



ActiveControl

Deployment Guide

Optimized Conferencing for Cisco Unified Communications
Manager and Cisco VCS
Release 3.0

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Introduction

About this document

This document describes how to enable support for the iX protocol in Release 3.0 deployments of Optimized Conferencing for Cisco Unified Communications Manager and Cisco Video Communications Server. The iX protocol is required for the ActiveControl feature in TelePresence Server and is disabled by default. Following the steps in this deployment guide will allow you to enable iX support in Cisco Unified Communications Manager, Cisco VCS, TelePresence Conductor, Cisco TelePresence Management Suite Provisioning Extension, and supported TelePresence endpoints.

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

Note: Because the Cisco Expressway Series handles the iX protocol in the same manner as the Cisco VCS does, references to Cisco VCS X8.1 and later throughout this document also apply to Cisco Expressway. (Cisco Expressway was first introduced with the X8.1 release.)

About the ActiveControl feature

ActiveControl allows conference participants to administer a conference on TelePresence Server from an endpoint by using the video system interface (not available from the TRC5 remote control and on-screen display). With ActiveControl, 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 that are running in remotely managed operation mode. In Optimized Conferencing deployments, this means that it is available for rendezvous/personal Collaboration Meeting Room, ad hoc and Multiway conferences that are hosted on TelePresence Server bridges, but is not available for scheduled conferencing, including WebEx Enabled TelePresence meetings.

Deploying ActiveControl

Prerequisites

- To use the deployment process described in this document, you must have an Optimized Conferencing deployment that meets the requirements that are listed in the *Optimized Conferencing for Unified CM and Cisco VCS Solution Guide, Release 3.0*. This includes:
 - TelePresence Conductor XC2.3
 - TelePresence Server 4.0
 - TC7.1.3 or later software on the endpoints

Limitations

- If an ActiveControl enabled call traverses a Unified CM trunk with a Unified CM version lower than 9.1(2), the call may fail. ActiveControl should not be enabled on older Unified CM trunks (Unified CM 8.x or earlier).
- ActiveControl is not available for conferences that are hosted on an MCU bridge or on a TelePresence Server in locally managed mode (directly registered to Cisco VCS or Unified CM). Because of this limitation, in Optimized Conferencing deployments, ActiveControl is not available for scheduled conferencing, including WebEx Enabled TelePresence meetings.
- ActiveControl is a SIP only feature. H.323 interworking scenarios are not supported.
- ActiveControl/iX protocol traffic is not encrypted.

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 Unified CMs (Unified CM 8.x or earlier). No issues occur with iX in Unified CM 9.1(2) or later, or with iX in Cisco VCS systems. However, if you are enabling ActiveControl in Optimized Conferencing networks which interface to older Unified CMs (8.x and earlier) or to third-party networks (business-to-business), you must follow the instructions in this document carefully to isolate the iX protocol traffic from systems that do not support it. Failure to do so may lead to unpredictable consequences, including call failures.

The iX protocol is disabled by default in TelePresence Server 4.0. In situations where the far end network is not known or is known to have devices that do not support iX, it may be safest to leave iX disabled, or to disable iX on connections leaving the known environment:

- Unified CM-centric deployments that connect to Unified CM 8.x or earlier systems. In these cases the older Unified CM systems will reject calls from ActiveControl-enabled devices. To avoid these calls failing, leave iX disabled on any trunk towards the 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.
- Unified CM-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.

- Cisco VCS-centric deployments which connect to external networks or connect internally to older Unified CM versions.
 - Starting in Cisco VCS X8.1, you can turn on a zone filter to disable iX for INVITE requests sent to external networks or older Unified CM systems. (By default, the filter is off.)
 - With version X7.2.3, we recommend that you leave iX disabled throughout the Optimized Conferencing network. (In some situations it is possible to enable iX in X7.2.3 with workarounds, but this should only be done with guidance from Cisco Technical Support.)

