Connector 2: PC

**USAGE:**
```
xConfiguration Video Input Connector n InputSourceType: InputSourceType
```
where
```
InputSourceType: camera/document_camera/mediaplayer/PC/whiteboard/other
```

Camera: Use this when a camera is connected to the video input.
Document_camera: Use this when a document camera is connected to the video input.
Mediaplayer: Use this when a media player is connected to the video input.
PC: Use this when a computer is connected to the video input.
Whiteboard: Use this when a whiteboard camera is connected to the video input.
Other: Use this when the other options do not match.

xConfiguration Video Input Connector [1..2] Name

Define a name for the video input connector.

Requires user role: ADMIN, INTEGRATOR
Default value: 

**USAGE:**
```
xConfiguration Video Input Connector n Name: "Name"
```
where
```
Name: String (0, 50)
```

Name for the video input connector.
xConfiguration Video Input Connector [1..2] Quality

When encoding and transmitting video there is 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. This setting specifies whether to give priority to high frame rate or to high resolution.

Requires user role: ADMIN, INTEGRATOR
Default value: Connector 1: Motion   Connector 2: Sharpness

USAGE:

xConfiguration Video Input Connector n Quality: Quality

where

n: Unique ID that identifies the video input connector. Range: 1..2

Quality: 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.

xConfiguration Video Input Connector [1..2] PresentationSelection

Define how the video system will behave when you connect a presentation source to the video input. In general, any input source can be used as a presentation source; normally, the main camera 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. Sharing the presentation with the far end requires additional action (select Share on the user interface) except when this setting is set to AutoShare.

Requires user role: ADMIN, INTEGRATOR
Default value: Connector 1: Manual   Connector 2: OnConnect

USAGE:

xConfiguration Video Input Connector n PresentationSelection: PresentationSelection

where

n: Unique ID that identifies the video input connector. Range: 1..2

PresentationSelection: AutoShare/Desktop/Manual/OnConnect

  AutoShare: While in a call, the content on the video input will automatically be presented to the far end as well as on the local screen when you connect the cable, or when the source is activated otherwise (for example when a connected computer wakes up from sleep mode). You do not have to select Share on the user interface. If a presentation source is already connected when you make or answer a call, you have to manually select Share on the user interface.

  Desktop: The content on the video input will be presented on screen when you connect the cable, or when the source is activated otherwise (for example when a connected computer wakes up from sleep mode). This applies both when idle and in a call. Also, the content on the video input will stay on the screen when you leave the call, provided that it was the active input at the time of leaving.

  Manual: The content on the video input will not be presented on the screen until you select Share from the user interface.

  OnConnect: The content on the video input will not be presented on the screen until you select Share from the user interface.

  OnConnect: The content on the video input will not be presented on screen when you connect the cable, or when the source is activated otherwise (for example when a connected computer wakes up from sleep mode). Otherwise, the behavior is the same as in manual mode.
xConfiguration Video Input Connector [1..2] Visibility
Define the visibility of the video input connector in the menus on the user interface.

Requires user role: ADMIN, INTEGRATOR
Default value: Connector 1: IfSignal   Connector 2: Always

USAGE:
xConfiguration Video Input Connector n Visibility: Visibility
where
n: Unique ID that identifies the video input connector. Range: 1..2
Visibility: Always/IfSignal/Never
- Always: The menu selection for the video input connector will always be visible on the user interface.
- IfSignal: The menu selection for the video input connector will only be visible when something is connected to the video input.
- Never: The input source is not expected to be used as a presentation source, and will not show up on the user interface.

xConfiguration Video Monitors
A role is assigned to each monitor using the Video Output Connector [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 can not 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, INTEGRATOR
Default value: Auto

USAGE:
xConfiguration Video Monitors: Monitors
where
Monitors: 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.
xConfiguration Video Output Connector [1..2] CEC Mode

This video output (HDMI) supports Consumer Electronics Control (CEC). When this setting is On, 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 uses 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, INTEGRATOR
Default value: Off

**USAGE:**

```
xConfiguration Video Output Connector n CEC Mode: Mode
```

where

- `n`: Unique ID that identifies the video output connector. Range: 1..2
- **Mode**: Off/On
  - Off: CEC is disabled.
  - On: CEC is enabled.

xConfiguration Video Output Connector [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, INTEGRATOR
Default value: Connector [1]: First   Connector [2]: Second

**USAGE:**

```
xConfiguration Video Output Connector n MonitorRole: MonitorRole
```

where

- `n`: Unique ID that identifies the video output connector. Range: 1..2
- **MonitorRole**: 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. In a single-monitor setup, there is no difference between First and Second.
  - PresentationOnly: Show presentation video stream if active, and nothing else. Monitors/outputs with this monitor role are disregarded by the Video Monitors setting.
**xConfiguration Video Output Connector [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

Default value: None

**USAGE:**

xConfiguration Video Output Connector \(n\) OverscanLevel: \(OverscanLevel\)

where

\(n\): Unique ID that identifies the video output connector. Range: 1..2

\(OverscanLevel\): 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.

**xConfiguration Video Output Connector [1..2] Resolution**

Define the resolution and refresh rate for the connected screen.

Requires user role: ADMIN, INTEGRATOR, USER

Default value: Auto

**USAGE:**

xConfiguration Video Output Connector \(n\) Resolution: \(Resolution\)

where

\(n\): Unique ID that identifies the video output connector. Range: 1..2

\(Resolution\): Auto/1280_720_50/1280_720_60/1920_1080_50/1920_1080_60

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

**xConfiguration Video Presentation DefaultSource**

Define which video input source to use as a default presentation source. This setting may be used by the API and 3rd party user interfaces. It is not relevant when using the user interfaces provided by Cisco.

Requires user role: ADMIN, USER

Default value: 2

**USAGE:**

xConfiguration Video Presentation DefaultSource: \(DefaultSource\)

where

\(DefaultSource\): 1/2/3

The video input source to use as default presentation source.
**Cisco TelePresence SX20 Codec**

**API Reference Guide**

**Configuration Video Selfview Default Mode**

Define 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 Selfview Default PIPPosition and the Video Selfview Default FullscreenMode settings respectively.

Requires user role: ADMIN, INTEGRATOR

Default value: Current

**Usage:**

```plaintext
xConfiguration Video Selfview Default Mode: Mode
```

where

- **Mode**: 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.

**Configuration Video Selfview Default FullscreenMode**

Define 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 Selfview Default Mode setting).

 Requires user role: ADMIN, INTEGRATOR

Default value: Current

**Usage:**

```plaintext
xConfiguration Video Selfview Default FullscreenMode: FullscreenMode
```

where

- **FullscreenMode**: Off/Current/On
  - Off: the self-view picture 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 full screen during the call, it remains full screen after the call.
  - On: The self-view picture will be shown in full screen.

**Configuration Video Selfview Default OnMonitorRole**

Define 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 Connector [n] 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, INTEGRATOR

Default value: Current

**Usage:**

```plaintext
xConfiguration Video Selfview Default OnMonitorRole: OnMonitorRole
```

where

- **OnMonitorRole**: 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.
**xConfiguration Video Selfview Default PIPPosition**

Define 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 Selfview Default Mode setting) and fullscreen view is switched off (see the Video Selfview Default FullscreenMode setting).

Requires user role: ADMIN, INTEGRATOR

Default value: Current

**USAGE:**

```plaintext
xConfiguration Video Selfview Default PIPPosition: PIPPosition

where

   PIPPosition: Current/UpperLeft/UpperCenter/UpperRight/CentreLeft/CentreRight/
                 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 position.
- **UpperRight**: The self-view PiP will appear in the upper right corner of the screen.
- **CentreLeft**: The self-view PiP will appear in the center left position.
- **CentreRight**: 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.

**xConfiguration Video Selfview OnCall Mode**

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

Requires user role: ADMIN, INTEGRATOR

Default value: On

**USAGE:**

```plaintext
xConfiguration Video Selfview OnCall Mode: Mode

where

   Mode: Off/On
```

- **Off**: Self-view is not shown automatically during call setup.
- **On**: Self-view is shown automatically during call setup.

**xConfiguration Video Selfview OnCall Duration**

This setting only has an effect when the Video Selfview OnCall Mode setting is switched On. In this case, the number of seconds set here determines for how long self-view is shown before it is automatically switched off.

Requires user role: ADMIN, INTEGRATOR

Default value: 10

**USAGE:**

```plaintext
xConfiguration Video Selfview OnCall Duration: Duration

where

   Duration: Integer (1..60)
```

- **Range**: Choose for how long self-view remains on. The valid range is between 1 and 60 seconds.
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 website regularly for updated versions of the manual.

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

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Audio commands

xCommand Audio Diagnostics MeasureDelay

This command will measure the audio delay/latency in a device connected to the video system. A typical use case is to measure the delay in a TV connected to the video system via the HDMI connector. If the delay in a TV is too high, the real-time experience of a video call will be substantially degraded. If the delay is more than 50 ms we recommend the user to find a TV setting that has shorter delay. Typical TV settings that can reduce the delay are: Gaming Mode and PC Mode.

This command will measure the delay between output and input (microphone). This means that if you are using an external acoustic echo canceller or audio mixer, this command will also measure the delay of these devices.

Requires user role: ADMIN, USER

**USAGE:**

```plaintext
xCommand Audio Diagnostics MeasureDelay [MeasurementLength: MeasurementLength] [Output: Output] [Volume: Volume]
```

where

- **MeasurementLength**: Integer (1..100)
  - The length of the measurement in number of seconds. In a noisy environment a longer measurement time will give a more reliable and robust result.

- **Output**: HDMI/Line/Internal/All
  - HDMI: Measure the delay of the device connected to the HDMI output.
  - Line: Measure the delay of the device connected to the Line output (only available on video systems that have a Line output).
  - Internal: Measure the delay of the internal loudspeaker (only available on video systems that have an internal loudspeaker).
  - All: Will measure the maximum delay of all outputs.

- **Volume**: Integer (1..50)
  - The volume for the test signal. In a noisy environment a higher volume gives more reliable and robust results.

xCommand Audio Microphones Mute

Mute all microphones.

Requires user role: INTEGRATOR, USER

**USAGE:**

```plaintext
xCommand Audio Microphones Mute
```

xCommand Audio Microphones ToggleMute

Toggle the microphone between muted and unmuted.

Requires user role: INTEGRATOR, USER

**USAGE:**

```plaintext
xCommand Audio Microphones ToggleMute
```

xCommand Audio Microphones Unmute

Unmute all microphones.

Requires user role: INTEGRATOR, USER

**USAGE:**

```plaintext
xCommand Audio Microphones Unmute
```
xCommand Audio Sound Play

Play a specified audio sound.

Requires user role: INTEGRATOR, USER

USAGE:

xCommand Audio Sound Play [Loop: Loop] Sound: Sound

where

Loop: Off/On
Determines whether or not to loop the playout of the audio sound. The sound is looped by default. Irrespective of how this parameter is set, some of the sounds (Busy, CallWaiting, Dial, Ringing, and SpecialInfo) will play until the Audio Sound Stop command is issued.

Sound: Alert/Bump/Busy/CallDisconnect/CallInitiate/CallWaiting/Dial/KeyInput/KeyInputDelete/KeyTone/Nav/NavBack/Notification/OK/PresentationConnect/Ringing/SignIn/SpecialInfo/TelephoneCall/VideoCall/VolumeAdjust/WakeUp
Choose which ringtone to play.

xCommand Audio Sound Stop

Stop playing audio sound.

Requires user role: INTEGRATOR, USER

USAGE:

xCommand Audio Sound Stop

xCommand Audio SoundsAndAlerts Ringtone List

List all available ringtones. Use the xConfiguration Audio SoundsAndAlerts RingTone setting to choose a ringtone.

Requires user role: INTEGRATOR, USER

USAGE:

xCommand Audio SoundsAndAlerts Ringtone List

xCommand Audio SoundsAndAlerts Ringtone Play

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

Requires user role: INTEGRATOR, USER

USAGE:

xCommand Audio SoundsAndAlerts Ringtone Play RingTone: "RingTone"

where

RingTone: String (1, 100)
The name of the ringtone.

xCommand Audio Volume Decrease

Decrease the volume on the endpoint. By default, the volume is increased by 5 steps (each step is 0.5 dB). Use the Steps parameter if you want to override the default behavior.

Requires user role: ADMIN, USER

USAGE:

xCommand Audio Volume Decrease [Steps: Steps]

where

Steps: Integer (1..10)
Choose the number of steps to decrease the volume with. One step is 0.5 dB.

xCommand Audio Volume Increase

Increase the volume on the endpoint. By default, the volume is increased by 5 steps (each step is 0.5 dB). Use the Steps parameter if you want to override the default behavior.

Requires user role: ADMIN, USER

USAGE:

xCommand Audio Volume Increase [Steps: Steps]

where

Steps: Integer (1..10)
Choose the number of steps to increase the volume with. One step is 0.5 dB.
xCommand Audio Volume Mute
Mute the volume on the endpoint.
Requires user role: ADMIN, USER

**USAGE:**
xCommand Audio Volume Mute

xCommand Audio Volume Set
Set the volume on the endpoint to a specified level.
Requires user role: ADMIN, USER

**USAGE:**
xCommand Audio Volume Set Level: Level
where
Level: Integer (0..100)
Select the gain level. 70 equals 0 dB gain, and 100 equals 15 dB gain.

xCommand Audio Volume SetToDefault
Set the volume to the default level that is defined in the xConfiguration Audio DefaultVolume setting.
Requires user role: ADMIN, USER

**USAGE:**
xCommand Audio Volume SetToDefault

xCommand Audio Volume ToggleMute
Toggle the loudspeaker between muted and unmuted.
Requires user role: ADMIN, USER

**USAGE:**
xCommand Audio Volume ToggleMute

xCommand Audio Volume Unmute
Set the volume on the endpoint back on after muting.
Requires user role: ADMIN, USER

**USAGE:**
xCommand Audio Volume Unmute

xCommand Audio VuMeter Start
Start a VU meter to show the audio signal level on the specified connector. You have to specify both the connector’s type and number (ConnectorType, ConnectorId) to uniquely identify the connector. The VU meter measures the input level for frequencies below 20 kHz.
Requires user role: ADMIN, USER

**USAGE:**
xCommand Audio VuMeter Start ConnectorID: ConnectorID ConnectorType: ConnectorType
where
ConnectorID: Integer (1..2) for Microphone; Integer (1..1) for Line
Select a connector number. Together with the ConnectorType it uniquely identifies the connector.
ConnectorType: Line/Microphone
Select the connector type.
xCommand Audio VuMeter Stop
Stop the VU meter on the specified connector. You have to specify both the connector’s type and number (ConnectorType, ConnectorId) to uniquely identify the connector.

Requires user role: ADMIN, USER

**USAGE:**
```
xCommand Audio VuMeter Stop ConnectorID: ConnectorID ConnectorType: ConnectorType
```
where
- **ConnectorID**: Integer (1..2) for Microphone; Integer (1..1) for Line
  Select a connector number. Together with the ConnectorType it uniquely identifies the connector.
- **ConnectorType**: Line/Microphone
  Select the connector type.

xCommand Audio VuMeter StopAll
Stop all VU meters.

Requires user role: ADMIN, USER

**USAGE:**
```
xCommand Audio VuMeter StopAll
```

---

**Bookings commands**

xCommand Bookings Clear
Clear the current stored list of bookings.

Requires user role: ADMIN, USER

**USAGE:**
```
xCommand Bookings Clear
```

xCommand Bookings Get
Get the booking information for a specific ID.

Requires user role: ADMIN, USER

**USAGE:**
```
xCommand Bookings Get Id: "Id"
```
where
- **Id**: String (0, 128)
  The booking ID of a call or conference.
xCommand 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 set, past, present and future bookings are all listed. To avoid listing bookings from yesterday and before, use DayOffset = 0.

Requires user role: ADMIN, USER

**USAGE:**

```
xCommand Bookings List [Days: Days] [DayOffset: DayOffset] [Limit: Limit] [Offset: Offset]
```

where

- **Days**: Integer (1..365)
  - Number of days to retrieve bookings from.
- **DayOffset**: Integer (0..365)
  - Which day to start the search from (today: 0, tomorrow: 1...).
- **Limit**: Integer (1..65534)
  - Max number of bookings to list.
- **Offset**: Integer (0..65534)
  - Offset number of bookings for this search.

---

**Call commands**

**xCommand Call Accept**

Accept an incoming call. If no CallId is specified, all incoming calls are accepted.

Requires user role: ADMIN, USER

**USAGE:**

```
xCommand Call Accept [CallId: CallId]
```

where

- **CallId**: Integer (0..65534)
  - 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.

---

**xCommand Call Disconnect**

Disconnect a call.

Requires user role: ADMIN, USER

**USAGE:**

