ActiveControl in Optimized Conferencing for Cisco Unified CM and Cisco VCS

Deployment Guide

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Contents

Introduction

About this document

This document describes how to enable support for the iX protocol in Optimized Conferencing for Cisco Unified CM and Cisco VCS deployments. The iX protocol is required for the ActiveControl feature and is disabled by default. Following the steps in this deployment guide will allow you to enable iX support in Cisco Unified Communications Manager, TelePresence Conductor, and supported TelePresence endpoints.

Descriptions of the system configuration parameters for the Cisco Unified CM, TelePresence Conductor, and TelePresence endpoints can be found in the Administrator Guides and online help for each product.

About ActiveControl

ActiveControl provides conference control functions and conference information for endpoints running software version TC6.2 or later (provided they have Touch controllers). From the touchpad users can see a list of participants and other information during a conference. On certain endpoints they can change the conference layout displayed locally, and disconnect other participants.

ActiveControl is available for conferences hosted on TelePresence Server bridges, and requires the TelePresence Server to be running in remotely managed operation mode.

Deploying ActiveControl

Prerequisites

- TelePresence Server 3.1 or later in remotely managed operation mode. TelePresence Server must be behind a Conductor (XC2.2 or later), not directly registered to VCS or Cisco Unified CM
- Cisco Unified CM version 9.1.2 or later
- VCS Control/Expressway version X7.2 or later
- TC6.2 or later on EX60, EX90, Quick Set C20, SX20, C Series C40, C60, and C90, MX200, MX300 or Profile Series
- TelePresence Touch 8 (remote control does not support ActiveControl)
- In TC6.2, UDP port 5170 is used for ActiveControl. If a firewall or access list is denying traffic on this port, it must be opened up to accommodate the iX protocol.

Limitations

- If an ActiveControl enabled call traverses a Cisco Unified CM trunk with a Cisco Unified CM version lower than 9.1.2, the call may fail. ActiveControl should not be enabled on older Cisco Unified CM trunks (Cisco Unified CM 8.x or earlier).
- Cisco VCS version X7.2 or earlier does not support the iX protocol. The iX protocol can only be enabled or disabled on Cisco Unified CM for connections to VCS X7.2.
- ActiveControl and Interactive Connectivity Establishment (ICE) cannot be used simultaneously in TC6.2.
- TelePresence MCU is not supported.
- SIP only feature. H323 interworking scenarios are not supported.

Overview of Configuring the iX protocol

ActiveControl uses the iX protocol, which is advertised as an application line in the SIP Session Description Protocol (SDP). Extensions to the SIP SDP are not fully supported in some older systems, which has implications for Optimized Conferencing networks that connect to external networks or to older Cisco Unified CMs (Cisco Unified CM 8.x or earlier). No issues arise if all external interfaces are to Cisco Unified CM 9.x or VCS systems. However, enabling ActiveControl in Optimized Conferencing networks which interface to older Cisco Unified CMs (8.x and earlier) or to third-party networks (business-to-business) may have unpredictable consequences including call failures.

The iX protocol is disabled by default in Optimized Conferencing devices. Given that the far end network may not be known in many cases, it is safest to leave it disabled for all external connections:

- VCS-centric deployments which connect to external networks or connect internally to older Cisco Unified CM versions. In these cases leave iX disabled throughout the Optimized Conferencing network. (In some situations it is possible to enable iX with workarounds, but this should only be done with guidance from Cisco Technical Support.)
- UCM-centric deployments that connect to Cisco Unified CM 8.x or earlier systems. In these cases the older Cisco Unified CM systems will reject calls from ActiveControl-enabled devices. To avoid these calls failing, leave iX disabled on any trunk towards the Cisco Unified CM 8.x device in the Optimized Conferencing network. In cases where the 8.x device is reached via a SIP proxy, ensure that iX is disabled on the trunk towards that proxy.

- UCM-centric deployments that connect to third-party networks. In these cases there is no way to know how the third-party network will handle calls from ActiveControl-enabled devices, but in some instances the handling mechanism may be to reject them. To avoid such calls failing, leave iX disabled on all trunks in the Optimized Conferencing network towards third-party networks.