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

Network connection from...	Network connections to...	Can you enable iX (ActiveControl)?
Unified CM 9.1(2) or later	Unified CM 9.x or later	Can be enabled on this trunk. May require disabling on trunks from this second Unified CM.
	Unified CM 8.x or earlier	Disable on this trunk from the first Unified CM.
	Third-party networks	Disable on this trunk from the Unified CM.
	Cisco VCS versions prior to X8.1	Disable on this trunk from the Unified CM if this route is used for trunks to third-party networks or to Unified CM 8.x or earlier systems. Can be enabled if only Unified CM 9.x or Cisco VCS systems can be reached via this trunk.
	Cisco VCS X8.1 and later	Can be enabled on this trunk if you turn on the iX filter in Cisco VCS to neighbor zones connected to the third-party networks or Unified CM 8.x or earlier systems.
Cisco VCS X8.1.1 or later	Unified CM 9.x / Cisco VCS systems only	Yes. Enable as you wish.
	Any other devices, including Unified CM 8.x or earlier	Turn on the iX filter on the neighbor zones between the Cisco VCS and these devices to remove the iX protocol line. (Filters were introduced in Cisco VCS X8.1.)
Cisco VCS X7.2.3	Unified CM 9.x / Cisco VCS systems only	Yes. Enable as you wish.
	Any other devices, including Unified CM 8.x or earlier	No. Disable throughout the network (default).

Illustrations of iX configuration settings

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

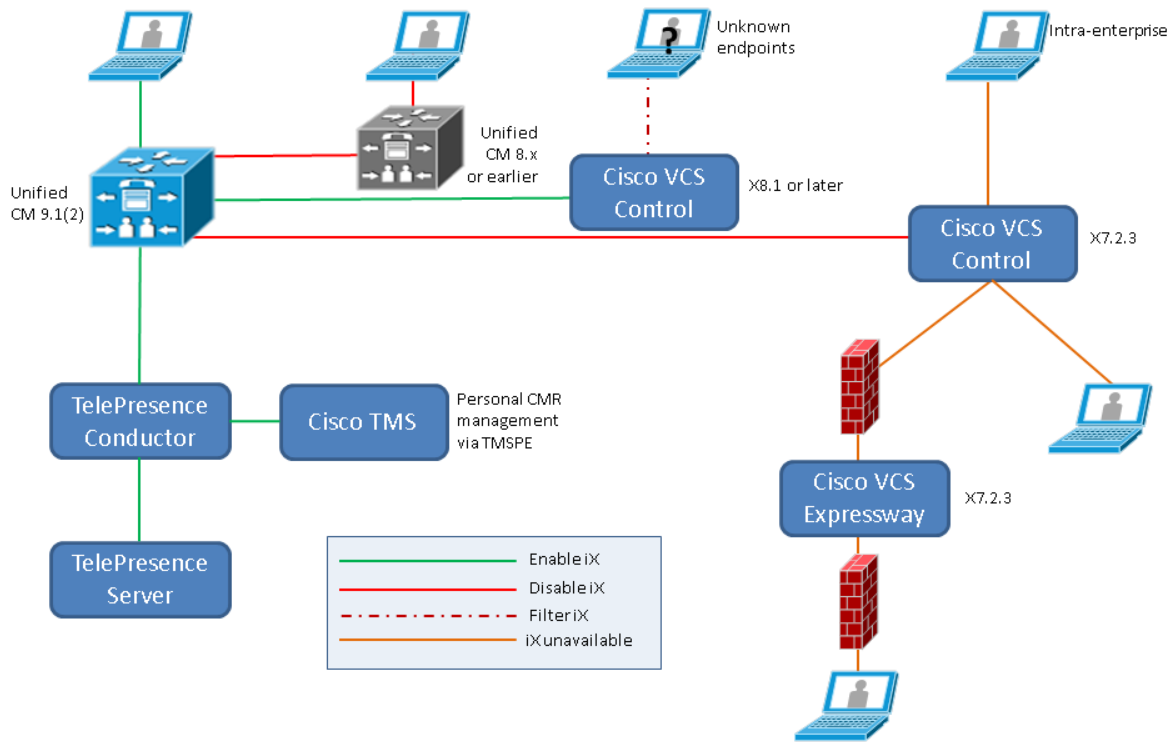


Figure 2: Example iX configuration in a Unified CM Session Management Edition deployment