```
xCommand Call Disconnect [CallId: CallId]
```

where

- **CallId**: Integer (0..65534)
  - 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.
xCommand Call DTMFSend
Send DTMF tones to the far end.

Requires user role: ADMIN, USER

**USAGE:**
```
xCommand Call DTMFSend [CallId: CallId] DTMFString: "DTMFString"
```
where
- **CallId**: Integer (0..65534)
  - 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**: String (0, 32)
  - Enter the DTMF string.

xCommand Call 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.

Requires user role: ADMIN, USER

**USAGE:**
```
xCommand Call FarEndControl Camera Move [CallId: CallId] Value: Value
```
where
- **CallId**: Integer (0..65534)
  - 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**: Left/Right/Up/Down/ZoomIn/ZoomOut
  - Select the action for how to move the camera.

xCommand Call FarEndControl Camera Stop
Stop the far end camera after the xCommand FarEndControl Camera Move has been issued.

Requires user role: ADMIN, USER

**USAGE:**
```
xCommand Call FarEndControl Camera Stop [CallId: CallId]
```
where
- **CallId**: Integer (0..65534)
  - The CallId is returned when the xCommand Dial command is run. During a call you can run the xStatus Call command to see the CallId.

xCommand Call FarEndControl RoomPreset 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.

Requires user role: ADMIN, USER

**USAGE:**
```
xCommand Call FarEndControl RoomPreset Activate [CallId: CallId] PresetId: PresetId
```
where
- **CallId**: Integer (0..65534)
  - 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 a call you can run the xStatus Call command to see the CallId.
- **PresetId**: Integer (1..15)
  - The ID of the preset that is stored on the far end codec.
xCommand Call FarEndControl Source Select
Select which video input source to use as the main source on the far end system.
Requires user role: ADMIN, USER

USAGE:
xCommand Call FarEndControl Source Select [CallId: CallId] SourceId: SourceId
where
CallId: Integer (0..65534)
The CallId is returned when the xCommand Dial command is run. During a call you can run the xStatus Call command to see the CallId.
SourceId: Integer (0..15)
Select a video input source on the far end.

xCommand Call Forward
Specifies what number or URI you want to forward your incoming calls to. The display name is a local reference for the forwarded destination. A message, together with the local reference, is shown on screen when you have configured the system to forward all calls.
Requires user role: ADMIN, USER

USAGE:
xCommand Call Forward DisplayName: "DisplayName" Number: "Number"
where
DisplayName: String (0, 255)
The local reference for the forwarded destination.
Number: String (0, 255)
The directory number or URI which you want to forward the incoming calls to.

xCommand Call Hold
Put a call on hold.
Requires user role: ADMIN, USER

USAGE:
xCommand Call Hold [CallId: CallId] [Reason: Reason]
where
CallId: Integer (0..65534)
The CallId is returned when the xCommand Dial command is run. During a call you can run the xStatus Call command to see the CallId.
Reason: Conference/Transfer/Other
Internal usage only.

xCommand Call Ignore
Turns off the ringtone for the incoming call. The call can still be answered.
Requires user role: ADMIN, USER

USAGE:
xCommand Call Ignore CallId: CallId
where
CallId: Integer (0..65534)
The CallId is returned when the xCommand Dial command is run. During a call you can run the xStatus Call command to see the CallId.

xCommand Call Join
Internal usage only.
Requires user role: ADMIN, USER

USAGE:
xCommand Call Join CallId: CallId
where
CallId: Integer (0..65534)
You can have from 1 to 10 CallId parameters in the same command.
xCommand Call Reject
Reject incoming call. If no call id is specified, all incoming calls are rejected.

Requires user role: ADMIN, USER

USAGE:
xCommand Call Reject [CallId: CallId]

where
CallId: Integer (0..65534)
The CallID is returned when the xCommand Dial command is run. During a call you can run the xStatus Call command to see the CallId.

xCommand Call Resume
Resume a call that have been put on hold.

Requires user role: ADMIN, USER

USAGE:
xCommand Call Resume [CallId: CallId]

where
CallId: Integer (0..65534)
The CallID is returned when the xCommand Dial command is run. During a call you can run the xStatus Call command to see the CallId.

xCommand Call UnattendedTransfer
Transfers an ongoing call to another participant. Fully supported for SIP calls only.

Requires user role: ADMIN, USER

USAGE:
xCommand Call UnattendedTransfer CallId: CallId Number: "Number"

where
CallId: Integer (0..65534)
The CallID is returned when the xCommand Dial command is run. During a call you can run the xStatus Call command to see the CallId.

Number: String (0, 255)
The number the call is transfered to.

CallHistory commands

xCommand CallHistory AcknowledgeAllMissedCalls
Turns off the missed calls indicator on the touch controller for all missed calls.

Requires user role: ADMIN, USER

USAGE:
xCommand CallHistory AcknowledgeAllMissedCalls

xCommand CallHistory AcknowledgeMissedCall
Turns off the missed calls indicator on the touch controller for the specified call.

Requires user role: ADMIN, USER

USAGE:
xCommand CallHistory AcknowledgeMissedCall CallHistoryId: CallHistoryId [AcknowledgeConsecutiveDuplicates: AcknowledgeConsecutiveDuplicates]

where
CallHistoryId: Integer (1..2147483647)
CallHistoryId for the call in question. Run xCommand CallHistory Get to get the id number.

AcknowledgeConsecutiveDuplicates: False/True
You can include or exclude all surrounding calls with duplicate information.

xCommand CallHistory DeleteAll
Deletes all information on previous calls.

Requires user role: ADMIN, USER

USAGE:
xCommand CallHistory DeleteAll [Filter: Filter]

where
Filter: All/Missed/Placed/Received
You can filter which calls to delete.
xCommand CallHistory DeleteEntry

Deletes all information on the specified call.

Requires user role: ADMIN, USER

**USAGE:**

```plaintext
xCommand CallHistory DeleteEntry CallHistoryId: CallHistoryId
[AcknowledgeConsecutiveDuplicates: AcknowledgeConsecutiveDuplicates]
where
    CallHistoryId: Integer (1..2147483647)
        CallHistoryId for the call in question. Run xCommand CallHistory Get to get the id number.
    AcknowledgeConsecutiveDuplicates: False/True
        You can include or exclude all surrounding calls with duplicate information.
```

xCommand CallHistory Get

Retrieve all information on previous calls made on the video system.

Requires user role: ADMIN, USER

**USAGE:**

```plaintext
xCommand CallHistory Get [Filter: Filter] [Offset: Offset] [Limit: Limit]
[DetailLevel: DetailLevel] [SearchString: "SearchString"] [CallHistoryId: CallHistoryId]
where
    Filter: All/Missed/AnsweredElsewhere/Forwarded/Placed/NoAnswer/Received/Rejected/UnacknowledgedMissed
        You can filter which calls to retrieve.
    Offset: Integer (0..65534)
        Sets the call from which to start.
    Limit: Integer (0..65534)
        Defines the amount of calls in the output.
    DetailLevel: Basic/Full
        Sets the level of detail for the information on these calls.
    SearchString: String (0, 255)
        Allows you to set the command to apply to a specified display name or call back number.
    CallHistoryId: Integer (0..65534)
        CallHistoryId for the call in question.
```
xCommand CallHistory Recents
Retrieve aggregated information on previous calls made on the video system.

Requires user role: ADMIN, USER

**USAGE:**
```
xCommand CallHistory Recents [Filter: Filter] [Offset: Offset] [Limit: Limit] [DetailLevel: DetailLevel] [SearchString: "SearchString"] [CallHistoryId: CallHistoryId] [Order: Order]
```
where
- **Filter:** All/Missed/AnsweredElsewhere/Forwarded/Placed/NoAnswer/Received/Rejected/UnacknowledgedMissed
  - You can filter which calls to retrieve.
- **Offset:** Integer (0..65534)
  - Sets the call from which to start.
- **Limit:** Integer (0..65534)
  - Defines the amount of calls in the output.
- **DetailLevel:** Basic/Full
  - Sets the level of detail for the information on these calls.
- **SearchString:** String (0, 255)
  - Allows you to set the command to apply to a specified display name or call back number.
- **CallHistoryId:** Integer (0..65534)
  - CallHistoryId for the call in question.
- **Order:** OccurrenceTime/OccurrenceFrequency
  - Define the order in which the previous calls are presented.

Camera commands

xCommand Camera PositionReset
Reset the camera position to default position.

Requires user role: ADMIN, USER

**USAGE:**
```
xCommand Camera PositionReset [Axis: Axis] CameraId: CameraId
```
where
- **Axis:** All/Focus/PanTilt/Zoom
  - Select which function to reset. If not specified all are reset.
- **CameraId:** Integer (1..1)
  - The ID of the camera preset you want to reset.

xCommand Camera PositionSet
Set the camera position.

Requires user role: ADMIN, USER

**USAGE:**
```
xCommand Camera PositionSet CameraId: CameraId [Focus: Focus] [Pan: Pan] [Tilt: Tilt] [Zoom: Zoom]
```
where
- **CameraId:** Integer (1..1)
  - The ID of the camera preset you want to reset.
- **Focus:** Integer (0..65535)
  - Focus the camera near or far.
- **Pan:** Integer (-10000..10000)
  - Move the camera to the left or right.
- **Tilt:** Integer (-2500..2500)
  - Move the camera up or down.
- **Zoom:** Integer (0..8500)
  - Zoom in or out.
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.

Requires user role: ADMIN, USER

 USAGE:

 xCommand Camera Preset Activate PresetId: \texttt{PresetId} \\
 where \\
\hspace{1cm} \texttt{PresetId} \texttt{Integer (1..35)} \\
\hspace{1cm} The ID of the camera preset you want to activate.

xCommand Camera Preset ActivateDefaultPosition

Sets the cameras to their default position, if one is defined. The default position is defined by xCommand Camera Preset Store or by xCommand Camera Preset Edit. Only one default position can be defined per camera.

Requires user role: ADMIN, USER

 USAGE:

 xCommand Camera Preset ActivateDefaultPosition [CameraId: \texttt{CameraId}] \\
 where \\
\hspace{1cm} \texttt{CameraId} \texttt{Integer (1..1)} \\
\hspace{1cm} The ID of the camera preset you want to activate. If CameraId is not specified, all cameras will be set in their respective default position, if one is defined.

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. You can also change whether or not this preset is the default position for the associated camera.

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 and the Video Input switcher settings.

Requires user role: ADMIN, USER

 USAGE:

 xCommand Camera Preset Edit PresetId: \texttt{PresetId} [ListPosition: \texttt{ListPosition}] [Name: \texttt{Name}] [DefaultProsition: \texttt{DefaultProsition}] \\
 where \\
\hspace{1cm} \texttt{PresetId} \texttt{Integer (1..35)} \\
\hspace{1cm} The ID of the camera preset you want to edit. \\
\hspace{1cm} \texttt{ListPosition} \texttt{Integer (1..35)} \\
\hspace{1cm} The position in the list returned by the xCommand Camera Preset List command. \\
\hspace{1cm} \texttt{Name} \texttt{String (0, 255)} \\
\hspace{1cm} The name of the camera preset. It will be used in the list returned by the xCommand Camera Preset List command. \\
\hspace{1cm} \texttt{DefaultProsition} \texttt{False/True} \\
\hspace{1cm} Defines whether or not this preset is the default position for the associated camera. Note that each camera can only have one default position, so if set, the old default preset will automatically be marked as not default.
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.

Requires user role: ADMIN, USER

**USAGE:**
```
xCommand Camera Preset List CameraId: CameraId [DefaultPosition: DefaultPosition]
where
  CameraId: Integer (1..1)
  Only list presets for the specified camera.
  DefaultPosition: False/True
  List default positions only, or only those that are not default positions.
```

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.

Requires user role: ADMIN, USER

**USAGE:**
```
xCommand Camera Preset Remove PresetId: PresetId
where
  PresetId: Integer (1..35)
  The ID of the camera preset you want to remove.
```

xCommand Camera Preset Show

Shows the preset details for the requested PresetId.

Requires user role: ADMIN, USER

**USAGE:**
```
xCommand Camera Preset Show PresetId: PresetId
where
  PresetId: Integer (1..35)
  The ID of the camera preset you wish to see.
```
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.

Requires user role: ADMIN, USER

USAGE:

xCommand Camera Preset Store [PresetId: \text{PresetId}] CameraId: \text{CameraId} [ListPosition: \text{ListPosition}] [Name: "\text{Name}"] [TakeSnapshot: \text{TakeSnapshot}] [DefaultPosition: \text{DefaultPosition}]

where

\text{PresetId}: \text{Integer (1..35)}

The ID of this camera preset. If not set explicitly, the codec will assign a preset ID automatically.

\text{CameraId}: \text{Integer (1..1)}

Select the camera for which to store the preset position.

\text{ListPosition}: \text{Integer (1..35)}

The new camera preset’s position in the list returned by the xCommand Camera Preset List command.

\text{Name}: \text{String (0, 255)}

The name of the new camera preset. It will be used in the list returned by the xCommand Camera Preset List command.

\text{TakeSnapshot}: \text{False/True}

Allow or disallow snapshot of the preview.

\text{DefaultPosition}: \text{False/True}

Defines whether or not this preset shall be the default position of the associated camera. Note that each camera can hold only one default position, so if set, the old default preset will automatically be marked as not default.

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.

Requires user role: ADMIN, USER

USAGE:

xCommand Camera Ramp CameraId: \text{CameraId} [Pan: \text{Pan}] [PanSpeed: \text{PanSpeed}] [Tilt: \text{Tilt}] [TiltSpeed: \text{TiltSpeed}] [Zoom: \text{Zoom}] [ZoomSpeed: \text{ZoomSpeed}] [Focus: \text{Focus}]

where

\text{CameraId}: \text{Integer (1..1)}

Select the camera.

\text{Pan}: \text{Left/Right/Stop}

Move the camera to the Left or Right, followed by Stop.

\text{PanSpeed}: \text{Integer (1..15)}

Set the pan speed.

\text{Tilt}: \text{Down/Up/Stop}

Move the camera Up or Down, followed by Stop.

\text{TiltSpeed}: \text{Integer (1..15)}

Set the tilt speed.

\text{Zoom}: \text{In/Out/Stop}

Zoom the camera In or Out, followed by Stop.

\text{ZoomSpeed}: \text{Integer (1..15)}

Set the zoom speed.

\text{Focus}: \text{Far/Near/Stop}

Focus the camera Far or Near, followed by Stop.
xCommand Camera TriggerAutofocus

Trigger the auto-focus functionality. The camera must support auto-focus functionality. If the camera is daisy chained, the CameraId is given by its place in the chain.

Requires user role: ADMIN, USER

**USAGE:**

```
xCommand Camera TriggerAutofocus CameraId: CameraId
```

Where

- **CameraId**: Integer (1..1)
  - Select the camera to auto-focus.

Conference commands

**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. When Do Not Disturb is switched on, all incoming calls are rejected and registered as missed calls. The calling side receives a busy signal.

Requires user role: ADMIN, USER

**USAGE:**

```
xCommand Conference DoNotDisturb Activate [Timeout: Timeout]
```

Where

- **Timeout**: Integer (1..1440)
  - Set the number of minutes before Do Not Disturb is switched off. If not set, Do Not Disturb times out after 1440 minutes (24 hours).

**xCommand Conference DoNotDisturb Deactivate**

Switch off the Do Not Disturb mode. When Do Not Disturb is switched off incoming calls come through as normal.

Requires user role: ADMIN, USER

**USAGE:**

```
xCommand Conference DoNotDisturb Deactivate
```

**xCommand Conference SpeakerLock Release**

Releases locked speaker set by xCommand Conference SpeakerLock Set. Default voice switching is switched back on.

Requires user role: ADMIN, USER

**USAGE:**

```
xCommand Conference SpeakerLock Release
```
xCommand Conference SpeakerLock Set
For manually locking one of the speakers to the prominent speaker position. This overrides the default voice switching.

Requires user role: ADMIN, USER

**USAGE:**
```
xCommand Conference SpeakerLock Set Target: Target [CallId: CallId]
```

- **Target**: local/remote
  Identifies local or remote participant.
- **CallId**: Integer (0..65534)
  Identify CallID for the remote participant. Only relevant if Target is set to "remote".

**Diagnostics commands**

xCommand Diagnostics Run
This command runs self-diagnostics commands on the system.

Requires user role: ADMIN

**USAGE:**
```
xCommand Diagnostics Run [ResultSet: ResultSet]
```

- **ResultSet**: Alerts/All/None
  You can filter the diagnostics results to alerts, all or none. If not set, the result will show all results.
Dial commands

xCommand Dial

Dial out from the system. Returns information about the CallId and ConferenceId, which are required for some of the other commands.

Requires user role: ADMIN, USER

 USAGE:
   xCommand Dial Number: "Number" [Protocol: Protocol] [CallRate: CallRate] [CallType: CallType] [BookingId: "BookingId"] [Appearance: Appearance] [DisplayName: "DisplayName"]
   where
   Number: String (0, 255)
     Enter the number or address.
   Protocol: H320/H323/Sip/Spark
     Select the call protocol.
   CallRate: Integer (64..6000)
     Set the call rate.
   CallType: Audio/Video
     Select the call type.
   BookingId: String (0, 255)
     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.
   Appearance: Integer (1..999999999)
     Internal usage only.
   DisplayName: String (0, 255)
     The display name of the remote participant.

HttpFeedback commands

xCommand HttpFeedback Deregister

Deregister the HTTP feedback over HTTP(S).

Requires user role: ADMIN

 USAGE:
   xCommand HttpFeedback Deregister FeedbackSlot: FeedbackSlot
   where
   FeedbackSlot: Integer (1..4)
     Deregister the feedback slot that was registered using the xCommand HttpFeedback Register command.
xCommand HttpFeedback Register

Register the system to a HTTP(S) server to return XML feedback over HTTP(S) to specific URLs.

Requires user role: ADMIN

**USAGE:**

```plaintext
```

Where

- **FeedbackSlot**: Integer (1..4)
  - 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 feedbackslot to register its expressions.

- **Format**: XML/JSON
  - Set the format for the feedback from the HTTP server to XML or JSON.

- **ServerUrl**: String (1, 2048)
  - The URL to the HTTP server where you want the codec to post the HTTP feedback messages to.

- **Expression**: String (1, 255)
  - The XPath expression specifies which parts of the Status, Configuration or Event XML documents are monitored. You can have from 0 to 15 XPath expressions in the same command.

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.

Requires user role: ADMIN, INTEGRATOR, ROOMCONTROL, USER

**USAGE:**