Table 1: Summary of iX configuration requirements in the Optimized Conferencing network

Network connection from...	Network connections to…	Can you enable iX (ActiveControl)?
Cisco VCS	Cisco Unified CM 9.x / Cisco VCS systems only	Yes. Enable as you wish.
	Any other devices, including Cisco Unified CM 8.x or earlier	No. Disable throughout the network (default).
Cisco Unified CM 9.1.2	Cisco Unified CM 9.x	Can be enabled on this trunk. May require disabling on trunks from this second Cisco Unified CM.
	Cisco Unified CM 8.x or earlier systems	Disable on this trunk from the first Cisco Unified CM.
	Third-party networks	Disable on this trunk from the Cisco Unified CM.
	Cisco VCS	Disable on this trunk from the Cisco Unified CM if this route is used for trunks to third-party networks or to Cisco Unified CM 8.x or earlier systems. Can be enabled if only Cisco Unified CM 9.x or Cisco VCS systems can be reached via this trunk.

Illustrations of iX configuration settings

Figure 1: Where to enable/disable iX in outward connections from Cisco Unified CM-managed systems

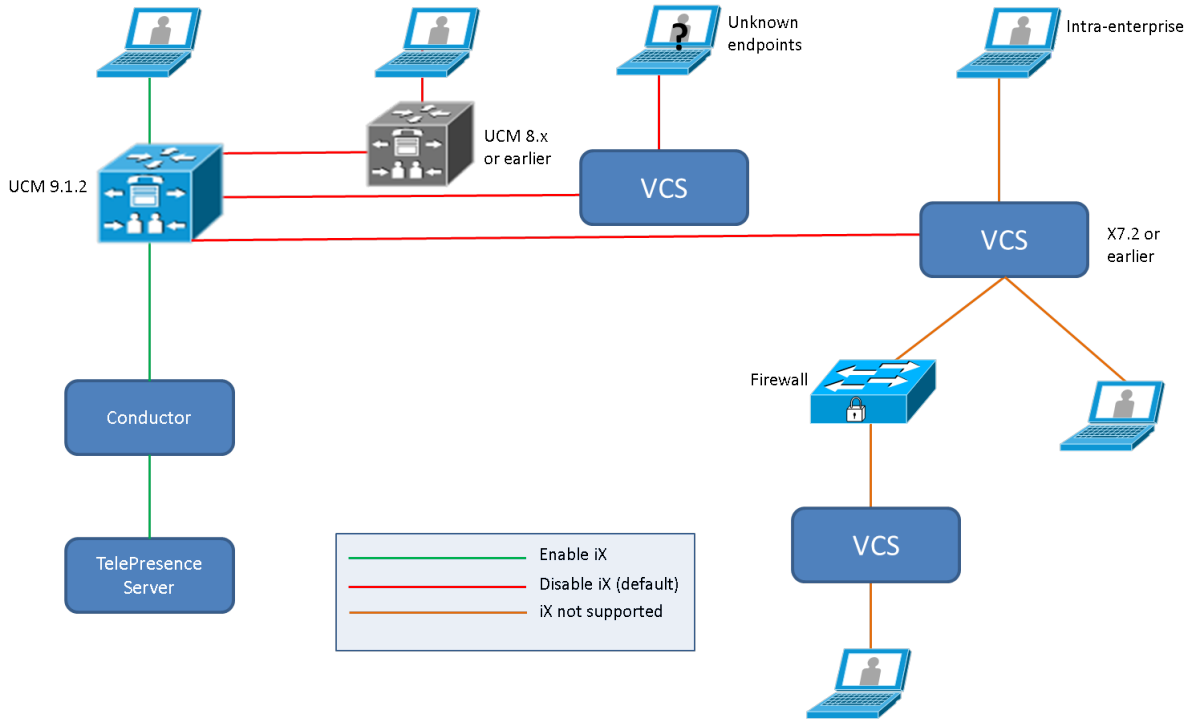


Figure 2: Where to disable iX in outward connections from Cisco VCS-managed systems