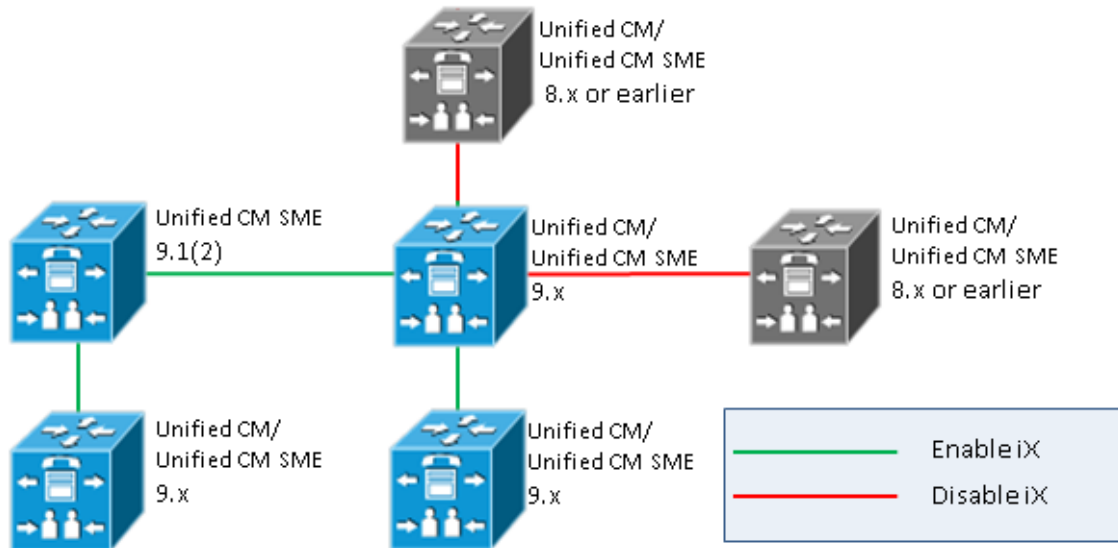
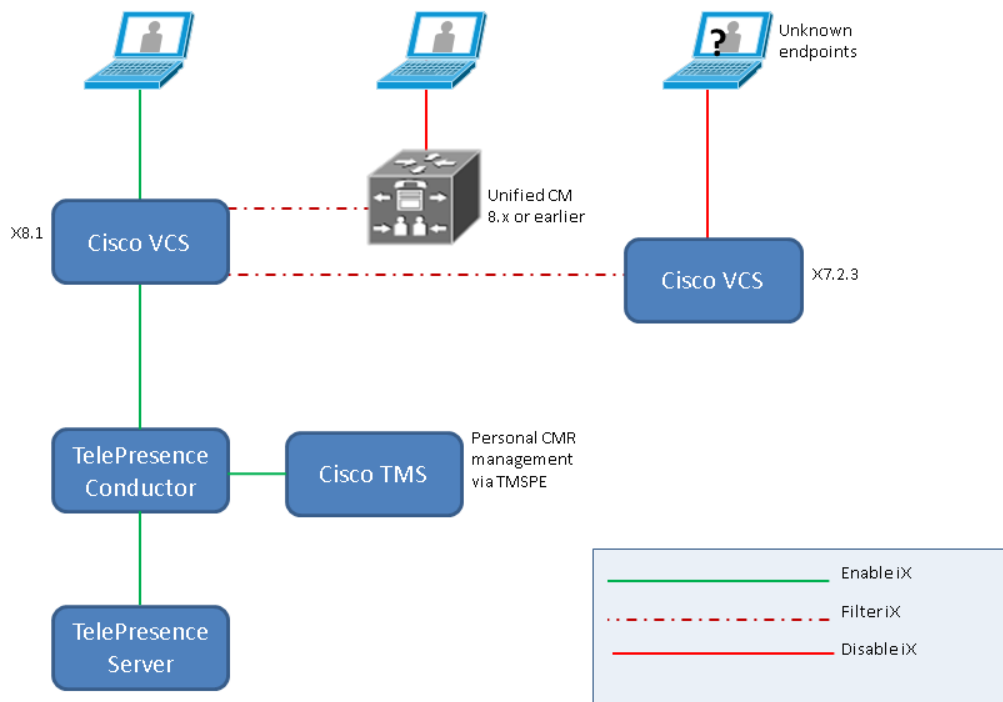


Figure 3: Where to filter iX in outward connections from Cisco VCS-managed systems (Cisco VCS X8.1 and later)