```plaintext
xCommand Peripherals Connect [HardwareInfo: "HardwareInfo"] ID: "ID" [Name: "Name"] [NetworkAddress: "NetworkAddress"] [SerialNumber: "SerialNumber"] [SoftwareInfo: "SoftwareInfo"] Type: Type
```

Where

- **HardwareInfo**: String (0, 100)
  - The device’s hardware number.

- **ID**: String (1, 2048)
  - A unique ID for the device you are connecting to, typically a MAC address.

- **Name**: String (0, 100)
  - Define a name for the device.

- **NetworkAddress**: String (0, 100)
  - Network address for the device you are connecting to.

- **SerialNumber**: String (0, 100)
  - The device’s serial number.

- **SoftwareInfo**: String (0, 100)
  - Software version the device is running.

- **Type**: Byod/ControlSystem/Other/TouchPanel
  - Define the type of device you are connecting to.
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 to cameras.

Requires user role: ADMIN, INTEGRATOR, ROOMCONTROL, USER

USAGE:
```
xCommand Peripherals HeartBeat ID: "ID" [Timeout: Timeout]
```
where

- **ID**: String (1, 100)
  
  A unique ID for the device you are connecting to, typically a MAC address.

- **Timeout**: Integer (1..65535)
  
  Set how long the device will send heartbeat.

xCommand Peripherals List

Lists all currently and previously connected peripherals.

Requires user role: ADMIN, INTEGRATOR, ROOMCONTROL

USAGE:
```
xCommand Peripherals List [Connected: Connected] [Type: Type]
```
where

- **Connected**: False/True
  
  Limit the search to currently connected devices.

- **Type**: All/ControlSystem/ISDNLink/Other/TouchPanel
  
  Limit the search by device type.

xCommand Peripherals Pairing DeviceDiscovery Start

Start device discovery to detect ISDN Links in the same network.

Requires user role: ADMIN

USAGE:
```
xCommand Peripherals Pairing DeviceDiscovery Start [AutoPairing: AutoPairing] [DeviceType: DeviceType] [Timeout: Timeout]
```
where

- **AutoPairing**: On/Off
  
  You can select to automatically pair the detected device to the endpoint.

- **DeviceType**: ISDNLink
  
  Only look for ISDN Link.

- **Timeout**: Integer (3..60)
  
  Set a maximum time for the search from 3 to 60 seconds.

xCommand Peripherals Pairing Pair

Pair an ISDN Link to an endpoint.

Requires user role: ADMIN

USAGE:
```
xCommand Peripherals Pairing Pair MacAddress: "MacAddress"
```
where

- **MacAddress**: String (1, 1450)
  
  Enter the MAC address for the ISDN Link you wish to pair to the endpoint.
xCommand Peripherals Pairing Unpair
Unpair endpoint from an ISDN Link, when the two have contact.

Requires user role: ADMIN

USAGE:
xCommand Peripherals Pairing Unpair MacAddress: "MacAddress"
where
  MacAddress: String (1, 100)
    MacAddress: Enter the MAC address for the ISDN Link you wish to unpair from the endpoint.

xCommand Peripherals 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, USER

USAGE:
xCommand Peripherals Purge ID: "ID"
where
  ID: String (1, 100)
    ID: Mac address of the ISDN Link in the format "xx:xx:xx:xx:xx:xx".

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.

Requires user role: ADMIN, USER

USAGE:
xCommand Phonebook Contact Add Name: "Name" [FolderId: "FolderId"] [ImageURL: "ImageURL"] [Title: "Title"] [Number: "Number"] [Protocol: Protocol] [CallRate: CallRate] [CallType: CallType] [Device: Device] [Tag: Tag]
where
  Name: String (0, 255)
    The name of the contact.
  FolderId: String (0, 255)
    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: String (0, 255)
    Currently not in use.
  Title: String (0, 255)
    The title of the contact.
  Number: String (0, 255)
    The phone number or address of the contact.
  Protocol: Auto/H320/H323/SIP/Spark
    Select the Auto, Spark, SIP, H323 or H320 protocol.
  CallRate: Integer (0..6000)
    Set a call rate.
  CallType: Audio/Video
    Select a call type (audio or video).
Device: Mobile/Other/Telephone/Video
Select the device type.

Tag: Untagged/Favorite
Tag the contact as a Favorite, or untag an already tagged contact.

xCommand Phonebook Contact Delete
Delete an existing contact from the local phonebook.
Requires user role: ADMIN, USER

USAGE:
xCommand Phonebook Contact Delete ContactId: "ContactId"
where
ContactId: String (0, 255)
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.

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.
Requires user role: ADMIN, USER

USAGE:
xCommand Phonebook Contact Modify ContactId: "ContactId" [Name: "Name"] [FolderId: "FolderId"] [ImageURL: "ImageURL"] [Title: "Title"] [Tag: "Tag"]
where
ContactId: String (0, 255)
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: String (0, 255)
The name of the contact.
FolderId: String (0, 255)
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: String (0, 255)
Currently not in use.
Title: String (0, 255)
The title of the contact.
Tag: Untagged/Favorite
Tag the contact as a Favorite, or untag an already tagged contact.
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.

Requires user role: ADMIN, USER

USAGE:
xCommand Phonebook ContactMethod Add ContactId: "ContactId" [Device: Device] Number: "Number" [Protocol: Protocol] [CallRate: CallRate] [CallType: CallType]

where

ContactId: String (0, 255)
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: Mobile/Other/Telephone/Video
Set which type of device to call to.

Number: String (0, 255)
The phone number or address of the contact.

Protocol: Auto/H320/H323/SIP/Spark
Select protocol.

CallRate: Integer (0..6000)
Set a call rate.

CallType: Audio/Video
Select a call type (audio or video).

xCommand Phonebook ContactMethod Delete

Delete a contact method from an existing contact in the local phonebook.

Requires user role: ADMIN, USER

USAGE:
xCommand Phonebook ContactMethod Delete ContactId: "ContactId" ContactMethodId: "ContactMethodId"

where

ContactId: String (0, 255)
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: String (0, 255)
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 Contact Method Add command was issued to make the contact method.
xCommand Phonebook Contact Method Modify

Modify details about the contact method for an existing contact in the local phonebook.

Requires user role: ADMIN, USER

**USAGE:**

```command
xCommand Phonebook ContactMethod Modify ContactId: "ContactId" ContactMethodId: "ContactMethodId" [Device: Device] [Number: "Number"] [Protocol: Protocol] [CallRate: CallRate] [CallType: CallType]
```

where

- **ContactId**: String (0, 255)
  - 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**: String (0, 255)
  - 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**: Mobile/Other/Telephone/Video
  - Set which type of device to call to.

- **Number**: String (0, 255)
  - The phone number or address of the contact.

- **Protocol**: Auto/H320/H323/SIP/Spark
  - Select protocol.

- **CallRate**: Integer (0..6000)
  - Set a call rate.

- **CallType**: Audio/Video
  - Select a call type (audio or video).

xCommand Phonebook Contact Method Modify

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".

Requires user role: ADMIN, USER

**USAGE:**

```command
xCommand Phonebook ContactMethod Add Name: "Name" [ParentFolderId: "ParentFolderId"]
```

where

- **Name**: String (0, 255)
  - The name of the folder.

- **ParentFolderId**: String (0, 255)
  - 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.

xCommand Phonebook Folder Delete

Delete an existing folder from the local phonebook.

Requires user role: ADMIN, USER

**USAGE:**

```command
xCommand Phonebook Folder Delete FolderId: "FolderId"
```

where

- **FolderId**: String (0, 255)
  - 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.
xCommand Phonebook Folder Modify

Modify an existing phonebook folder.

Requires user role: ADMIN, USER

**USAGE:**

```
xCommand Phonebook Folder Modify FolderId: "FolderId" [Name: "Name"] [ParentFolderId: "ParentFolderId"]
```

where

- **FolderId**: String (0, 255)
  - 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**: String (0, 255)
  - The name of the contact.

- **ParentFolderId**: String (0, 255)
  - 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.

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.

Requires user role: ADMIN, USER

**USAGE:**

```
xCommand Phonebook Search [PhonebookId: "PhonebookId"] [PhonebookType: Corporate/Local] [SearchString: "SearchString"] [SearchField: Name/Number] [Offset: 0] [FolderId: "FolderId"] [Limit: 1000] [Recursive: Recursive] [ContactType: ContactType] [Tag: Tag]
```

where

- **PhonebookId**: String (0, 255)
  - The identifier of the phonebook server that will be searched. See the xConfiguration Phonebook Server ID setting.

- **PhonebookType**: Corporate/Local
  - Define whether to search the local phone book or the corporate phonebook.

- **SearchString**: String (0, 255)
  - 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**: Name/Number
  - Currently not in use.

- **Offset**: Integer (0..65534)
  - Get records starting with this offset in a search. The default value is 0. Offset is used together with Limit to support paging.

- **FolderId**: String (0, 255)
  - Search only in the specified folder. The FolderId (string) is listed in the ResultSet of a search result containing folders.

- **Limit**: Integer (0..65534)
  - 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: False/True

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.

ContactType: Any/Folder/Contact

Search all contact types, or limit the search to folders or individual contacts.

Tag: Untagged/Favorite

Limits the search to either contacts that have been tagged as favorite or the untagged contacts.

Presentation commands

xCommand Presentation Start

Open a media stream from the selected presentation source.

Requires user role: ADMIN, USER

USAGE:

xCommand Presentation Start [PresentationSource: PresentationSource] [SendingMode: SendingMode] [ConnectorId: ConnectorId] [Instance: Instance]

where

PresentationSource: Integer (1..2)

Select the video input source to be used for presentation, identified by source number.

SendingMode: LocalRemote/LocalOnly

Select whether the presentation is shown locally or locally and remotely.

ConnectorId: Integer (1..2)

Select the video input source to be used for presentation, identified by connectoid.

Instance: New/1/2/3/4/5/6

Select which local presentation instance you wish to start.

xCommand Presentation Stop

Stop the media stream from the presentation source.

Requires user role: ADMIN, USER

USAGE:

xCommand Presentation Stop [Instance: Instance] [PresentationSource: PresentationSource]

where

Instance: 1/2/3/4/5/6

Select which local presentation you wish to stop, identified by presentation instance.

PresentationSource: Integer (1..2)

Select which local presentation you wish to stop, identified by source number.
Provisioning commands

xCommand Provisioning CompleteUpgrade
Starts installing the software upgrade if you wish to install it before it is set to do so.
Requires user role: ADMIN, USER

USAGE:
   xCommand Provisioning CompleteUpgrade

xCommand Provisioning PostponeUpgrade
Postpones the installing of the software upgrade.
Requires user role: ADMIN, USER

USAGE:
   xCommand Provisioning PostponeUpgrade SecondsToPostpone: SecondsToPostpone
   where
       SecondsToPostpone: Integer (0..65534)
       Set how long to postpone the upgrade. The value is in seconds.

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, USER

USAGE:
   xCommand Provisioning StartUpgrade

xCommand Provisioning ExtensionMobility Login
Login command for the Extension Mobility service. You log in to the Extension Mobility service
with a user name (UserId) and pin code (Pin). The user name and pin code are set up in CUCM.
CUCM also supports multiple profiles for a user.
If you, for a user that has multiple profiles, submit a login command with only user name and
pin code, CUCM will send a list of available profiles back to the video system. Then the video
system will create corresponding ExtensionMobilityProfileSelection Profile events, so that a
new login command, which contains the Profile parameter in addition to the user name and pin
code, can be submitted.
Requires user role: ADMIN, USER

USAGE:
   xCommand Provisioning ExtensionMobility Login UserId: "UserId" Pin: "Pin"
   [Profile: "Profile"]
   where
       UserId: String (1, 255)
       A valid user name, as set up in CUCM.
       Pin: String (1, 255)
       A valid pin code for the user, as set up in CUCM.
       Profile: String (1, 255)
       A valid profile for the user, as set up in CUCM. This parameter applies only if the user
       has multiple profiles.

xCommand Provisioning ExtensionMobility Logout
This command will log you out of your Extension Mobility profile.
Requires user role: ADMIN, USER

USAGE:
   xCommand Provisioning ExtensionMobility Logout
Proximity commands

**xCommand Proximity Services Activate**
Reactivate the Proximity services that were deactivated with xCommand Proximity Services Deactivate.
Requires user role: ADMIN, USER

**USAGE:**

```plaintext
xCommand Proximity Services Activate
```

**xCommand Proximity Services Deactivate**
This command deactivates all proximity services on the endpoint. To reactivate proximity services use the command xCommand Proximity Services Activate.
Requires user role: ADMIN, USER

**USAGE:**

```plaintext
xCommand Proximity Services Deactivate
```

RoomPreset commands

**xCommand RoomPreset Activate**
Activate one of the locally stored 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.
Requires user role: ADMIN, USER

**USAGE:**

```plaintext
xCommand RoomPreset Activate PresetId: PresetId
```

where

- **PresetId**: Integer (1..15)
The ID of the preset you want to activate.

**xCommand RoomPreset 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.
Requires user role: ADMIN, USER

**USAGE:**