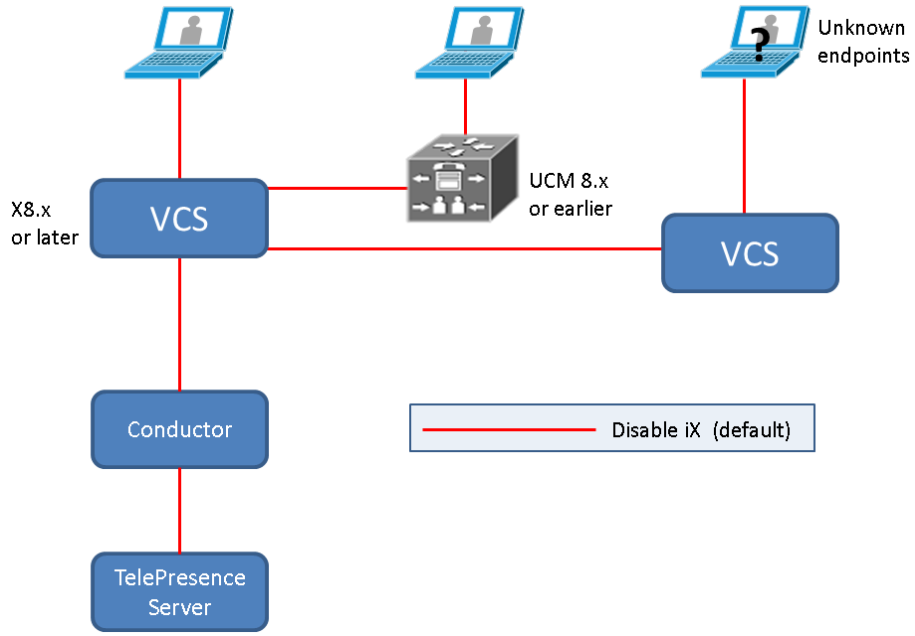
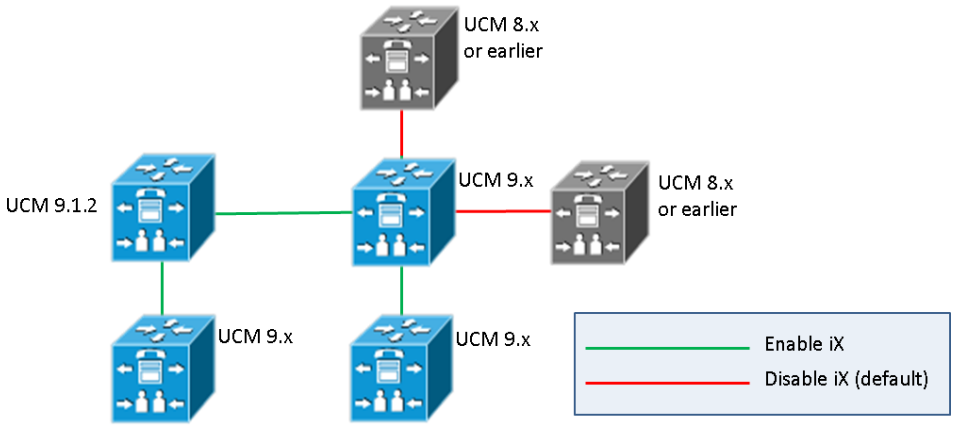


Figure 3: Example iX configuration in a Cisco Unified CM Session Management Edition deployment



Enabling/disabling iX (ActiveControl) in Optimized Conferencing networks

For Cisco Unified CM-configured conference trunks and Cisco VCS trunks, ActiveControl must be manually disabled if necessary. That is, per SIP trunk between Cisco Unified CM and Conductor and between Cisco Unified CM and Cisco VCS respectively. ActiveControl is disabled by default in all other Optimized Conferencing devices.

Table 2: iX configuration settings for Optimized Conferencing devices

Device	IX setting...
TC6.2 endpoints	Default is Off. For instructions on how to switch it on, see Enabling iX Support in TC6.2 Endpoints [p.11].
TelePresence Conductor	Set by enabling the **iX protocol** field on the Advanced template parameter page for TelePresence Servers. See Enabling iX Support in Cisco TelePresence Conductor [p.9]
Cisco Unified CM (per trunk)	Set in the Trunk Specific Configuration section of the SIP Profile Configuration window, using the **Allow iX Application Media** checkbox. See Enabling iX Support in Cisco Unified Communications Manager [p.10]

Notes:

- On the TelePresence Server, the iX configuration setting is available through the API (via the iXEnabled parameter in Participant/Conference calls). However we do not recommend configuring iX at the TelePresence Server level and you should instead set it through TelePresence Conductor.
- Endpoints must be iX-enabled to support ActiveControl (TC6.2 is iX-enabled).

iX troubleshooting

Table 3: Call handling summary for calls that contain an iX header

Scenario	Outcome
Cisco Unified CM 8.x or earlier	Calls fail
Cisco Unified CM 9.x earlier than 9.1.2	Calls handled normally but no ActiveControl

Cisco Unified CM 9.1.2	Calls handled normally plus ActiveControl
Endpoint - no support for iX and no SDP implementation	Endpoint may reboot or fail

Enabling iX Support in Cisco TelePresence Conductor

To enable iX support in Cisco TelePresence Conductor, you must set an advanced template parameter on the conference bridge template used by the Cisco TelePresence Server.