Enabling/disabling iX (ActiveControl) in Optimized Conferencing networks

Table 2: iX configuration settings for Optimized Conferencing devices

Device	iX setting...
TC7.1 endpoints	Default is Auto. (ActiveControl is enabled if the call control system to which the endpoint is registered supports the iX protocol and disabled otherwise.) You do not need to change this.
TelePresence Conductor	Default is not to change the iX defaults on TelePresence Server. For Conductor templates, enable iX by enabling the iX protocol field on the Advanced template parameter page for TelePresence Servers. See Enabling iX support in Cisco TelePresence Conductor Templates [p.9]
Cisco TMSPE	Default is not to change the iX defaults on TelePresence Server. For personal Collaboration Meeting Rooms, enable iX by setting advanced parameters for the CMR template to <code>{"callAttributes": {"iXEnabled": true}}</code> . See Enabling ActiveControl for personal CMRs in Cisco TMSPE [p.10] .
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.11]
Cisco VCS (per neighbor zone)	Disable iX pass-through by turning on SIP UDP/iX filter mode in the custom zone profile for any neighbor zone that connects to an external network or connects internally to an older Unified CM version. See Filtering iX in Cisco VCS [p.12] .

Note: 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 using direct API calls to bridges that are managed by TelePresence Conductor.

iX troubleshooting

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

Scenario	Outcome
Unified CM 8.x or earlier	Calls fail
Unified CM 9.x earlier than 9.1(2)	Calls handled normally but no ActiveControl
Unified CM 9.1(2)	Calls handled normally plus ActiveControl
Endpoint - no support for iX and no SDP implementation	Endpoint may reboot or calls may fail

Enabling iX support in Cisco TelePresence Conductor Templates

To enable iX in a Cisco TelePresence Conductor template, 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**.
4. From the **primary** drop-down list next to the **Enable iX protocol** check box, choose *True* to enable the protocol.
5. Click **Save**.

Enabling ActiveControl for personal CMRs in Cisco TMSPE

To enable ActiveControl for personal Collaboration Meeting Rooms (CMRs), you must set an advanced template parameter on the CMR template in Cisco TMSPE.

To create or edit advanced template parameter settings:

1. Create a new CMR template or select an existing template (**Systems > Provisioning > Users**).
2. On the **Edit CMR Template** page, check the check box for **Custom Parameters**.
3. In the **Advanced parameters** field, enter `{"callAttributes": {"iXEnabled": true}}`.
4. Click **Save**.

Enabling iX support in Cisco Unified Communications Manager

Support for the iX protocol is disabled by default. To enable iX support in 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.

Filtering iX in Cisco VCS

To configure the Cisco VCS to filter out the iX application line for a neighbor zone that does not support the protocol, the zone must be configured with a custom zone profile that has the **SIP UDP/iX filter mode** advanced configuration option set to *On*.

To update advanced zone profile option settings:

1. Create a new neighbor zone or select an existing zone (**Configuration > Zones > Zones**).
2. In the Advanced parameters section, for **Zone profile**, choose *Custom* if it is not already selected. The zone profile advanced configuration options display.
3. From the **SIP UDP/iX filter mode** drop-down list, choose **On**.
4. Click **Save**.