```plaintext
xCommand RoomPreset Clear PresetId: PresetId
```

where

- **PresetId**: Integer (1..15)
The ID of the preset you want to delete.
xCommand RoomPreset 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.

Requires user role: ADMIN, USER

USAGE:
```
xCommand RoomPreset Store [Description: "Description"] PresetId: PresetId Type: Type
where
  Description: String (0, 255)
    Enter a description of the camera preset.
  PresetId: Integer (1..15)
    The ID of this preset.
  Type: All/Camera
    Not applicable. If you want to ensure that a preset only affects camera positions we recommend that you select Camera.
```

Security commands

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.

Requires user role: ADMIN

USAGE:
```
xCommand Security Persistency Configurations: Configurations CallHistory: CallHistory InternalLogging: InternalLogging LocalPhonebook: LocalPhonebook DHCP: DHCP ConfirmAndReboot: ConfirmAndReboot
where
  Configurations: NonPersistent/Persistent
    In non-persistent mode, all configurations are set back to default when the system reboots.
  CallHistory: NonPersistent/Persistent
    In non-persistent mode call history is deleted when the system reboots.
  InternalLogging: NonPersistent/Persistent
    In non-persistent mode eventlog is deleted when the system reboots.
  LocalPhonebook: NonPersistent/Persistent
    In non-persistent mode local phone book is deleted when the system reboots.
  DHCP: NonPersistent/Persistent
    In non-persistent mode all IP related information is deleted when the system reboots.
  ConfirmAndReboot: Yes
    Reboots the system.
```

xCommand Security Session List

List active sessions.

Requires user role: ADMIN, USER

USAGE:
```
xCommand Security Session List
```

xCommand Security Session Terminate
Terminate a session.
Requires user role: ADMIN, USER

**USAGE:**
xCommand Security Session Terminate SessionId: "SessionId"
where

\[SessionId: \text{String (0, 32)}\]
The session ID number.

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: ADMIN, INTEGRATOR, USER

**USAGE:**
xCommand Standby Activate

xCommand Standby Deactivate
Bring the system out of standby mode.
Requires user role: ADMIN, INTEGRATOR, USER

**USAGE:**
xCommand Standby Deactivate

xCommand Standby ResetTimer
Set a temporary standby delay. 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: ADMIN, USER

**USAGE:**
xCommand Standby ResetTimer Delay: Delay
where

\[Delay: \text{Integer (1..480)}\]
Set the delay in minutes.
SystemUnit commands

xCommand SystemUnit Boot
Reboot the system.
Requires user role: INTEGRATOR, USER

USAGE:
```
xCommand SystemUnit Boot [Action: Action]
```
where
- **Action**: Restart/Shutdown
  - As a default the system restarts after a reboot. By selecting Shutdown, the system will not restart.

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 behaviour can be forced by selecting a different TrailingAction.

Requires user role: ADMIN, USER

USAGE:
```
xCommand SystemUnit FactoryReset Confirm: Confirm [Keep: Keep] [TrailingAction: TrailingAction]
```
where
- **Confirm**: Yes
  - Include to confirm your choice.
- **Keep**: LocalSetup/Network/Spark/Provisioning/SerialPort/Certificates
  - Select which configurations to keep when you factory reset the system.
    - **LocalSetup**:
      - xConfiguration Audio DefaultVolume
      - xConfiguration Audio SoundsAndAlerts RingVolume
      - xConfiguration Time Zone
      - xConfiguration UserInterface Language
      - xConfiguration Video Output Connector OverscanLevel
      - xCommand Camera Preset Store
    - **Network**:
      - xConfiguration Network 1
      - xConfiguration NetworkServices Wifi Allowed
      - xConfiguration NetworkServices Wifi Enabled
    - **Spark**:
      - xConfiguration Spark ServiceOverrides GdsBaseUrl
      - xConfiguration Spark ServiceOverrides U2CBaseUrl
      - xConfiguration Spark ServiceOverrides WdmBaseUrl
Provisioning:
- xConfiguration Provisioning Mode
- SerialPort:
  - xConfiguration SerialPort Mode
  - xConfiguration SerialPort BaudRate
  - xConfiguration SerialPort LoginRequired
Certificates:
Not supported in this software version.

**TrailingAction:** NoAction/Restart/Shutdown
Select Shutdown or NoAction to override the default behaviour (Restart).

### xCommand SystemUnit FirstTimeWizard Stop

Stops the wizard which appears the first time you start the system, so the system can be set up without it. The wizard only appears again if the system is reset to its factory default settings.

**Requires user role:** INTEGRATOR, USER

**USAGE:**
- xCommand SystemUnit FirstTimeWizard Stop

### xCommand SystemUnit Notifications RemoveAll

Clears the list of system notifications that are reported by xStatus SystemUnit Notifications Text/Type.

**Requires user role:** ADMIN

**USAGE:**
- xCommand SystemUnit Notifications RemoveAll

### xCommand SystemUnit OptionKey Add

Add an option key to support additional features.

**Requires user role:** ADMIN

**USAGE:**
- xCommand SystemUnit OptionKey Add: "Key"
  - **Key**: String (16, 24)
    - The key you have received for the option you wish to switch on.

### xCommand SystemUnit OptionKey List

List all option keys.

**Requires user role:** ADMIN

**USAGE:**
- xCommand SystemUnit OptionKey List

### xCommand SystemUnit OptionKey Remove

Remove a specified option key.

**Requires user role:** ADMIN

**USAGE:**
- xCommand SystemUnit OptionKey Remove Type: Type
  - **Type**: MultiSite/RemoteMonitoring

...
xCommand SystemUnit OptionKey RemoveAll
Remove all option keys.
Requires user role: ADMIN

**USAGE:**
```
xCommand SystemUnit OptionKey RemoveAll Confirm: Confirm
where
   Confirm: Yes
```

xCommand SystemUnit SignInBanner Clear
Clear the sign in banner set with xCommand SystemUnit SignInBanner Set.
Requires user role: ADMIN

**USAGE:**
```
xCommand SystemUnit SignInBanner Clear
```

xCommand SystemUnit SignInBanner Get
Get the custom message set with xCommand SystemUnit SignInBanner Set.
Requires user role: ADMIN

**USAGE:**
```
xCommand SystemUnit SignInBanner Get
```

xCommand SystemUnit SignInBanner Set
Set a sign in banner with a custom message on the system’s user interface.
Use:
xCommand SystemUnit SignInBanner Set <enter>
Banner text <enter>

xCommand SystemUnit OptionKey RemoveAll
Remove all option keys.
Requires user role: ADMIN

**USAGE:**
```
xCommand SystemUnit OptionKey RemoveAll Confirm: Confirm
where
   Confirm: Yes
```

xCommand SystemUnit SoftReset
Reset most parameters to their default values. This does not include parameters associated with room setup, such as camera position, language, and volume.
Requires user role: ADMIN, USER

**USAGE:**
```
xCommand SystemUnit SoftReset Confirm: Confirm
where
   Confirm: Yes
```

xCommand SystemUnit SoftwareUpgrade
Initiate a software upgrade by fetching the software from a given URL. If the server requires username and password these parameters must be included.
Requires user role: ADMIN

**USAGE:**
```
xCommand SystemUnit SoftwareUpgrade URL: "URL" [UserName: "UserName"] [Password: "Password"] [Forced: Forced]
where
   URL: String (0, 255)
       The software package location
   UserName: String (0, 255)
       User name to access the server location, if needed.
   Password: String (0, 255)
       Password to access the server location, if needed.
   Forced: False/True
       You can force a system to accept a software upgrade immediately, without giving users a chance to acknowledge or postpone the update.
```
**Time commands**

**xCommand Time DateTime Get**

Read the time and date from the system.

Requires user role: ADMIN, USER

**USAGE:**

`xCommand Time DateTime Get`

**xCommand Time DateTime Set**

Set the date and time for the system, if not available from NTP (Network Time Protocol).

Requires user role: ADMIN, USER

**USAGE:**

`xCommand Time DateTime Set [Year: Year] [Month: Month] [Day: Day] [Hour: Hour] [Minute: Minute] [Second: Second]`

where

- **Year**: Integer (2015..2037)
- **Month**: Integer (1..12)
- **Day**: Integer (1..31)
- **Hour**: Integer (0..23)
- **Minute**: Integer (0..59)
- **Second**: Integer (0..59)

**UserInterface commands**

**xCommand UserInterface Extensions Clear**

Delete all user interface extensions (widgets) from the video system.

Requires user role: ADMIN

**USAGE:**

`xCommand UserInterface Extensions Clear`

**xCommand UserInterface Extensions List**

List all user interface extensions (widgets) that exist on the video system.

Requires user role: INTEGRATOR, ROOMCONTROL, USER

**USAGE:**

`xCommand UserInterface Extensions List`

**xCommand UserInterface Extensions Set**

Set the configuration scheme you have chosen in the user interface extensions (widgets) for your room system. Updates the UserInterface Extensions status tree.

Requires user role: ADMIN, INTEGRATOR, ROOMCONTROL

**USAGE:**

`xCommand UserInterface Extensions Set ConfigId: "ConfigId"`

where

- **ConfigId**: String (0, 40)
  - The unique identifier for the configuration.
xCommand UserInterface Extensions Widget SetValue
Set the value of the given widget. Updates the UserInterface Extensions status tree. Returns an error if the value is out of range.

Requires user role: ADMIN, INTEGRATOR, ROOMCONTROL

**USAGE:**
```
xCommand UserInterface Extensions Widget SetValue Value: "Value" WidgetId: "WidgetId"
```
where
- **Value**: String (0, 255)
  - The value of the widget. The range of values depends on the widget type.
- **WidgetId**: String (0, 40)
  - The unique identifier for the widget.

xCommand UserInterface Extensions Widget UnsetValue
Empties the value of the given widget. Updates the UserInterface Extensions status tree and notifies the user interface that this widget is no longer selected.

Requires user role: ADMIN, INTEGRATOR, ROOMCONTROL

**USAGE:**
```
xCommand UserInterface Extensions Widget UnsetValue WidgetId: "WidgetId"
```
where
- **WidgetId**: String (0, 40)
  - The unique identifier for the widget.

xCommand UserInterface 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, INTEGRATOR, ROOMCONTROL, USER

**USAGE:**
```
xCommand UserInterface Message Alert Clear
```
xCommand UserInterface 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:

Text:

FeedbackId:

Option.1 to Option.5:

Requires user role: ADMIN, INTEGRATOR, ROOMCONTROL

USAGE:

xCommand UserInterface Message Prompt Display [Title: "Title"] Text: "Text" [FeedbackId: "FeedbackId"] [Option.1: "Option.1"] [Option.2: "Option.2"] [Option.3: "Option.3"] [Option.4: "Option.4"] [Option.5: "Option.5"]

where

Title: String (0, 255)
    Enter the message title.

Text: String (0, 255)
    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: String (0, 255)
    To identify the feedback enter a FeedbackId.

Option.1: String (0, 255)
    Enter the text to appear on the feedback options.

Option.2: String (0, 255)
    Enter the text to appear on the feedback options.

Option.3: String (0, 255)
    Enter the text to appear on the feedback options.

Option.4: String (0, 255)
    Enter the text to appear on the feedback options.

Option.5: String (0, 255)
    Enter the text to appear on the feedback options.

xCommand UserInterface 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.

Requires user role: ADMIN, INTEGRATOR, ROOMCONTROL, USER

USAGE:

xCommand UserInterface Message Prompt Response [FeedbackId: "FeedbackId"] OptionId: OptionId

where

FeedbackId: String (0, 255)
    The FeedbackId corresponds to the FeedbackId given by the xCommand Message Prompt Display command.

OptionId: Integer (1..5)
    The OptionId corresponds to the OptionIds given as possible responses in the xCommand Message Prompt Display command.

xCommand UserInterface Message TextLine Clear

Clears the text line which was defined by the xCommand Message TextLine Display command.

Requires user role: ADMIN, INTEGRATOR, ROOMCONTROL, USER

USAGE:

xCommand UserInterface Message TextLine Clear
xCommand UserInterface 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.

Requires user role: ADMIN, INTEGRATOR, ROOMCONTROL

USAGE:
```
xCommand UserInterface Message TextLine Display: "Text" [X: X] [Y: Y] [Duration: Duration] where
  Text: String (0, 140) 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: Integer (1..10000) Enter the X-coordinate (horizontal) on screen. X=0 is in the upper left corner.
  Y: Integer (1..10000) Enter the Y-coordinate (vertical) on screen. Y=0 is in the upper left corner.
  Duration: Integer (0..3600) 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.
```

xCommand UserInterface OSD Key Click

Emulates a remote control key press, followed by a key release.

Requires user role: ADMIN

USAGE:
```
xCommand UserInterface OSD Key Click Key: Key where
  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/+/- Define the remote key to press.
```

xCommand UserInterface OSD 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

USAGE:
```
xCommand UserInterface OSD Key Press Key: Key where
  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/+/- Define the remote key to press.
```

xCommand UserInterface OSD Key Release

Emulates a remote control key release. The Key Release command is issued after a Key Press command.

Requires user role: ADMIN

USAGE:
```
xCommand UserInterface OSD Key Release Key: Key where
  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/+/- Define the remote key to release.
```
xCommand UserInterface Presentation ExternalSource Add

Establish and set up an input source that is connected to the video system via an external switch.

Requires user role: ADMIN, INTEGRATOR, ROOMCONTROL

USAGE:
```
xCommand UserInterface Presentation ExternalSource Add ConnectorId: ConnectorId SourceIdentifier: "SourceIdentifier" Name: "Name" Type: Type
```

where

- **ConnectorId**: Integer (1..3)
  - The ID of the video system connector that the external switch is connected to.

- **SourceIdentifier**: String (0, 40)
  - A unique string that identifies the input source. The identifier is used by other commands and events when addressing this specific input source.

- **Name**: String (0, 40)
  - The name of the input source. This name will be displayed on the user interface.

- **Type**: camera/desktop/document_camera/mediaplayer/PC/whiteboard/other
  - The type of input source. The type determines which icon to display on the user interface.

xCommand UserInterface Presentation ExternalSource List

Returns the current list of external input sources.

Requires user role: ADMIN, INTEGRATOR, ROOMCONTROL

USAGE:
```
xCommand UserInterface Presentation ExternalSource List
```

xCommand UserInterface Presentation ExternalSource Remove

Remove the input source (specified by the SourceIdentifier) from the list of external input sources.

Requires user role: ADMIN, INTEGRATOR, ROOMCONTROL

USAGE:
```
xCommand UserInterface Presentation ExternalSource Remove SourceIdentifier: "SourceIdentifier"
```

where

- **SourceIdentifier**: String (0, 40)
  - The unique string that identifies this input source. It was defined when the source was created with the UserInterface Presentation ExternalSource Add command.

xCommand UserInterface Presentation ExternalSource RemoveAll

Remove all input sources from the list of external input sources.

Requires user role: ADMIN, INTEGRATOR, ROOMCONTROL

USAGE:
```
xCommand UserInterface Presentation ExternalSource RemoveAll
```

xCommand UserInterface Presentation ExternalSource Select

Starts to present the input source (specified by the SourceIdentifier) if it is in Ready state (see the UserInterface Presentation ExternalSource State Set command). The input source will be shown in the user interface sharetray as "Presenting".

Requires user role: ADMIN, INTEGRATOR, ROOMCONTROL, USER

USAGE:
```
xCommand UserInterface Presentation ExternalSource Select SourceIdentifier: "SourceIdentifier"
```

where

- **SourceIdentifier**: String (0, 40)
  - The unique string that identifies this input source. It was defined when the source was created with the UserInterface Presentation ExternalSource Add command.
xCommand UserInterface Presentation ExternalSource State Set
Set or change the state of the input source (specified by the SourceIdentifier).

Requires user role: ADMIN, INTEGRATOR, ROOMCONTROL

USAGE:
xCommand UserInterface Presentation ExternalSource State Set SourceIdentifier: "SourceIdentifier" State: State [ErrorReason: "ErrorReason"]

where
SourceIdentifier: String (0, 40)
The unique string that identifies this input source. It was defined when the source was created with the UserInterface Presentation ExternalSource Add command.

State: Hidden/Ready/NotReady/Error
- Ready: The input source will be presented when someone selects it (taps it on the user interface, or when the UserInterface Presentation ExternalSource Select command is issued).
- NotReady: The input source is not ready, and cannot be selected.
- Error: The input source is in an erroneous state. The ErrorReason parameter may be used to inform the user about the reason for failure.
- Hidden: The input source will not be displayed in the user interface sharetray.

ErrorReason: String (0, 80)
This string is displayed in the user interface sharetray, given that the State parameter is set to Error.

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.

Requires user role: ADMIN

USAGE:
where
ExpiryDays: Integer (1..31)
Define the duration for the passphrase validity. Default is 7 days.

xCommand UserManagement RemoteSupportUser Delete
Delete the remote support user created with the command xCommand UserManagement RemoteSupportUser Create.

Requires user role: ADMIN

USAGE:
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.

Requires user role: ADMIN

USAGE:
xCommand UserManagement RemoteSupportUser DisablePermanently Confirm: Confirm
where
Confirm: Yes
xCommand UserManagement RemoteSupportUser GetState
Retrieves the state of the generated remote support user, if one exists.
Requires user role: ADMIN

**USAGE:**
```
xCommand UserManagement RemoteSupportUser GetState
```

xCommand UserManagement User Passphrase Change
Change the passphrase for the user you logged in as. If you are logged in as the administrator, this will change the administrator passphrase.
Requires user role: ADMIN, AUDIT, INTEGRATOR, ROOMCONTROL, USER

**USAGE:**
```
xCommand UserManagement User Passphrase Change NewPassphrase: "NewPassphrase"
OldPassphrase: "OldPassphrase"
```
where
```
NewPassphrase: String (0, 255)
OldPassphrase: String (0, 255)
```

xCommand UserManagement User Passphrase Set
Set a user passphrase for the specified user. You must be logged in as an administrator to set a user passphrase.
Requires user role: ADMIN

**USAGE:**
```
xCommand UserManagement User Passphrase Set NewPassphrase: "NewPassphrase"
Username: "Username" YourPassphrase: "YourPassphrase"
```
where
```
NewPassphrase: String (0, 255)
Username: String (0, 127)
YourPassphrase: String (0, 255)
```
Video commands

**xCommand Video ActiveSpeakerPIP Set**
Sets position for the active speakers PiP (picture in picture).

Requires user role: ADMIN, USER

**USAGE:**
xCommand Video ActiveSpeakerPIP Set Position: **Position**
where
- **Position**: CenterLeft/CenterRight/LowerLeft/LowerRight/UpperCenter/UpperLeft/
  UpperRight
  Select one of the predefined positions.

**xCommand Video Input SetMainVideoSource**
Set which input source is the main video source. You can identify the source either by the
identifier of the connector that it is connected to; or by the identifier of the source itself.

This command requires the use of one, and only one, of these parameters: ConnectorId or
SourceId.

Requires user role: INTEGRATOR, USER

**USAGE:**
xCommand Video Input SetMainVideoSource [ConnectorId: **ConnectorId**] [SourceId:
**SourceId**]
where
- **ConnectorId**: Integer (1..3)
  The identifier (ID) of the connector. Connector [n] has ID n. Run the following API
  command to find the ID: xStatus Video Input Connector. The connector ID is also printed
  on the codec connector panel.
- **SourceId**: Integer (1..3)
  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.

**xCommand Video Layout LayoutFamily Set**
Select the screen layout mode.

Requires user role: ADMIN, USER

**USAGE:**
xCommand Video Layout LayoutFamily Set [Target: **Target**] [CallId: **CallId**]
LayoutFamily: **LayoutFamily** [CustomLayoutName: "**CustomLayoutName**"]
where
- **Target**: local/remote
  Select if the target is the local layout or the remote layout.
- **CallId**: Integer (0..65534)
  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**: auto/custom/equal/overlay/prominent/single
  Select a layout family.
- **CustomLayoutName**: String (1, 128)
  Enter a name for the layout.
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.

Requires user role: ADMIN, USER

USAGE:

xCommand Video Matrix Assign  [Mode: Mode] Output: Output SourceId: SourceId

where

Mode: Add/Replace
- 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: Integer (1..2)
- Choose the output you wish to use for this layout.

SourceId: Integer (1..3)
- 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.

xCommand Video Matrix Swap

Swap the content defined with xCommand Video Matrix Assign between two outputs.
xCommand Video Matrix commands are a smart overlay to the xCommand Video Layout commands to make it easy to do simple video compositions.

Requires user role: ADMIN, USER

USAGE:

xCommand Video Matrix Swap OutputA: OutputA OutputB: OutputB

where

OutputA: Integer (1..2)
- The output you are swapping from.

OutputB: Integer (1..2)
- The output you are swapping to.

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.

Requires user role: ADMIN, USER

USAGE:

xCommand Video Matrix Reset  [Output: Output]

where

Output: Integer (1..2)
- Choose the output you want to reset.

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.

Requires user role: ADMIN, USER

USAGE:

xCommand Video Matrix Unassign Output: Output SourceId: SourceId

where

Output: Integer (1..2)
- Choose the output you wish to remove the source from.

SourceId: Integer (1..3)
- 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.
xCommand Video PresentationPIP Set
Sets position for the presentation PiP (picture in picture).
Requires user role: ADMIN, USER

**USAGE:**
```
xCommand Video PresentationPIP Set Position: Position
```
where
```
Position: CenterLeft/CenterRight/LowerLeft/LowerRight/UpperCenter/UpperLeft/
UpperRight
```
Select one of the predefined positions.

xCommand Video PresentationView Set
Set the presentation view mode
Requires user role: ADMIN, USER

**USAGE:**
```
xCommand Video PresentationView Set View: View
```
where
```
View: Default/Maximized/Minimized
```
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.

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.
Requires user role: ADMIN, USER

**USAGE:**
```
xCommand Video Selfview Set [Mode: Mode] [FullscreenMode: FullscreenMode] [PIPPosition: PIPPosition] [OnMonitorRole: OnMonitorRole]
```
where
```
Mode: On/Off
```
Selfview is set to on or off.
```
FullscreenMode: On/Off
```
Choose between displaying the self-view in full screen or as picture-in-picture.
```
PIPPosition: CenterLeft/CenterRight/LowerLeft/LowerRight/UpperCenter/UpperLeft/
UpperRight
```
Select the position for the self-view image.
```
OnMonitorRole: First/Fourth/Second/Third
```
Displays self-view on monitors with this role.
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

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Audio status

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.

Requires user role: ADMIN, USER

Value space of the result returned:
Integer

Example:
xStatus Audio Input Connectors HDMI 1 EcReferenceDelay
's Audio Connectors HDMI 1 EcReferenceDelay: 0
** end

xStatus Audio Input Connectors Microphone [n] ConnectionStatus
Indicates whether a microphone is detected on the microphone input connector.

Requires user role: ADMIN, INTEGRATOR, USER

Value space of the result returned:
Connected/NotConnected/Unknown

Example:
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 RemoteInput [n] CallId
Showa the CallId for the remote audio input.
You can run the command xStatus Audio Input RemoteInput to find the identity [n] of the input.

Requires user role: ADMIN, USER

Value space of the result returned:
0..65534

Example:
xStatus Audio Input RemoteInput 8 CallId
's Audio Input RemoteInput 8 CallId: 28
** end

xStatus Audio Microphones Mute
Shows whether the microphones are muted.

Requires user role: ADMIN, INTEGRATOR, USER

Value space of the result returned:
On/Off

Example:
xStatus Audio Microphones Mute
's Audio Microphones Mute: Off
** end
xStatus Audio Output Connectors Line [n] DelayMs
Shows the delay in milliseconds.
Requires user role: ADMIN, INTEGRATOR, USER

Value space of the result returned:
Integer (0..290)

Example:
  xStatus Audio Output Connectors Line 1 DelayMs
  *s Audio Output Connectors Line 1 DelayMs: 60
  ** end

xStatus Audio Output Connectors Line [n] ConnectionStatus
Shows whether the audio output line is connected.
Requires user role: ADMIN, INTEGRATOR, USER

Value space of the result returned:
Connected / NotConnected / Unknown

Example:
  xStatus Audio Output Connectors Line 1 ConnectionStatus
  *s Audio Output Connectors Line 1 ConnectionStatus: Connected
  ** end

xStatus Audio Volume
Shows the volume level (dB) of the loudspeaker output.
Requires user role: ADMIN, INTEGRATOR, USER

Value space of the result returned:
0..100

Example:
  xStatus Audio Volume
  *s Audio Volume: 70
  ** end

xStatus Audio VolumeMute
Shows whether the endpoint volume is set to mute.
Requires user role: ADMIN, USER

Value space of the result returned:
Off/On

Example:
  xStatus Audio VolumeMute
  *s Audio VolumeMute: Off
  ** end
Bookings status

xStatus Bookings Current Id
The ID of the on going booking event, if any.
Requires user role: ADMIN, USER

Value space of the result returned: String

Example:
```
xStatus Bookings Current Id
's Bookings Current Id: "123"
** 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.
Requires user role: ADMIN, USER

**Value space of the result returned:**
Video/Audio/AudioCanEscalate/ForwardAllCall/Unknown

**Example:**
xStatus Call 27 CallType
's Call 27 CallType: Video
** end

xStatus Call \[n\] DeviceType
Indicates whether the remote system is a single endpoint or an MCU. Some Cisco endpoints (SX20, SX80, MX200 G2, MX300 G2) have built-in MCU capabilities.
Requires user role: ADMIN, USER

**Value space of the result returned:**
Endpoint/MCU

**Example:**
xStatus Call DeviceType
's Call 4 DeviceType: Endpoint
** end

xStatus Call \[n\] Direction
States the direction of the call initiation. You can run the command xStatus Call to find the call identity.
Requires user role: ADMIN, USER

**Value space of the result returned:**
Incoming/Outgoing

**Example:**
xStatus Call 27 Direction
's Call 27 Direction: Outgoing
** 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.
Requires user role: ADMIN, USER

**Value space of the result returned:**
String

**Example:**
xStatus Call 27 DisplayName
's Call 27 DisplayName: "firstname.lastname@company.com"
** 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.
Requires user role: ADMIN, USER

**Value space of the result returned:**
Integer

**Example:**
xStatus Call 27 Duration
's Call 27 Duration: 2354
** 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.
Requires user role: ADMIN, USER

**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] FacilityServiceId

When calling a facility service, the facility service id is shown. Otherwise the value 0 is returned.