To create or edit advanced template parameter settings:

1. Create a new conference template or select an existing conference template (**Conference configuration > Conference templates**).
2. In the Advanced parameters section click **Edit**.
   The Advanced template parameters page displays.
3. Check the check box for **Enable iX protocol**.

Enabling iX Support in Cisco Unified Communications Manager

Support for the iX protocol is disabled by default. To enable iX support in Cisco Unified CM , you must first configure support in the SIP profile and then apply that SIP profile to the SIP trunk.

Configuring iX Support in a SIP Profile

1. Choose **Device > Device Settings > SIP Profile**.
   The Find and List SIP Profiles window displays.
2. Do one of the following:
   - To add a new SIP profile, click **Add New**.
   - To modify an existing SIP profile, enter the search criteria and click **Find**. Click the name of the SIP profile that you want to update.

   The SIP Profile Configuration window displays.
3. Check the check box for **Allow iX Application Media**.
4. Make any additional configuration changes.
5. Click **Save**.

Applying the SIP Profile to a SIP Trunk

1. Choose **Device > Trunk**.
   The Find and List Trunks window displays.
2. Do one of the following:
   - To add a new trunk, click **Add New**.
   - To modify a trunk, enter the search criteria and click **Find**. Click the name of the trunk that you want to update.

   The Trunk Configuration window displays.
3. From the SIP Profile drop-down list, choose the appropriate SIP profile.
4. Click **Save**.
5. To update an existing trunk, click **Apply Config** to apply the new settings.

Enabling iX Support in TC6.2 Endpoints

ActiveControl can be enabled on endpoints running software version TC6.2 or later (provided they have Touch controllers).

Enabling Active Control Using the API

Active Control is disabled by default. To enable Active Control on an endpoint, you can execute the following API command:

```
xConfiguration Experimental Conference 1 ActiveControl Mode: On.
```

Or use the following procedure to enable it using the web interface.

Configuring Active Control Using the Web Interface

1. Open a web browser and enter the IP address of the endpoint.

   Note: To find the IP address (IPv4 or IPv6), choose Settings > System Information on the Touch controller.

2. Enter the username and password and click **Sign In**.
3. Choose **Configuration > System Configuration**.
4. Click on the **Experimental** category in the left pane.
5. In the Conference 1 section, from the **ActiveControl Mode** drop-down list, choose `On`.

Related documentation

Title	Reference	Link
Cisco TelePresence Conductor with Cisco Unified Communications Manager Deployment Guide XC2.2, CUCM 8.6.2 and 9.x	D14998	http://www.cisco.com/en/US/products/ps11775/products_installation_and_configuration_guides_list.html
Cisco TelePresence Conductor with Cisco TelePresence VCS (B2BUA) Deployment Guide XC2.2, X7.0 and later	D15014	http://www.cisco.com/en/US/products/ps11775/products_installation_and_configuration_guides_list.html
Cisco TelePresence Conductor Administrator Guide XC2.2	D14826	http://www.cisco.com/en/US/products/ps11775/prod_maintenance_guides_list.html
Cisco Unified Communications Manager with Cisco VCS (SIP Trunk) Deployment Guide, Cisco VCS X7.2, CUCM 8.6.x, 9.x	D14602	http://www.cisco.com/en/US/products/ps11337/products_installation_and_configuration_guides_list.html
Cisco TelePresence Video Communication Server Basic Configuration (Control with Expressway) Deployment Guide Cisco VCS X7.2	D14651	http://www.cisco.com/en/US/products/ps11337/products_installation_and_configuration_guides_list.html
Cisco TelePresence Video Communication Server Administrator Guide X7.2	D14049	http://www.cisco.com/en/US/products/ps11337/prod_maintenance_guides_list.html

More product documentation on Cisco.com

Product	Link
TelePresence Conductor	http://www.cisco.com/en/US/products/ps11775/tsd_products_support_series_home.html
Cisco Unified CM	http://www.cisco.com/en/US/products/sw/voicesw/ps556/tsd_products_support_series_home.html
TelePresence Server	http://www.cisco.com/en/US/products/ps11339/tsd_products_support_series_home.html
Cisco VCS	http://www.cisco.com/en/US/products/ps11337/tsd_products_support_series_home.html