Related documentation

Title	Reference	Link
Optimized Conferencing for Cisco Unified Communications Manager and Cisco VCS Solution Guide 3.0	D15027	http://www.cisco.com/c/en/us/support/conferencing/telepresence-conductor/products-installation-and-configuration-guides-list.html
Optimized Conferencing for Cisco Unified Communications Manager and Cisco VCS Solution Release Notes 3.0	D15028	http://www.cisco.com/c/en/us/support/conferencing/telepresence-conductor/products-release-notes-list.html
Cisco TelePresence Conductor with Cisco Unified Communications Manager Deployment Guide XC2.3, CUCM 10.0 [see Appendix for 9.x]	D14998	http://www.cisco.com/c/en/us/support/conferencing/telepresence-conductor/products-installation-and-configuration-guides-list.html
Cisco TelePresence Management Suite Provisioning Extension with Cisco Unified CM Deployment Guide	D15110	http://www.cisco.com/c/en/us/support/conferencing/telepresence-management-suite-extensions/products-installation-guides-list.html
Cisco TelePresence Conductor with Cisco TelePresence VCS (B2BUA) Deployment Guide XC2.3, X8.1	D15014	http://www.cisco.com/c/en/us/support/conferencing/telepresence-conductor/products-installation-and-configuration-guides-list.html
Cisco TelePresence Management Suite Provisioning Extension with Cisco VCS Deployment Guide	D14941	http://www.cisco.com/c/en/us/support/conferencing/telepresence-management-suite-extensions/products-installation-guides-list.html
Cisco TelePresence Conductor Administrator Guide XC2.3	D14826	http://www.cisco.com/c/en/us/support/conferencing/telepresence-conductor/products-maintenance-guides-list.html
Cisco Unified Communications Manager Administration Guide, Release 9.1n	OL-27945	http://www.cisco.com/c/en/us/support/unified-communications/unified-communications-manager-callmanager/products-maintenance-guides-list.html
Cisco Unified Communications Manager Administration Guide, Release 10.0(1)	OL-29000	http://www.cisco.com/c/en/us/support/unified-communications/unified-communications-manager-callmanager/products-maintenance-guides-list.html
Cisco Unified Communications Manager with Cisco Expressway (SIP Trunk) Deployment Guide, Cisco Expressway X8.2	D15062	http://www.cisco.com/c/en/us/support/unified-communications/expressway-series/products-installation-and-configuration-guides-list.html
Cisco Unified Communications Manager with Cisco VCS (SIP Trunk) Deployment Guide, Cisco VCS X8.2	D14602	http://www.cisco.com/c/en/us/support/unified-communications/telepresence-video-communication-server-vcs/products-installation-and-configuration-guides-list.html
Cisco TelePresence Multiway™ Deployment Guide, Cisco VCS, MCU, Conductor	D14366	http://www.cisco.com/c/en/us/support/conferencing/telepresence-conductor/products-installation-and-configuration-guides-list.html

Title	Reference	Link
Cisco Expressway Basic Configuration Deployment Guide X8.2	D15060	http://www.cisco.com/c/en/us/support/unified-communications/expressway-series/products-installation-and-configuration-guides-list.html
Cisco TelePresence Video Communication Server Basic Configuration (Control with Expressway) Deployment Guide Cisco VCS X8.2	D14651	http://www.cisco.com/c/en/us/support/unified-communications/telepresence-video-communication-server-vcs/products-installation-and-configuration-guides-list.html
Cisco TelePresence Management Suite Administrator Guide Version 14.4	D13741	http://www.cisco.com/c/en/us/support/conferencing/telepresence-management-suite-tms/products-maintenance-guides-list.html
Cisco WebEx Enabled TelePresence Configuration Guide	OL-21352	http://www.cisco.com/c/en/us/support/conferencing/telepresence-management-suite-tms/products-installation-and-configuration-guides-list.html
Cisco TelePresence Conductor Product Programming Reference Guide XC2.3 (includes Conductor Provisioning API reference)	D14948	http://www.cisco.com/c/en/us/support/conferencing/telepresence-conductor/products-programming-reference-guides-list.html
Cisco Expressway Administrator Guide X8.2	D15058	http://www.cisco.com/c/en/us/support/unified-communications/expressway-series/products-maintenance-guides-list.html
Cisco TelePresence Video Communication Server Administrator Guide X8.2	D14049	http://www.cisco.com/c/en/us/support/unified-communications/telepresence-video-communication-server-vcs/products-maintenance-guides-list.html

More product documentation on Cisco.com

Product	Link
TelePresence Conductor	http://www.cisco.com/c/en/us/support/conferencing/telepresence-conductor/tsd-products-support-series-home.html
Unified CM	http://www.cisco.com/c/en/us/support/unified-communications/unified-communications-manager-callmanager/tsd-products-support-series-home.html
MCU 5300 Series	http://www.cisco.com/c/en/us/support/conferencing/telepresence-mcu-5300-series/tsd-products-support-series-home.html
MCU 4500 Series	http://www.cisco.com/c/en/us/support/conferencing/telepresence-mcu-4500-series/tsd-products-support-series-home.html
MCU MSE Series	http://www.cisco.com/c/en/us/support/conferencing/telepresence-mcu-mse-series/tsd-products-support-series-home.html
TelePresence Server	http://www.cisco.com/c/en/us/support/conferencing/telepresence-server/tsd-products-support-series-home.html
Cisco Expressway	http://www.cisco.com/c/en/us/support/unified-communications/expressway-series/products-installation-and-configuration-guides-list.html
Cisco VCS	http://www.cisco.com/c/en/us/support/unified-communications/telepresence-video-communication-server-vcs/tsd-products-support-series-home.html

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