Requires user role: ADMIN, INTEGRATOR, USER

Value space of the result returned:
0..5

Example:
xStatus Call FacilityServiceId
  *s Call 3 FacilityServiceId: 1
  ** end

xStatus Call [n] HoldReason

Shows the reason the current outgoing call was put on hold.
Conference: On hold while the call is being merged into a conference.
Transfer: On hold while the call is being transferred.
None: All other instances.

Requires user role: ADMIN, USER

Value space of the result returned:
Conference/Transfer/None

Example:
xStatus Call 2 HoldReason
  *s Call 2 HoldReason: 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.

Requires user role: ADMIN, USER

Value space of the result returned:
True/False

Example:
xStatus Call 27 PlacedOnHold
  *s Call 27 PlacedOnHold: False
  ** 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.

Requires user role: ADMIN, USER

Value space of the result returned:
H320/H323/SIP/Spark/Unknown

Example:
xStatus Call 27 Protocol
  *s Call 27 Protocol: "h323"
  ** 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.

Requires user role: ADMIN, INTEGRATOR, USER

Value space of the result returned:
Integer

Example:
xStatus Call 27 ReceiveCallRate
  *s Call 27 ReceiveCallRate: 4000
  ** 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.

Requires user role: ADMIN, USER

**Value space of the result returned:**

String

**Example:**

```
xStatus Call 27 RemoteNumber
*s Call 27 RemoteNumber: "5585232"
** end
```

**xStatus Call [n] Status**

Shows the status of a call. You can run the command xStatus Call to find the call identity.

Requires user role: ADMIN, USER

**Value space of the result returned:**

Idle/Dialling/Ringing/Connecting/Disconnecting/OnHold/EarlyMedia/Preserved/RemotePreserved

**Example:**

```
xStatus Call 27 Status
*s Call 27 Status: Connected
** 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.

Requires user role: ADMIN, INTEGRATOR, USER

**Value space of the result returned:**

Integer

**Example:**

```
xStatus Call 27 TransmitCallRate
*s Call 27 TransmitCallRate: 768
** end
```

**Cameras status**

**xStatus Cameras Camera [n] Capabilities Options**

Shows the camera capabilities (ptzf = pan, tilt, zoom, focus).

Requires user role: ADMIN, INTEGRATOR, USER, ROOMCONTROL

**Value space of the result returned:**

String

**Example:**

```
xStatus Cameras Camera 1 Capabilities Options
*s Camera 1 Capabilities Options: "ptzf"
** end
```

**xStatus Cameras Camera [n] Connected**

Shows if the camera is connected or not.

Requires user role: ADMIN, INTEGRATOR, USER, ROOMCONTROL

**Value space of the result returned:**

True/False

**Example:**

```
xStatus Cameras Camera 1 Connected
*s Camera 1 Connected: True
** end
```

**xStatus Cameras Camera [n] Flip**

In Flip mode (vertical flip) the image can be flipped upside down.

Requires user role: ADMIN, INTEGRATOR, USER, ROOMCONTROL

**Value space of the result returned:**

Auto/On/Off

**Example:**

```
xStatus Cameras Camera 1 Flip
*s Camera 1 Flip: "Off"
** end
```
xStatus Cameras Camera [n] HardwareID
Shows the hardware identity of the camera.
Requires user role: ADMIN, INTEGRATOR, USER, ROOMCONTROL
Value space of the result returned:
String
Example:
  xStatus Cameras Camera 1 HardwareID
  *s Camera 1 HardwareID: "50000000"
  ** end

xStatus Cameras Camera [n] MacAddress
Shows the MAC (Media Access Control) address for the camera.
Requires user role: ADMIN, INTEGRATOR, USER, ROOMCONTROL
Value space of the result returned:
String
Example:
  xStatus Cameras Camera 1 MacAddress
  *s Camera 1 MacAddress: ""
  ** end

xStatus Cameras Camera [n] Manufacturer
Shows the manufacturer of the camera.
Requires user role: ADMIN, INTEGRATOR, USER, ROOMCONTROL
Value space of the result returned:
String
Example:
  xStatus Cameras Camera 1 Manufacturer
  *s Camera 1 Manufacturer: "Cisco"
  ** end

xStatus Cameras Camera [n] Model
Shows the camera model.
Requires user role: ADMIN, INTEGRATOR, USER, ROOMCONTROL
Value space of the result returned:
String
Example:
  xStatus Cameras Camera 1 Model
  *s Camera 1 Model: "Precision 40"
  ** end

xStatus Cameras Camera [n] Position Focus
Shows the current focus position of the camera. The value range depends on camera type.
Requires user role: ADMIN, INTEGRATOR, USER, ROOMCONTROL
Value space of the result returned:
0..65535
Example:
  xStatus Cameras Camera 1 Position Focus
  *s Camera 1 Position Focus: 4597
  ** end

xStatus Cameras Camera [n] Position Pan
Shows the current pan (move left and right) position of the camera. The value range depends on camera type.
Requires user role: ADMIN, INTEGRATOR, USER, ROOMCONTROL
Value space of the result returned:
-65535..65535
Example:
  xStatus Cameras Camera 1 Position Pan
  *s Camera 1 Position Pan: 412
  ** end
xStatus Cameras Camera [n] Position Tilt
Shows the current tilt (move up and down) position of the camera. The value range depends on camera type.

Requires user role: ADMIN, INTEGRATOR, USER, ROOMCONTROL

Value space of the result returned:
-65535..65535

Example:
```
xStatus Cameras Camera 1 Position Tilt
*s Camera 1 Position Tilt: 106
** end
```

xStatus Cameras Camera [n] Position Zoom
Shows the current zoom (zoom in and out) position of the camera. The value range depends on camera type.

Requires user role: ADMIN, INTEGRATOR, USER

Value space of the result returned:
0..65535

Example:
```
xStatus Cameras Camera 1 Position Zoom
*s Camera 1 Position Zoom: 828
** end
```

xStatus Cameras Camera [n] SerialNumber
Shows the camera serial number.

Requires user role: ADMIN, INTEGRATOR, USER, ROOMCONTROL

Value space of the result returned:
String

Example:
```
xStatus Cameras Camera 1 SerialNumber
*s Camera 1 SerialNumber: "B1AB26B00010"
** end
```

xStatus Cameras Camera [n] SoftwareID
Shows the software identity of the camera.

Requires user role: ADMIN, INTEGRATOR, USER, ROOMCONTROL

Value space of the result returned:
String

Example:
```
xStatus Cameras Camera 1 SoftwareID
*s Camera 1 SoftwareID: "S01718-4.0FINAL [ID:40063] 2014-10-20"
** end
```
Capabilities status

**xStatus Capabilities Conference MaxActiveCalls**
Shows the maximum number of simultaneous active calls. Calls that are set on hold/transfer are not counted as active.
Requires user role: ADMIN, USER
**Value space of the result returned:**
0..5

**Example:**
```
xStatus Capabilities Conference MaxNumberOfActiveCalls
's Capabilities Conference MaxNumberOfActiveCalls: 3
** end
```

**xStatus Capabilities Conference MaxAudioCalls**
Shows the maximum number of simultaneous audio calls that is supported.
Requires user role: ADMIN, USER
**Value space of the result returned:**
Integer

**Example:**
```
xStatus Capabilities Conference MaxAudioCalls
's Capabilities Conference MaxAudioCalls: 3
** end
```

**xStatus Capabilities Conference MaxCalls**
Shows the maximum number of simultaneous calls.
Requires user role: ADMIN, USER
**Value space of the result returned:**
0..5

**Example:**
```
xStatus Capabilities Conference MaxCalls
's Capabilities Conference MaxCalls: 3
** end
```

**xStatus Capabilities Conference MaxVideoCalls**
Shows the maximum number of simultaneous video calls that is supported.
Requires user role: ADMIN, USER
**Value space of the result returned:**
Integer

**Example:**
```
xStatus Capabilities Conference MaxVideoCalls
's Capabilities Conference MaxVideoCalls: 3
** end
```
Conference status

**xStatus Conference ActiveSpeaker CallId**
Shows the CallId of the current active speaker.

Requires user role: ADMIN, USER

*Value space of the result returned:*
Integer

*Example:*
```plaintext
xStatus Conference ActiveSpeaker CallId
's Conference ActiveSpeaker CallId: 3
** end
```

**xStatus Conference Call [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.

Requires user role: ADMIN, USER

*Value space of the result returned:*
String

*Example:*
```plaintext
xStatus Conference Call 2 BookingId
's Conference Call 2 BookingId: "MyConference"
** end
```

**xStatus Conference Call [n] Capabilities FarendMessage Mode**
Not applicable in this release.

Requires user role: ADMIN, USER

*Value space of the result returned:*
On/Off

*Example:*
```plaintext
xStatus Conference Call Capabilities FarendMessage Mode
's Conference Call 4 Capabilities FarendMessage Mode: Off
** end
```

**xStatus Conference Call [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.

Requires user role: ADMIN, USER

*Value space of the result returned:*
On/Off

*Example:*
```plaintext
xStatus Conference Call 2 Capabilities FECC Mode
's Conference Call 2 Capabilities FECC Mode: On
** end
```

**xStatus Conference Call [n] Capabilities FECC NumberOfPresets**
Shows the number of presets available for the input sources at a far end site.

Requires user role: ADMIN, USER

*Value space of the result returned:*
1..15

*Example:*
```plaintext
xStatus Conference Call 2 Capabilities FECC NumberOfPresets
's Conference Call 2 Capabilities FECC NumberOfPresets: 15
** end
```

**xStatus Conference Call [n] Capabilities FECC NumberOfSources**
Shows the number of input sources that can be connected at a far end site.

Requires user role: ADMIN, USER

*Value space of the result returned:*
1..5

*Example:*
```plaintext
xStatus Conference Call 2 Capabilities FECC NumberOfSources
's Conference Call 2 Capabilities FECC NumberOfSources: 5
** end
```
xStatus Conference Call [n] Capabilities FECC Source [n] Name
Shows the name of an input source that can be connected at a far end site.

Requires user role: ADMIN, USER

Value space of the result returned:
String

Example:
xStatus Conference Call 2 Capabilities FECC Source 1 Name
  *s Conference Call 2 Capabilities FECC Source 1 Name: "Main camera"
  ** end

xStatus Conference Call [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).

Requires user role: ADMIN, USER

Value space of the result returned:
String

Example:
xStatus Conference Call 2 Capabilities FECC Source 1 Options
  *s Conference Call 2 Capabilities FECC Source 1 Options: "ptzf"
  ** end

xStatus Conference Call [n] Capabilities FECC Source [n] SourceId
Shows the ID of an input source that can be connected at a far end site.

Requires user role: ADMIN, USER

Value space of the result returned:
Integer

Example:
xStatus Conference Call 2 Capabilities FECC Source 1 SourceId
  *s Conference Call 2 Capabilities FECC Source 1 SourceId: 6
  ** end

xStatus Conference Call [n] Capabilities Hold
Indicates whether the far-end site can be placed on hold or not.

Requires user role: ADMIN, USER

Value space of the result returned:
True/False

Example:
xStatus Conference Call Capabilities Hold
  *s Conference Call 2 Capabilities Hold: True
  ** end

xStatus Conference Call [n] Capabilities IxChannel Status
Not applicable in this release.

Requires user role: ADMIN, USER

Value space of the result returned:
Active/Failed/Off

Example:
xStatus Conference Call 4 Capabilities IxChannel Status
  *s Conference Call 4 Capabilities IxChannel Status: Active
  ** end

xStatus Conference Call [n] Capabilities Presentation
Lists the presentation capabilities for other participants in the conference.

Requires user role: ADMIN, USER

Value space of the result returned:
True/False

Example:
xStatus Conference Call 2 Capabilities Presentation
  *s Conference Call 2 Capabilities Presentation: True
  ** end
xStatus Conference Call [n] Manufacturer
Shows the manufacturer of the video system at a far end site.
Requires user role: ADMIN, USER

Value space of the result returned:
String

Example:
```csharp
xStatus Conference Call 2 Manufacturer
's Conference Call 2 Manufacturer: "Cisco"
** end
```

xStatus Conference Call [n] MicrophonesMuted
Lists the audio mute status for other participants in the conference.
Requires user role: ADMIN, USER

Value space of the result returned:
True/False

Example:
```csharp
xStatus Conference Call 2 MicrophonesMuted
's Conference Call 2 MicrophonesMuted: True
** end
```

xStatus Conference Call [n] SoftwareID
Shows the ID of the software running on the video system at a far end site.
Requires user role: ADMIN, USER

Value space of the result returned:
String

Example:
```csharp
xStatus Conference Call 2 SoftwareID
's Conference Call 2 SoftwareID: "CE8"
** end
```

xStatus Conference DoNotDisturb
Shows whether DoNotDisturb mode is switched on or not.
Requires user role: ADMIN, INTEGRATOR, USER

Value space of the result returned:
Active/Inactive

Example:
```csharp
xStatus Conference DoNotDisturb
's Conference DoNotDisturb: Inactive
** end
```

xStatus Conference Line [n] Mode
Indicates whether the system is configured as private or shared line on CUCM.
Requires user role: ADMIN, USER

Value space of the result returned:
Shared/Private

Example:
```csharp
xStatus Conference Line Mode
's Conference Line 1 Mode: Private
** end
```
**xStatus Conference Multipoint Mode**

Shows how the Multipoint video conferences are handled.

- **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.
- **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.

Requires user role: ADMIN, USER

**Value space of the result returned:**

- Auto/CUCMMediaResourceGroupList/MultiSite/Off

**Example:**

```plaintext
*xStatus Conference Multipoint Mode
's Conference Multipoint Mode: "Auto"
** end
```

---

**xStatus Conference Presentation CallId**

Shows the identity of the system that sends the presentation.

Requires user role: ADMIN, INTEGRATOR, USER, ROOMCONTROL

**Value space of the result returned:**

- Integer

**Example:**

```plaintext
*xStatus Conference Presentation CallId
's Conference Presentation CallId: 0
** end
```

---

**xStatus Conference Presentation LocalInstance [n] SendingMode**

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.

Requires user role: ADMIN, INTEGRATOR, USER, ROOMCONTROL

**Value space of the result returned:**

- LocalOnly/LocalRemote/Off

**Example:**

```plaintext
*xStatus Conference Presentation LocalInstance 1 SendingMode
's Conference Presentation LocalInstance 1 SendingMode: LocalOnly
** end
```

---

**xStatus Conference Presentation LocalInstance [n] Source**

Shows the SourceId for a current presentation. There can be multiple local presentations which all have their own instance.

Requires user role: ADMIN, INTEGRATOR, USER, ROOMCONTROL

**Value space of the result returned:**

- Integer

**Example:**

```plaintext
*xStatus Conference Presentation LocalInstance 1 Source
's Conference Presentation LocalInstance 1 Source: 1
** end
```

---

**xStatus Conference Presentation Mode**

Shows the status of the secondary video stream.

Requires user role: ADMIN, INTEGRATOR, USER, ROOMCONTROL

**Value space of the result returned:**

- On/Off

**Example:**

```plaintext
*xStatus Conference Presentation Mode
's Conference Presentation Mode: Off
** end
```
xStatus Conference SpeakerLock CallId
Shows the CallId for the participant locked as the prominent speaker in the conference.
Requires user role: ADMIN, USER

Value space of the result returned:
Integer

Example:
  xStatus Conference SpeakerLock CallId
  *s Conference SpeakerLock CallId: 0
  ** end

xStatus Conference SpeakerLock Mode
Shows whether the speaker lock is enabled or not.
Requires user role: ADMIN, USER

Value space of the result returned:
On/Off

Example:
  xStatus Conference SpeakerLock Mode
  *s Conference SpeakerLock Mode: Off
  ** end

Diagnostics status

xStatus Diagnostics Message [n] Description
Shows a description of the current diagnostics alerts.
Requires user role: ADMIN, USER

Value space of the result returned:
String

Example:
  xStatus Diagnostics Message Description
  *s DiagnosticsResult Message 1 Description: "IP configuration incomplete"
  ** end

xStatus Diagnostics Message [n] Level
Shows the level of importance 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.
Requires user role: ADMIN, USER

Value space of the result returned:
Error/Warning/Critical

Example:
  xStatus Diagnostics Message 4 Level
  *s Diagnostics Message 4 Level: Warning
  ** end
xStatus Diagnostics Message \[n\] References

Additional information on the diagnostics alert, if available.

Requires user role: ADMIN, USER

Value space of the result returned:
String

Example:

xStatus Diagnostics Message 10 References
*s Diagnostics Message 10 References: "delay=190"
** end

xStatus Diagnostics Message \[n\] Type

Shows information on the results of the latest diagnostics on the system.

Requires user role: ADMIN, USER

Value space of the result returned:
CAPFOperationState/CTLinstallation/CUCMVendorConfigurationFile/
CallProtocolDualStackConfig/CallProtocolIPStackPlatformCompatibility/
CallProtocolVcsProvisioningCompatibility/CameraId/CameraPairing/CameraSerial/
CameraSoftwareVersion/CameraStatus/CamerasDetected/CamerasDetectedNoIR/
ConfigurationFile/DefaultCallProtocolRegistered/EthernetDuplexMatches/FanStatus/
PresenterTrack/H320GatewayStatus/H323GatekeeperStatus/HasValidReleaseKey/
IpCameraStatus/IPv4Assignment/IPv6Assignment/IPv6Mtu/ISDNLinkCompatibility/
ISDNLinkipStack/ITLinstallation/InvalidSIPTransportConfig/LockDown/RoomControl/
MediaBlockingDetected/NetLinkStatus/NetSpeedAutoNegotiated/NetworkQuality/
NTPStatus/OSDVideoOutput/OutputConnectorLocations/ProvisioningDeveloperOptions/
ProvisioningStatus/SIPEncryption/SIPListenPortAndOutboundMode/SIPProfileRegistration/
SIPProfileType/SelectedVideoInputSourceConnected/SipIceAndAnatConflict/
SIPListenPortAndRegistration/TCPMediaFallback/TemperatureCheck/
TLSVerifyRequiredCerts/TouchPanelConnection/ControlSystemConnection/
TurnBandwidth/UdpPortRangeViolation/UltrasoundSpeakerAvailability/ValidPasswords/
VideoFromInternalCamera/VideoInputStability/VideoInputSignalQuality/SparkConnectivity/
SpeakerTrackFrontPanelMountedCorrectly/SpeakerTrackMicrophoneConnection/
SpeakerTrackVideoInputs/SpeakerTrackEthernetConnection/ANATonVCS/
ECReferenceDelay/AudioECRefDelay/AudioPairingNoise/AudioPairingRate/AudioPairingSNR/
AudioPairingInterference/AudioPairingTokenDecode/AudioInternalSpeakerDisabled/
AbnormalCallTermination/HasActiveCallProtocol/SipOrH323ButNotBothEnabled/
PresentationSourceSelection/SoftwareUpgrade/PlatformSanity/ContactInfoMismatch/
MicrophoneReinforcement/FirstTimeWizardNotCompleted/CaptivePortalDetected/
MonitorDelay/WifiCARquired

Example:

xStatus Diagnostics Message Type
*s Diagnostics Message 1 Type: CamerasDetected
** end
H323 status

xStatus H323 Gatekeeper Address
Displays the IP address of the gatekeeper where the system is registered.
Requires user role: ADMIN, USER

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.
Requires user role: ADMIN, USER

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.
Requires user role: ADMIN, USER

Value space of the result returned:
String

Example:
xStatus H323 Gatekeeper Reason
*s H323 Gatekeeper Reason: ""
** end

xStatus H323 Gatekeeper Status
Shows the gatekeeper registration status.
Requires user role: ADMIN, USER

Value space of the result returned:
Required/Discovering/Discovered/Authenticating/Authenticated/Registering/Registered/
Inactive/Rejected

Example:
xStatus H323 Gatekeeper Status
*s H323 Gatekeeper Status: Registered
** end

xStatus H323 Mode Reason
Shows whether there is a conflict between H.323 settings and xStatus H323 Mode Status.

*: When H.323 is set to On and there is no conflict between H.323 Mode configuration and
the rest of the system settings.

"SIP is enabled": When H.323 Mode is set to On and SIP is enabled on a system that does not
support the two simultaneously.

"Not available": When a system does not support H.323.
Requires user role: ADMIN, USER

Value space of the result returned:
String

Example:
xStatus H323 Mode Reason
*s H323 Mode Reason: ""
** end
xStatus H323 Mode Status
Shows the status for H.323 registration.
Enabled: Registration is enabled.
Disabled: Registration is disable, because SIP is enabled.
Requires user role: ADMIN, USER
Value space of the result returned:
Enabled/Disabled
Example:
xStatus H323 Mode Status
  *s H323 Mode Status: "Disabled"
  ** end

HttpFeedback status

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.
Requires user role: ADMIN, USER
Value space of the result returned:
String
Example:
xStatus HttpFeedback 1 Format
  *s HttpFeedback 1 Format: XML
  ** end

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.
Requires user role: ADMIN, USER
Value space of the result returned:
String
Example:
xStatus HttpFeedback 1 URL
  ** end
MediaChannels status

xStatus MediaChannels Call [n] Channel [n] Audio Channels
Shows the number of incoming or outgoing audio channels.
Requires user role: ADMIN, USER

Value space of the result returned:
Integer

Example:
xStatus MediaChannels Call 27 Channel 327 Audio Channels
*s MediaChannels Call 27 Channel 327 Audio Channels: 1
** end

xStatus MediaChannels Call [n] Channel [n] Audio Mute
Audio mute status of the incoming audio.
Requires user role: ADMIN, USER

Value space of the result returned:
True/False

Example:
xStatus MediaChannels Call 27 Channel 327 Audio Mute
*s MediaChannels Call 27 Channel 327 Audio Mute: False
** end

xStatus MediaChannels Call [n] Channel [n] Audio Protocol
Shows the audio algorithm of the incoming or outgoing audio.
AACLD: The AAC-LD is an MPEG-4 Low Delay Audio Coder audio compression format.
G711A: The G.711 A-law algorithm is an ITU-T standard for audio compression.
G711Mu: The G.711 Mu-law algorithm is an ITU-T standard for audio compression.
G722: The G.722 algorithm is an ITU-T standard for audio compression.
G7221: The G.722.1 algorithm is an ITU-T standard for audio compression.
G7221C: The G.722.1 annex C algorithm is an ITU-T standard for audio compression.
G723_1: The G.723.1 algorithm is an ITU-T standard for audio compression.
G728: The G.728 algorithm is an ITU-T standard for audio compression.
G729: The G.729 algorithm is an ITU-T standard for audio compression.
G729AB: The G.729 annex A and B algorithm is an ITU-T standard for audio compression.
Off: No audio.
Opus: Opus is a royalty-free IETF standard for audio compression.
Requires user role: ADMIN, USER

Value space of the result returned:
AACLD/G711A/G711Mu/G722/G7221/G7221C/G723_1/G728/G729/G729A/G729AB/Off/Opus

Example:
xStatus MediaChannels Call 27 Channel 327 Audio Protocol
*s MediaChannels Call 27 Channel 327 Audio Protocol: AACLD
** end
xStatus MediaChannels Call [n] Channel [n] Direction
Shows the direction of the call.
Incoming: The call is an incoming call.
Outgoing: The call is an outgoing call.
Requires user role: ADMIN, USER
Value space of the result returned:
Incoming/Outgoing
Example:
xStatus MediaChannels Call 27 Channel 327 Direction
*s MediaChannels Call 27 Channel 327 Direction: Incoming
** end

xStatus MediaChannels Call [n] Channel [n] Encryption
Shows the encryption status for audio or video on the incoming or outgoing call.
Requires user role: ADMIN, USER
Value space of the result returned:
On/Off
Example:
xStatus MediaChannels Call 27 Channel 327 Encryption
*s MediaChannels Call 27 Channel 327 Encryption: On
** end

xStatus MediaChannels Call [n] Channel [n] NetStat Bytes
Shows the number of bytes for audio, video or data on the incoming or outgoing channel.
Requires user role: ADMIN, USER
Value space of the result returned:
Integer
Example:
xStatus MediaChannels Call 27 Channel 327 NetStat Bytes
*s MediaChannels Call 27 Channel 327 NetStat Bytes: 496640
** end

xStatus MediaChannels Call [n] Channel [n] NetStat ChannelRate
Shows the bandwidth for audio, video or data on the incoming or outgoing channel.
Requires user role: ADMIN, USER
Value space of the result returned:
Integer
Example:
xStatus MediaChannels Call 27 Channel 327 NetStat ChannelRate
*s MediaChannels Call 27 Channel 327 NetStat ChannelRate: 128000
** end

xStatus MediaChannels Call [n] Channel [n] NetStat Jitter
Shows the jitter for audio, video or data at the present moment on the incoming or outgoing channel, as specified by RFC 3550.
Requires user role: ADMIN, USER
Value space of the result returned:
Integer
Example:
xStatus MediaChannels Call 27 Channel 327 NetStat Jitter
*s MediaChannels Call 27 Channel 327 NetStat Jitter: 2
** end

xStatus MediaChannels Call [n] Channel [n] NetStat LastIntervalLost
Shows the number of packets lost for audio, video or data during the last interval on the incoming or outgoing channels.
Requires user role: ADMIN, USER
Value space of the result returned:
Integer
Example:
xStatus MediaChannels Call 27 Channel 327 NetStat LastIntervalLost
*s MediaChannels Call 27 Channel 327 NetStat LastIntervalLost: 0
** end
**xStatus MediaChannels Call [n] Channel [n] NetStat LastIntervalReceived**

Shows the number of packets received for audio, video or data during the last interval on the incoming or outgoing channels.

Requires user role: ADMIN, USER

**Value space of the result returned:**

Integer

**Example:**

```cisco
xStatus MediaChannels Call 27 Channel 327 NetStat LastIntervalReceived
```

```
*s MediaChannels Call 27 Channel 327 NetStat LastIntervalReceived: 289
** end
```

**xStatus MediaChannels Call [n] Channel [n] NetStat Loss**

Shows the number of packets lost for audio, video or data on the incoming or outgoing channels.

Requires user role: ADMIN, USER

**Value space of the result returned:**

Integer

**Example:**

```cisco
xStatus MediaChannels Call 27 Channel 327 NetStat Loss
```

```
*s MediaChannels Call 27 Channel 327 NetStat Loss: 0
** end
```

**xStatus MediaChannels Call [n] Channel [n] NetStat MaxJitter**

Shows the maximum jitter for audio, video or data that has been measured during last interval (about 5 seconds).

Requires user role: ADMIN, USER

**Value space of the result returned:**

Integer

**Example:**

```cisco
xStatus MediaChannels Call 27 Channel 327 NetStat MaxJitter
```

```
*s MediaChannels Call 27 Channel 327 NetStat MaxJitter: 2
** end
```

**xStatus MediaChannels Call [n] Channel [n] NetStat Packets**

Shows the number of packets that was received or sent for audio, video or data on the incoming or outgoing channels.

Requires user role: ADMIN, USER

**Value space of the result returned:**

Integer

**Example:**

```cisco
xStatus MediaChannels Call 27 Channel 327 NetStat Packets
```

```
*s MediaChannels Call 27 Channel 327 NetStat Packets: 1551
** end
```

**xStatus MediaChannels Call [n] Channel [n] ParticipantId**

Shows the ID of the Active Control participant on the incoming audio or video channel.

Requires user role: ADMIN, USER

**Value space of the result returned:**

String

**Example:**

```cisco
xStatus MediaChannels Call 27 Channel 327 ParticipantId
```

```
*s MediaChannels Call 27 Channel 327 ParticipantId: 
** end
```
xStatus MediaChannels Call [n] Channel [n] Type

Shows the media type on the incoming or outgoing channel.
Audio: The media type on the incoming or outgoing channel is audio.
Video: The media type on the incoming or outgoing channel is video.
Data: The media type on the incoming or outgoing channel is data.

Requires user role: ADMIN, USER

Value space of the result returned:
Audio/Video/Data

Example:
xStatus MediaChannels Call 27 Channel 327 Type
*s MediaChannels Call 27 Channel 327 Type: Audio
** end

xStatus MediaChannels Call [n] Channel [n] Video ChannelRole

Shows the role of the incoming or outgoing video channel.
Main: The main video is on the incoming or outgoing video channel.
Presentation: The presentation is on the incoming or outgoing video channel.

Requires user role: ADMIN, USER

Value space of the result returned:
Main/Presentation

Example:
xStatus MediaChannels Call 27 Channel 327 Video ChannelRole
*s MediaChannels Call 27 Channel 327 Video ChannelRole: Main
** end

xStatus MediaChannels Call [n] Channel [n] Video FrameRate

Shows the frame rate of the incoming or outgoing video channel.

Requires user role: ADMIN, USER

Value space of the result returned:
Integer

Example:
*xStatus MediaChannels Call 27 Channel 327 Video FrameRate
*s MediaChannels Call 27 Channel 327 Video FrameRate: 30
** end

xStatus MediaChannels Call [n] Channel [n] Video Protocol

Shows the video algorithm of the incoming or outgoing video channel.

H261: The H.261 algorithm is an ITU-T standard for video compression.
H263: The H.263 algorithm is an ITU-T standard for video compression.
H263p: The H.263p (H.263+) algorithm is an ITU-T standard for video compression.
H264: The H.264 algorithm (MPEG-4 AVC) is an ITU-T and ISE/IEC standard for video compression.
HEVC: The HEVC (H.265) algorithm (MPEG-H part 2) is an ITU-T and ISE/IEC standard for video compression.
JPEG: The JPEG algorithm is an ISO/IEC standard for video compression.
MP4V: The MP4V format is an ISO/IEC file format for video compression.
Off: No video.

Requires user role: ADMIN, USER

Value space of the result returned:
H261/H263/H263p/H263pp/H264/HEVC/JPEG/MP4V/Off

Example:
xStatus MediaChannels Call 27 Channel 327 Video Protocol
*s MediaChannels Call 27 Channel 327 Video Protocol: H264
** end
**xStatus MediaChannels Call [n] Channel [n] Video ResolutionX**
Shows the width (resolution in direction X) of the incoming or outgoing video.

Requires user role: ADMIN, USER

**Value space of the result returned:**
Integer

**Example:**
```
xStatus MediaChannels Call 27 Channel 327 Video ResolutionX
*s MediaChannels Call 27 Channel 327 Video ResolutionX: 1920
** end
```

**xStatus MediaChannels Call [n] Channel [n] Video ResolutionY**
Shows the width (resolution in direction Y) of the incoming or outgoing video.

Requires user role: ADMIN, USER

**Value space of the result returned:**
Integer

**Example:**
```
xStatus MediaChannels Call 27 Channel 327 Video ResolutionY
*s MediaChannels Call 27 Channel 327 Video ResolutionY: 1080
** end
```

**Network status**

**xStatus Network 1 CDP Address**
Returns the first network address of both receiving and sending devices.

Requires user role: ADMIN, USER

**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 Capabilities**
Describes the functional capability for the switch in form of a device type. See documentation for CDP protocol for more information.

Requires user role: ADMIN, USER

**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.

Requires user role: ADMIN, USER

**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 Duplex
Indicates the status (duplex configuration) of the CDP broadcast interface. Used by network operators to diagnose connectivity problems between adjacent network elements.
Requires user role: ADMIN, USER
Value space of the result returned:
String
Example:
xStatus Network CDP Duplex
*s Network 1 CDP Duplex: "Full"
** end

xStatus Network 1 CDP Platform
Returns the hardware platform name of the switch connected to the endpoint.
Requires user role: ADMIN, USER
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 PortID
Returns the identification the switch uses of the port the endpoint is connected to.
Requires user role: ADMIN, USER
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 PrimaryMgmtAddress
Returns the management address used to configure and monitor the switch the endpoint is connected to.
Requires user role: ADMIN, USER
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.
Requires user role: ADMIN, USER
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.
Requires user role: ADMIN, USER
Value space of the result returned:
String
Example:
xStatus Network CDP SysObjectID
*s Network 1 CDP SysObjectID: ""
** end
xStatus Network 1 CDP Version

Returns information about the software release version the switch is running.

Requires user role: ADMIN, USER

**Value space of the result returned:**
String

**Example:**
```
xStatus Network 1 CDP Version
*s Network 1 CDP Version: "Cisco IOS Software, C3560CX Software (C3560CX-UNIVERSALK9-M), Version 15.2(3)E, RELEASE SOFTWARE (fc4)"*Technical Support:
http://www.cisco.com/techsupport*Copyright (c) 1986-2014 by Cisco Systems, Inc."Compiled Sun 07-Dec-14 13:15 by prod_rel_team"
** 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.

Requires user role: ADMIN, USER

**Value space of the result returned:**
String

**Example:**
```
xStatus Network CDP VoIPApplianceVlanID
*s Network 1 CDP VoIPApplianceVlanID: "300"
** end
```

xStatus Network 1 CDP VTPMgmtDomain

Returns the switch's configured VTP management domain name-string.

Requires user role: ADMIN, USER

**Value space of the result returned:**
String

**Example:**
```
xStatus Network 1 CDP VTPMgmtDomain
*s Network 1 CDP VTPMgmtDomain: "anyplace"
** end
```

xStatus Network 1 DNS Domain Name

Shows the domain name.

Requires user role: ADMIN, USER

**Value space of the result returned:**
String

**Example:**
```
xStatus Network 1 DNS Domain Name
*s Network 1 DNS Domain Name: "www.example.com www.example.int"
** end
```

xStatus Network 1 DNS Server [1..5] Address

Shows the IP address of the DNS server.

Requires user role: ADMIN, USER

**Value space of the result returned:**
String

**Example:**
```
xStatus Network 1 DNS Server 1 Address
*s Network 1 DNS Server 1 Address: "192.0.2.60"
** end
```

xStatus Network 1 Ethernet MacAddress

Shows the MAC (Media Access Control) address for the Ethernet interface.

Requires user role: ADMIN, USER

**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.
Requires user role: ADMIN, USER
Value space of the result returned:
10half/10full/100half/100full/1000full
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.
Requires user role: ADMIN, USER
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 Gateway
Shows the address of the IPv4 gateway.
Requires user role: ADMIN, USER
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 SubnetMask
Shows the subnet mask which determines which subnet an IPv4 address belongs to.
Requires user role: ADMIN, USER
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 IPv6 Address
Shows the IPv6 address that uniquely identifies this system.
Requires user role: ADMIN, USER
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.
Requires user role: ADMIN, USER
Value space of the result returned:
String
Example:
  xStatus Network 1 IPv6 Gateway
  "s Network 1 IPv6 Gateway: "
  ** end
xStatus Network 1 VLAN Voice VlanId

The feedback shows the VLAN Voice ID; or Off if the VLAN Voice Mode is not enabled.

Requires user role: ADMIN, USER

Value space of the result returned:
Off/1..4094

Example:
xStatus Network 1 VLAN Voice VlanId
*s Network 1 VLAN Voice VlanId: "Off"
** end

NetworkServices status

xStatus NetworkServices NTP CurrentAddress

Returns the address of the NTP server that is currently in use.

Requires user role: ADMIN, USER

Value space of the result returned:
String

Example:
xStatus NetworkServices NTP CurrentAddress
*s NetworkServices NTP CurrentAddress: "123.254.15.121"
** end

xStatus NetworkServices NTP Server [n] Address

Returns the address of the NTP server(s) the codec is using.

Requires user role: ADMIN, USER

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 Status

Returns the status of the endpoints synchronizing with the NTP server.

- Discarded: The NTP result has been discarded.
- Synced: The system is in sync with the NTP server.
- NotSynced: The system is not in sync with the NTP server.
- Unknown: The state of the synchronization is unknown.
- Off: No synchronization with the NTP server.

Requires user role: ADMIN, USER

Value space of the result returned:
Discarded/Synced/NotSynced/Unknown/Off

Example:
```
xStatus NetworkServices NTP Status
*s NetworkServices NTP Status: Synced
** end
```
xStatus Peripherals ConnectedDevice[n] SoftwareInfo
Shows information of the software version running on the connected device.
Requires user role: ADMIN, INTEGRATOR, USER, ROOMCONTROL
Value space of the result returned:
String
Example:
xStatus Peripherals ConnectedDevice 1007 SoftwareInfo
  *s Peripherals ConnectedDevice 1007 SoftwareInfo: "TI7.2.0"
  ** end

xStatus Peripherals ConnectedDevice[n] Status
Shows peripheral devices that are currently connected to the endpoint.
Requires user role: ADMIN, INTEGRATOR, USER, ROOMCONTROL
Value space of the result returned:
Connected/ResponseTimedOut
Example:
xStatus Peripherals ConnectedDevice 1001 Status
  *s 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.
Requires user role: ADMIN, INTEGRATOR, USER, ROOMCONTROL
Value space of the result returned:
Byod/Camera/ControlSystem/ISDNLink/Other/SpeakerTrack/TouchPanel
Example:
xStatus Peripherals ConnectedDevice 1001 Type
  *s Peripherals ConnectedDevice 1001 Type: TouchPanel
  ** end

xStatus Peripherals ConnectedDevice[n] UpgradeStatus
Shows the status of the previous software upgrade on the currently connected peripherals.
Requires user role: ADMIN, INTEGRATOR, USER, ROOMCONTROL
Value space of the result returned:
Downloading/Failed/Installing/InstallationReady/None/Succeeded/Reboots/Retrying/Aborted/Paused
Example:
xStatus Peripherals ConnectedDevice 1001 UpgradeStatus
  *s Peripherals ConnectedDevice 1001 UpgradeStatus: None
  ** end
Provisioning status

**xStatus Provisioning CUCM ExtensionMobility Enabled**
Shows if Extension Mobility is enabled for a CUCM registered device.
Requires user role: ADMIN, USER

*Value space of the result returned:*
True/False

*Example:*
`xStatus Provisioning CUCM ExtensionMobility Enabled
  *s Provisioning CUCM ExtensionMobility Enabled: False
  ** end`

**xStatus Provisioning CUCM ExtensionMobility LastLoggedInUserId**
Returns the user id that was last logged in to the system. Only in use if CUCM Extension Mobility is enabled, and CUCM is configured to remember the last logged in user on an endpoint.
Requires user role: ADMIN, USER

*Value space of the result returned:*
String

*Example:*
`xStatus Provisioning CUCM ExtensionMobility LastLoggedInUserId
  *s Provisioning CUCM ExtensionMobility LastLoggedInUserId: "User 1"
  ** end`

**xStatus Provisioning CUCM ExtensionMobility LoggedIn**
Shows if someone is logged in to Extension Mobility or not.
Requires user role: ADMIN, USER

*Value space of the result returned:*
True/False

*Example:*
`xStatus Provisioning CUCM ExtensionMobility LoggedIn
  *s Provisioning CUCM ExtensionMobility LoggedIn: False
  ** end`

**xStatus Provisioning Software Current CompletedAt**
Shows date and time for when the current software upgrade was completed.
Requires user role: ADMIN, USER

*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 Software Current URL**
Shows the URL that the current software was uploaded from.
Requires user role: ADMIN, USER

*Value space of the result returned:*
String

*Example:*
`xStatus Provisioning Software Current URL
  *s Provisioning Software Current URL: "http://.../s52020ce8_0_0.pkg"
  ** end`
xStatus Provisioning Software Current VersionId
Shows the version ID of the current software.
Requires user role: ADMIN, USER
Value space of the result returned:
String
Example:
*xStatus Provisioning Software Current VersionId
  **s Provisioning Software Current VersionId: "s52020ce8_0_0.pkg"
  ** end

xStatus Provisioning Software UpgradeStatus LastChange
Shows the date and time for the latest software upgrade.
Requires user role: ADMIN, USER
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 Message
Shows the system message for the software upgrade.
Requires user role: ADMIN, USER
Value space of the result returned:
String
Example:
*xStatus Provisioning Software UpgradeStatus Message
  **s Provisioning Software UpgradeStatus Message: 
  ** end

xStatus Provisioning Software UpgradeStatus Phase
Shows the phase of the software upgrade.
Requires user role: ADMIN, USER
Value space of the result returned:
None/DownloadPending/FormingHierarchy/Downloading/DownloadPaused/DownloadDone/
  Seeding/AboutToInstallUpgrade/Postponed/PeripheralsReady/UpgradingPeripherals/Installing/
  InstallingPeripherals
Example:
*xStatus Provisioning Software UpgradeStatus Phase
  **s Provisioning Software UpgradeStatus Phase: None
  ** end

xStatus Provisioning Software UpgradeStatus SessionId
Shows the ID of the session for the software upgrade.
Requires user role: ADMIN, USER
Value space of the result returned:
String
Example:
*xStatus Provisioning Software UpgradeStatus SessionId
  **s Provisioning Software UpgradeStatus SessionId: 
  ** end

xStatus Provisioning Software UpgradeStatus Status
Shows the status of the software upgrade.
Requires user role: ADMIN, USER
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 URL
Shows the URL that the new software currently is being uploaded and installed from.
Requires user role: ADMIN, USER

Value space of the result returned:
String

Example:
```
xStatus Provisioning Software UpgradeStatus URL
*s Provisioning Software UpgradeStatus URL: "http://.../s52020ce8_0_0.pkg"
** end
```

xStatus Provisioning Software UpgradeStatus VersionId
Shows the version ID of the software currently being uploaded and installed.
Requires user role: ADMIN, USER

Value space of the result returned:
String

Example:
```
xStatus Provisioning Software UpgradeStatus VersionId
*s Provisioning Software UpgradeStatus VersionId: "s52010ce8_0_0.pkg"
** end
```

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.
Requires user role: ADMIN, USER

Value space of the result returned:
Failed/AuthenticationFailed/Provisioned/Idle/NeedConfig/ConfigError

Example:
```
xStatus Provisioning Status
*s Provisioning Status: Provisioned
** end
```
Proximity status

xStatus Proximity Services Availability

Shows whether proximity services are available on the endpoint.
Available: Proximity mode has been enabled with the command xConfiguration Proximity Mode and one or more of the proximity services have been enabled with xConfiguration Proximity Services commands.
Disabled: Proximity mode has been disabled with xConfiguration Proximity Mode, or none of the services have been enabled with the xConfiguration Proximity Services commands.
Deactivated: Proximity services have been deactivated with the command xCommand Proximity Services Deactivate.

Requires user role: ADMIN, USER

Example:

```
xStatus Proximity Services Availability
*s Proximity Services Availability: Disabled
** end
```

RoomAnalytics status

xStatus RoomAnalytics PeoplePresence

Shows if there are people present in the room or not. It takes a minimum of two minutes to detect whether people are present or not in the room. After the room gets vacant, it may take up to two minutes for the status to change. This feature is based on ultrasound. The video system will not keep record of who was in the room, only whether or not there are people present in the room.

Requires user role: ADMIN, USER

Value space of the result returned:
Yes/No/Unknown

Example:

```
xStatus RoomAnalytics PeoplePresence
*s RoomAnalytics PeoplePresence: No
** end
```
Security status

xStatus Security FIPS Mode
Shows the FIPS mode status.
Requires user role: ADMIN, USER
Value space of the result returned: On/Off
Example:
```plaintext
xStatus Security FIPS Mode
*s Security FIPS Mode: Off
** end
```

xStatus Security Persistency CallHistory
Shows whether call history logging is set to persistent or non-persistent mode. Persistent is the default mode.
Requires user role: ADMIN, USER
Value space of the result returned: NonPersistent/Persistent
Example:
```plaintext
xStatus Security Persistency CallHistory
*s Security Persistency CallHistory: Persistent
** end
```

xStatus Security Persistency Configurations
Shows whether the systems all configurations are set to persistent or non-persistent mode. Persistent is the default mode.
Requires user role: ADMIN, USER
Value space of the result returned: NonPersistent/Persistent
Example:
```plaintext
xStatus Security Persistency Configurations
*s Security Persistency Configurations: Persistent
** end
```

xStatus Security Persistency DHCP
Shows whether DHCP logging is set to persistent or non-persistent mode. Persistent is the default mode.
Requires user role: ADMIN, USER
Value space of the result returned: NonPersistent/Persistent
Example:
```plaintext
xStatus Security Persistency DHCP
*s Security Persistency DHCP: Persistent
** end
```

xStatus Security Persistency InternalLogging
Shows whether internal logging is set to persistent or non-persistent mode. Persistent is the default mode.
Requires user role: ADMIN, USER
Value space of the result returned: NonPersistent/Persistent
Example:
```plaintext
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.

Requires user role: ADMIN, USER

Value space of the result returned:
NonPersistent/Persistent

Example:
xStatus Security Persistency LocalPhonebook
*s Security Persistency LocalPhonebook: Persistent
** end

SIP status

xStatus SIP AlternateURI Alias [n] URI

Requires user role: ADMIN, USER

Value space of the result returned:
String

Example:
xStatus SIP AlternateURI Alias
*s SIP AlternateURI Alias URI: ""
** end

xStatus SIP AlternateURI Primary [n] URI

Requires user role: ADMIN, USER

Value space of the result returned:
String

Example:
xStatus SIP AlternateURI Primary
*s SIP AlternateURI Primary URI: ""
** end

xStatus SIP 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.

Requires user role: ADMIN, USER

Value space of the result returned:
Digest/Off

Example:
xStatus SIP Authentication
*s SIP Authentication: Off
** end
**xStatus SIP CallForward DisplayName**
Returns the URI that is displayed on the user interface for the forwarded call.

Requires user role: ADMIN, USER

*Value space of the result returned:* String

*Example:*
```plaintext```
xStatus SIP CallForward DisplayName
's SIP CallForward DisplayName: ""
** end
```

**xStatus SIP CallForward Mode**
Indicates whether the call forward mode for SIP is set to on or off.

Requires user role: ADMIN, USER

*Value space of the result returned:* On/Off

*Example:*
```plaintext```
xStatus SIP CallForward Mode
's SIP CallForward Mode: Off
** end
```

**xStatus SIP CallForward URI**
Indicates the address the incoming calls are directed to when call forward mode is set on.

Requires user role: ADMIN, USER

*Value space of the result returned:* String

*Example:*
```plaintext```
xStatus SIP CallForward URI
's SIP CallForward URI: ""
** end
```

**xStatus SIP Mailbox MessagesWaiting**
Indicates how many new messages are in the mailbox.

Requires user role: ADMIN, USER

*Value space of the result returned:* Integer

*Example:*
```plaintext```
xStatus SIP Mailbox MessagesWaiting
's SIP Mailbox MessagesWaiting: 0
** end
```

**xStatus SIP Mailbox URI**
Returns the URI for your SIP mailbox.

Requires user role: ADMIN, USER

*Value space of the result returned:* String

*Example:*
```plaintext```
xStatus SIP Mailbox URI
's SIP Mailbox URI: "12345678"
** end
```

**xStatus SIP Proxy [n] Address**
Shows the address of the SIP Proxy that the system communicates with.

Requires user role: ADMIN, USER

*Value space of the result returned:* String

*Example:*
```plaintext```
xStatus SIP Proxy 1 Address
's SIP Proxy 1 Address: "192.0.2.50"
** end
```
xStatus SIP Proxy [n] 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.

Requires user role: ADMIN, USER

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 Registration [n] 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.

Requires user role: ADMIN, USER

Value space of the result returned:
Digest/Off

Example:
xStatus SIP Registration 1 Authentication
  *s SIP Registration 1 Authentication: Off
  ** end

xStatus SIP Registration [n] Reason
Shows a message to explain the reason why the SIP registration failed.

Requires user role: ADMIN, USER

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] 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.

Requires user role: ADMIN, USER

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] URI
Shows the URI used for registration to the SIP Proxy server.
Requires user role: ADMIN, USER
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 Secure
Shows the encryption status of the signaling with the SIP Proxy server.
Requires user role: ADMIN, USER
Value space of the result returned:
True/False
Example:
  xStatus SIP Secure
  *s SIP Secure: True
  ** end

xStatus SIP 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 DefaultTransport not set to TLS) or certificate verification is switched off (SIP TlsVerify: Off. This setting is accessible through your products web interface).
Requires user role: ADMIN, USER
Value space of the result returned:
True/False
Example:
  xStatus SIP Verified
  *s SIP Verified: False
  ** end
Standby status

xStatus Standby State

Shows whether the system is in standby mode or not.

- **Standby**: The system is in standby state.
- **EnteringStandby**: The system is entering the standby state.
- **Halfwake**: The system is in standby, but greets the user when presence is detected by motion or the Proximity pairing app.
- **Off**: The system is not in standby.

Requires user role: ADMIN, INTEGRATOR, USER, ROOMCONTROL

**Value space of the result returned:**

- Standby/EnteringStandby/Halfwake/Off

**Example:**

```
xStatus Standby State
*s Standby State: Off
** end
```

SystemUnit status

xStatus SystemUnit Hardware Module CompatibilityLevel

The Cisco TelePresence endpoints are using a NAND flash memory for general storage. The endpoints running TC software are manufactured with a new version of the flash memory. Endpoints having the new version of the flash memory must run software TC4.2.1 or later. Some previous TC software versions are updated to support the new flash memory. Please check the release note to find if the new version of the flash memory is supported. If your endpoint does not have the CompatibilityLevel command it does not have the new flash memory installed.

The result returned when running the command is either 0 or 1:

- **0**: The system does not have the new flash memory installed.
- **1**: The system has the new flash memory installed. If downgraded, it can only be downgraded to previous TC software versions having support for the new version of the flash memory.

Requires user role: ADMIN, USER

**Value space of the result returned:**

- 1/0

**Example:**

```
xStatus SystemUnit Hardware Module CompatibilityLevel
*s SystemUnit Hardware Module CompatibilityLevel: 1
** end
```

xStatus SystemUnit Hardware Module SerialNumber

Shows the serial number of the hardware module in the codec.

Requires user role: ADMIN, USER

**Value space of the result returned:**

- String

**Example:**

```
xStatus SystemUnit Hardware Module SerialNumber
*s SystemUnit Hardware Module SerialNumber: "F9AA99A00090"
** end
```
xStatus SystemUnit Hardware Monitoring Fan [n] Status

The feedback shows the speed (rpm) for the specified fan.

Requires user role: ADMIN, USER

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

Shows the current maximum temperature (degree Celsius) measured in the codec/system.

Requires user role: ADMIN, USER

Value space of the result returned:
String

Example:
xStatus SystemUnit Hardware Temperature
*s SystemUnit Hardware Temperature: "64.0"
** 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.

Requires user role: ADMIN, USER

Value space of the result returned:
String

Example:
xStatus SystemUnit Notifications Notification 1 Text
*s SystemUnit Notifications Notification 1 Text: "OK"
** 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.

Requires user role: ADMIN, USER

Value space of the result returned:
FactoryResetOK, FactoryResetFailed, SoftwareUpgradeOK, SoftwareUpgradeFailed, RebootRequired, Other

Example:
xStatus SystemUnit Notifications Notification 1 Type
*s SystemUnit Notifications Notification 1 Type: SoftwareUpgradeOK
** end

xStatus SystemUnit ProductId

Shows the product identity.

Requires user role: ADMIN, USER

Value space of the result returned:
String

Example:
xStatus SystemUnit ProductId
*s SystemUnit ProductId: "Cisco TelePresence Codec SX80"
** end
xStatus SystemUnit ProductPlatform
Shows the product platform.
Requires user role: ADMIN, USER

Value space of the result returned:
String

Example:
xStatus SystemUnit ProductPlatform
*s SystemUnit ProductPlatform: "SX80"
** end

xStatus SystemUnit ProductType
Shows the product type.
Requires user role: ADMIN, USER

Value space of the result returned:
String

Example:
xStatus SystemUnit ProductType
*s SystemUnit ProductType: "Cisco Codec"
** end

xStatus SystemUnit Software DisplayName
Shows the name of the software that is installed on the codec, as it is displayed in the UI.
Requires user role: ADMIN, USER

Value space of the result returned:
String

Example:
xStatus SystemUnit Software DisplayName
*s SystemUnit Software DisplayName: "Display Name"
** end

xStatus SystemUnit Software Name
Shows the name of the software that is installed on the codec.
Requires user role: ADMIN, USER

Value space of the result returned:
String

Example:
xStatus SystemUnit Software Name
*s SystemUnit Software Name: "s52010"
** end

xStatus SystemUnit Software OptionKeys Encryption
Shows if the software on the system have support for encryption.
Requires user role: ADMIN, USER

Value space of the result returned:
False/True

Example:
xStatus SystemUnit Software OptionKeys Encryption
*s SystemUnit Software OptionKeys Encryption: "true"
** end

xStatus SystemUnit Software OptionKeys MultiSite
Shows if the system has the option key installed that supports the MultiSite functionality.
Requires user role: ADMIN, USER

Value space of the result returned:
False/True

Example:
xStatus SystemUnit Software OptionKeys MultiSite
*s SystemUnit Software OptionKeys MultiSite: "true"
** end
xStatus SystemUnit Software OptionKeys RemoteMonitoring
Shows whether the system has the remote monitoring option key installed. Remote monitoring option key enables snapshots from the web interface, and from a remote paired Touch 10.

Requires user role: ADMIN, USER

Value space of the result returned:
False/True

Example:
```
xStatus SystemUnit Software OptionKeys RemoteMonitoring
*s SystemUnit Software OptionKeys RemoteMonitoring: "true"
** end
```

xStatus SystemUnit Software ReleaseDate
Shows the release date of the software installed on the codec.

Requires user role: ADMIN, USER

Value space of the result returned:
String

Example:
```
xStatus SystemUnit Software ReleaseDate
*s SystemUnit Software ReleaseDate: "2015-05-05"
** end
```

xStatus SystemUnit Software Version
Shows the software version installed on the codec.

Requires user role: ADMIN, USER

Value space of the result returned:
String

Example:
```
xStatus SystemUnit Software Version
*s SystemUnit Software Version: "CE8.0.0"
** end
```

xStatus SystemUnit State NumberOfActiveCalls
Shows the number of active calls.

Requires user role: ADMIN, INTEGRATOR, USER, ROOMCONTROL

Value space of the result returned:
0..5

Example:
```
xStatus SystemUnit State NumberOfActiveCalls
*s SystemUnit State NumberOfActiveCalls: 0
** end
```

xStatus SystemUnit State NumberOfInProgressCalls
Shows the number of calls in progress.

Requires user role: ADMIN, INTEGRATOR, USER, ROOMCONTROL

Value space of the result returned:
0..5

Example:
```
xStatus SystemUnit State NumberOfInProgressCalls
*s SystemUnit State NumberOfInProgressCalls: 0
** end
```

xStatus SystemUnit State NumberOfSuspendedCalls
Shows the number of suspended calls.

Requires user role: ADMIN, USER

Value space of the result returned:
0..5

Example:
```
xStatus SystemUnit State NumberOfSuspendedCalls
*s SystemUnit State NumberOfSuspendedCalls: 0
** end
```
xStatus SystemUnit Uptime
Shows the number of seconds since the last restart of the codec.
Requires user role: ADMIN, USER

**Value space of the result returned:**
Integer

**Example:**
```
xStatus SystemUnit Uptime
*s SystemUnit Uptime: 597095
** end
```

Time status

xStatus Time SystemTime
Returns the date and time set on the system.
Requires user role: ADMIN, INTEGRATOR, USER

**Value space of the result returned:**
String

**Example:**
```
xStatus Time SystemTime
*s Time SystemTime: "2014-04-25T10:04:03Z"
** end
```
USB status

xStatus USB Device [n] State
Shows the USB device state.
Requires user role: ADMIN, INTEGRATOR, USER

Value space of the result returned:
Empty/Unsupported/Supported

Example:
  xStatus USB Device 1 State
  *s USB Device 1 State: Supported
  ** end

xStatus USB Device [n] Type
Shows the USB device type.
Requires user role: ADMIN, INTEGRATOR, USER

Value space of the result returned:
Ethernet/Unknown/None

Example:
  xStatus USB Device 1 Type
  *s USB Device 1 Type: Ethernet
  ** end

UserInterface status

xStatus UserInterface ContactInfo ContactMethod [n] Number
Returns the system's active contact information. This address is used to reach this endpoint.
Requires user role: ADMIN, USER

Value space of the result returned:
String

Example:
  xStatus UserInterface ContactInfo ContactMethod Number
  *s UserInterface ContactInfo ContactMethod 1 Number: "12345678"
  ** end

xStatus UserInterface ContactInfo Name
Returns the system's active contact name. The result depends on which protocol, if any, the
system is registered on. The automatically set contact name may have been overridden with the
command xConfiguration UserInterface ContactInfo Type. This results in a diagnostics warning
about contact mismatch.
Requires user role: ADMIN, USER

Value space of the result returned:
String

Example:
  xStatus UserInterface ContactInfo Name
  *s UserInterface ContactInfo Name: "MySystem"
  ** end

xStatus UserInterface Extensions Widget [n] Value
Returns the value for a widget. Widgets are used in custom panels, for example in-room
controls, that are added to the user interface. The value space depends on the widget type.
The value is an empty string until a value is set with the UserInterface Extensions Widget
SetValue command.
Requires user role: ADMIN, INTEGRATOR, USER, ROOMCONTROL

Value space of the result returned:
String
**xStatus UserInterface Extensions Widget [n] WidgetId**

Returns the unique identifier for a widget. Widgets are used in custom panels, for example in-room controls, that are added to the user interface.

Requires user role: ADMIN, INTEGRATOR, USER, ROOMCONTROL

*Value space of the result returned:*

String

---

**Video status**

**xStatus Video ActiveSpeaker PIPPosition**

Shows the position of the active speaker’s image on the screen.

Requires user role: ADMIN, INTEGRATOR, USER

*Value space of the result returned:*

UpperLeft/UpperCenter/UpperRight/CenterLeft/CenterRight/LowerLeft/LowerRight

*Example:*

```
xStatus Video ActiveSpeaker PIPPosition
*s Video PIP ActiveSpeaker Position: UpperCenter
** end
```

**xStatus Video Input Connector [n] Connected**

Shows whether something is connected to the specified connector. Not all connections can be detected.

Requires user role: ADMIN, INTEGRATOR, USER

*Value space of the result returned:*

False/True/Unknown

*Example:*

```
xStatus Video Input Connector 1 Connected
*s Video Input Connector 1 Connected: True
** end
```
xStatus Video Input Connector [n] SignalState

Shows the signal state for the specified 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.

Requires user role: ADMIN, INTEGRATOR, USER

Value space of the result returned:
OK/Unknown/Unsupported

Example:
xStatus Video Input Connector 1 SignalState
*s Video Input Connector 1 SignalState: OK
** end

xStatus Video Input Connector [n] SourceId

Shows the identifier of the input source that the connector is associated with.

Requires user role: ADMIN, INTEGRATOR, USER

Value space of the result returned:
Integer

Example:
xStatus Video Input Connector 1 SourceId
*s Video Input Connector 1 SourceId: 1
** end

xStatus Video Input Connector [n] Type

Shows which connector type it is.

Requires user role: ADMIN, INTEGRATOR, USER

Value space of the result returned:
Composite/DVI/HDMI/Unknown/YC

Example:
xStatus Video Input Connector 1 Type
*s Video Input Connector 1 Type: HDMI
** 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 DefaultMainSource command.

Requires user role: ADMIN, USER

Value space of the result returned:
Integer

Example:
xStatus Video Input MainVideoSource
*s Video Input MainVideoSource: 1
** end

xStatus Video Input Source [n] ConnectorId

Shows the identifier of the connector that is associated with the input source.

Requires user role: ADMIN, INTEGRATOR, USER

Value space of the result returned:
Integer

Example:
xStatus Video Input Source 1 ConnectorId
*s Video Input Source 1 ConnectorId: 1
** end

xStatus Video Input Source [n] FormatStatus

Shows the resolution format status for the video input source.

Requires user role: ADMIN, INTEGRATOR, USER

Value space of the result returned:
Ok/OutOfRange/NotFound/Interlaced/Error/Unknown

Example:
xStatus Video Input Source 1 FormatStatus
*s Video Input Source 1 Resolution FormatStatus: Ok
** end
xStatus Video Input Source [n] FormatType
Shows the resolution format type for the video input source.

Requires user role: ADMIN, INTEGRATOR, USER

Value space of the result returned:
Unknown/AnalogCVTBlanking/AnalogCVTReducedBlanking/AnalogGTFDefault/
AnalogGTFSecondary/AnalogDiscreteTiming/AnalogDMTBlanking/AnalogCEABlanking/Digital

Example:
xStatus Video Input Source 1 FormatType
*s Video Input Source 1 Resolution FormatType: Digital
** end

xStatus Video Input Source [n] MediaChannelId
For internal use only.

Requires user role: ADMIN, USER

Value space of the result returned:
Integer

Example:
xStatus Video Input Source MediaChannelId
*s Video Input Source 1 MediaChannelId: 2
*s Video Input Source 2 MediaChannelId: 3
** end

xStatus Video Input Source [n] Resolution Height
Shows the resolution height (in pixels) for the video input source.

Requires user role: ADMIN, INTEGRATOR, USER

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 Layout LayoutFamily Local
Shows the local screen layout family.

Requires user role: ADMIN, USER

Value space of the result returned:
String

Example:
xStatus Video Layout LayoutFamily Local
*s Video Layout LayoutFamily Local: "equal"
** end

xStatus Video Input Source [n] Resolution RefreshRate
Shows the resolution refresh rate (Hz) for the video input source.

Requires user role: ADMIN, INTEGRATOR, USER

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 Source [n] Resolution Width
Shows the resolution width (in pixels) for the video input source.

Requires user role: ADMIN, INTEGRATOR, USER

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 Layout LayoutFamily Remote**

Shows the remote screen layout family.

Requires user role: ADMIN, USER

**Value space of the result returned:**

String

**Example:**

```plaintext
*xStatus Video Layout LayoutFamily Remote
*s Video Layout LayoutFamily Remote: "equal"
** end
```

**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.

Requires user role: ADMIN, USER

**Value space of the result returned:**

Single/Dual/DualPresentationOnly/Triple/TriplePresentationOnly/Quadruple

**Example:**

```plaintext
*xStatus Video Monitors
*s Video Monitors: Single
** end
```

**xStatus Video Output Connector [n] Connected**

Describes whether a device (for example a display) is connected to the output connector or not. 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 device is connected to the video output connector.

False: Nothing is connected to the video output connector.

Requires user role: ADMIN, INTEGRATOR, USER

**Value space of the result returned:**

True/False

**Example:**

```plaintext
*xStatus Video Output Connector 1 Connected
*s Video Output Connector 1 Connected: True
** end
```

**xStatus Video Output Connector [n] 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 Connector [n] CEC Mode set to on.

Requires user role: ADMIN, INTEGRATOR, USER

**Value space of the result returned:**

Unknown/TV/Reserved/Recorder/Tuner/Playback/Audio

**Example:**

```plaintext
*xStatus Video Output Connector 1 ConnectedDevice CEC DeviceType
*s Video Output Connector 1 ConnectedDevice CEC DeviceType: TV
** end
```
xStatus Video Output Connector [n] ConnectedDevice CEC Name

Returns the name of the connected device.
Requires user role: ADMIN, INTEGRATOR, USER

Value space of the result returned:
String

Example:
```bash
*xsVideoOutputConnector1 ConnectedDevice CEC 1 Name: "LG SIGNAGE TV"
```

xStatus Video Output Connector [n] 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 Connector CEC Mode set to on.
Requires user role: ADMIN, INTEGRATOR, USER

Value space of the result returned:
Unknown/Ok/In progress/Failed to power on/Failed to standby

Example:
```bash
*xsVideoOutputConnector1 ConnectedDevice CEC PowerControl: Ok
```

xStatus Video Output Connector [n] ConnectedDevice CEC VendorId

Returns the vendor ID for the connected device.
Requires user role: ADMIN, INTEGRATOR, USER

Value space of the result returned:
String

Example:
```bash
*xsVideoOutputConnector1 ConnectedDevice CEC VendorId: 57489
```

xStatus Video Output Connector [n] ConnectedDevice Name

Shows the name of the monitor connected to the HDMI port as defined in the monitors EDID.
Requires user role: ADMIN, INTEGRATOR, USER

Value space of the result returned:
String

Example:
```bash
*xsVideoOutputConnector1 ConnectedDevice Name: "G2420HDBL"
```
xStatus Video Output Connector [n] 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.

Requires user role: ADMIN, INTEGRATOR, USER

Value space of the result returned:
String

Example:
```
xStatus Video Output Connector 1 ConnectedDevice PreferredFormat
  *s Video Output Connector 1 ConnectedDevice PreferredFormat: "1920x1080@60Hz"
  ** end
```

xStatus Video Output Connector [n] MonitorRole
Describes which video stream is shown on the device that is connected to the video output connector.
First/Second/Third: The role of the monitor in a multimonitor setup. In a singlemonitor setup, there is no difference between First, Second and Third.
PresentationOnly: Shows presentation video stream if active.
Recorder: Shows all participants, including the local main video. If active, shows also the presentation.

Requires user role: ADMIN, USER

Value space of the result returned:
First/Second/Third/PresentationOnly/Recorder

Example:
```
xStatus Video Output Connector 1 MonitorRole
  *s Video Output Connector 1 MonitorRole: First
  ** end
```

xStatus Video Output Connector [n] Resolution Height
Shows the resolution height (in pixels) for the video output connector.

Requires user role: ADMIN, USER

Value space of the result returned:
120..3000

Example:
```
xStatus Video Output Connector 1 Resolution Height
  *s Video Output Connector 1 Resolution Height: 1080
  ** end
```

xStatus Video Output Connector [n] Resolution RefreshRate
Shows the resolution refresh rate (Hz) for the video output connector.

Requires user role: ADMIN, USER

Value space of the result returned:
1..300

Example:
```
xStatus Video Output Connector 1 Resolution RefreshRate
  *s Video Output Connector 1 Resolution RefreshRate: 60
  ** end
```

xStatus Video Output Connector [n] Resolution Width
Shows the resolution width (in pixels) for the video output connector.

Requires user role: ADMIN, USER

Value space of the result returned:
176..4000

Example:
```
xStatus Video Output Connector 1 Resolution Width
  *s Video Output Connector 1 Resolution Width: 1920
  ** end
```
xStatus Video Output Connector [n] Type
Shows the type of connector.
HDMI: It is an HDMI connector.
DVI: It is a DVI connector.
Requires user role: ADMIN, USER

Value space of the result returned:
HDMI/DVI

Example:
xStatus Video Output Connector 1 Type
  *s Video Output Connector 1 Type: HDMI
  ** end

xStatus Video Presentation PIPPosition
Shows the position of the presentation image on the screen.
Requires user role: ADMIN, USER

Value space of the result returned:
UpperLeft/UpperCenter/UpperRight/CenterLeft/CenterRight/LowerLeft/LowerRight

Example:
xStatus Video Presentation PIPPosition
  *s Video PIP Presentation Position: CenterLeft
  ** end

xStatus Video Selfview FullscreenMode
Shows whether selfview is set on full screen mode or not.
Requires user role: ADMIN, INTEGRATOR, USER

Value space of the result returned:
On/Off

Example:
xStatus Video Selfview FullscreenMode
  *s Video Selfview FullscreenMode: Off
  ** end

xStatus Video Selfview Mode
Shows whether selfview mode is set on or not.
Requires user role: ADMIN, INTEGRATOR, USER

Value space of the result returned:
On/Off

Example:
xStatus Video Selfview Mode
  *s Video Selfview Mode: Off
  ** end

xStatus Video Selfview OnMonitorRole
Identifies which monitor(s) contains the selfview, if present.
Requires user role: ADMIN, INTEGRATOR, USER

Value space of the result returned:
First/Second/Third/Fourth

Example:
xStatus Video Selfview OnMonitorRole
  *s Video Selfview OnMonitorRole: First
  ** end

xStatus Video Selfview PIPPosition
Shows the position of the selfview image on the screen.
Requires user role: ADMIN, INTEGRATOR, USER

Value space of the result returned:
UpperLeft/UpperCenter/UpperRight/CenterLeft/CenterRight/LowerLeft/LowerRight

Example:
xStatus Video Selfview PIPPosition
  *s Video Selfview PIPPosition: LowerRight
  ** end
Chapter 6

Appendices
About startup scripts

You can add one or more startup scripts to the codec.
A startup script contains commands (xCommand) and configurations (xConfiguration) that will be executed as part of the startup procedure every time the codec boots. A few commands and configurations cannot be placed in a startup script, e.g. xCommand SystemUnit Boot.

Use the codec’s web interface to create and manage startup scripts.

Read more about the web interface and startup scripts in the Administrator guide for your product.
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:**

```plaintext
systemtools ?
boothalt
camerarescue
definition
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:**

```plaintext
systemtools network ?
usage: network ping <hostname> | traceroute <hostname> | netstat | addr | ifconfig
```

- **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, defined by the name.

  `<name>`: The name of the license file.

- **systemtools network ping <hostname>**
  
  Network debug command.

  `<hostname>`: The IP address or URL of the host.

- **systemtools network traceroute <hostname>**
  
  Network debug command.

  `<hostname>`: The IP address or URL of the host.

- **systemtools network netstat**
  
  Network debug command.

- **systemtools network addr**
  
  Check the system’s IP address.

- **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.

  `<cert-name>`: The name of the certificate.

- **systemtools pki delete <cert-name>**
  
  Delete the codec certificate and CA list if they exist.

- **systemtools securitysettings jitc**
  
  Set up security requirements so they meet JITC.

  Set password and PIN policies enforced on the codec.

- **systemtools securitysettings isjitc**
  
  Check if the current settings are JITC 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:**

```plaintext
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
```
User documentation on the Cisco web site

User documentation for the Cisco TelePresence products is available at http://www.cisco.com/go/telepresence/docs

Choose a product category in the right pane until you find the correct product. This is the path you have to follow:

TelePresence Integration Solutions > TelePresence SX Series

Alternatively, use the following short-link to find the documentation: http://www.cisco.com/go/sx-docs

The documents are organized in the following categories:

**Install and Upgrade > Install and Upgrade Guides**
- **Installation guides**: How to install the product
- **Getting started guide**: Initial configurations required to get the system up and running
- **RCSI guide**: Regulatory compliance and safety information

**Maintain and Operate > Maintain and Operate Guides**
- **Getting started guide**: Initial configurations required to get the system up and running
- **Administrator guide**: Information required to administer your product
- **Administering CE Endpoints on CUCM**: Tasks to perform to start using the product with the Cisco Unified Communications Manager (CUCM)

**Maintain and Operate > End-User Guides**
- **User guides**: How to use the product
- **Quick reference guides**: How to use the product

**Reference Guides | Command references**
- **API reference guides**: Reference guide for the Application Programmer Interface (API)

**Reference Guides > Technical References**
- **CAD drawings**: 2D CAD drawings with measurements

**Design > Design Guides**
- **Video conferencing room guidelines**: General guidelines for room design and best practice
- **Video conferencing room guidelines**: Things to do to improve the perceived audio quality

**Software Downloads, Release and General Information > Licensing Information**
- **Open source documentation**: Licenses and notices for open source software used in this product

**Software Downloads, Release and General Information > Release Notes**
- **Software release notes**
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