Optimized Conferencing for Cisco Unified CM and Cisco VCS Release 2.0

Solution Release Notes
October 2013

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Introduction

These release notes accompany *Optimized Conferencing for Cisco Unified CM and Cisco VCS Solution Guide* (D15027), which describes the solution and provides links to the relevant product documentation.

Required versions for Optimized Conferencing

For the Optimized Conferencing solution to operate across your network, the network devices must be running the following software or firmware. Your organization may not use all these products but those that are used must be at the specified version:

- TelePresence Conductor XC2.2
- Cisco TelePresence Server 3.1
- Cisco MCU 4.4
- Cisco Unified CM 9.1.2
- Cisco VCS Control/Expressway X7.2 or X7.2.2 (X7.2.2 is recommended)
- Cisco TMS 14.3, Cisco TMSXE 3.1
- Cisco WebEx T28.12
- Cisco TelePresence endpoints
  - CTS 500, CTS 1100, CTS 1300, CTS 3010 and CTS 3210 require CTS 1.10.2
  - EX60, EX90, Quick Set C20, SX20, C Series C40, C60, and C90, MX200, MX300 and Profile Series require TC6.2
  - TX9900 and TX9200 Series require TX6.0.3
- Other Cisco endpoints and peripherals
  - DX650 10.0(2)
  - Unified IP Phone 9900 Series requires 9.3(4)
  - Unified IP Phone 8900 Series requires 9.3(2)
  - Jabber for Windows 9.2
  - Jabber for iPad 9.3
  - Jabber Video for TelePresence (formerly Movi) 4.6
  - IP Video Phone E20 requires TE4.1.3

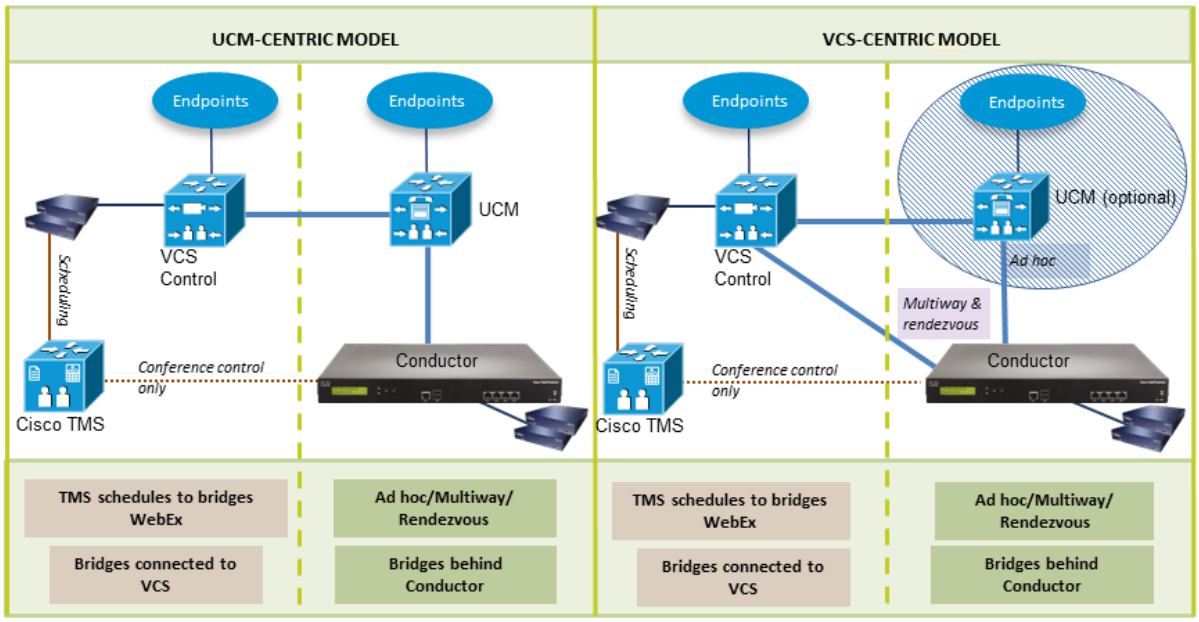
CAUTION: If any devices are running earlier software, follow the recommended upgrade sequence in *Optimized Conferencing for Cisco Unified CM and Cisco VCS Solution Guide*.

Deployment models summary

Optimized Conferencing Version 2.0 can be deployed in either of two configurations:

- UCM-centric model
  Recommended for Cisco Unified CM-based organizations. Supports scheduling for WebEx conferences (requires Cisco VCS). TelePresence Conductor is configured with Cisco Unified CM only. Cisco Unified CM manages all call control except for scheduled conferencing, including WebEx, which is handled separately by Cisco VCS.
- VCS-centric model
  Recommended for Cisco VCS-based organizations. Required for organizations that do not use Cisco Unified CM. Supports scheduling for WebEx conferences. TelePresence Conductor is configured with Cisco VCS, which manages all call control except for ad hoc conferences. TelePresence Conductor can also be configured with Cisco Unified CM if ad hoc conferencing is used. (In this context ad hoc conferencing does not include Multiway™, which is managed by Cisco VCS.)

Figure 1: High-level view of the two deployment models



What's New in Optimized Conferencing Version 2.0

WebEx conferencing

The Optimized Conferencing solution now supports WebEx users participating in conferences hosted on MCU or TelePresence Server 7010 and MSE 8710 bridges. Optimized Conferencing is aligned with the Cisco WebEx Enabled TelePresence solution, which defines how to schedule video conferences for joint participation by TelePresence and WebEx users. In this release, scheduling for conferences that support WebEx is performed directly to the bridges and not through Cisco TelePresence Conductor.

Enhanced conference experience

Conferences hosted on TelePresence Server bridges now support the following functions:

- ActiveControl to endpoints
  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 users can disconnect other participants.
  ActiveControl requires the TelePresence Server to be running in remotely managed operation mode. Certain configuration considerations also apply to this feature.
- Packet loss resilience enhancements
  Cisco ClearPath technology is supported for conferences hosted on TelePresence Servers. ClearPath uses advanced error correction techniques to optimize video quality over low quality connections.
- Room switching enhancements
  Previously a blank pane might display when the focus switched between a speaker in a multiscreen room and a speaker in a non-multiscreen room. The TelePresence Server will now use streams from a multiscreen room to fill any panes that might otherwise be left blank. Note that this is also available for TelePresence Servers in locally managed operation mode.

Extended TelePresence Conductor support

Bridges deployed with the Cisco VCS (call control provided by the Cisco VCS) are now pooled behind TelePresence Conductor in the same way as bridges deployed with the Cisco Unified CM. Consequently the benefits of automatic resource allocation and load balancing by TelePresence Conductor now extend to Cisco VCS-based bridges.

Entry-level platforms

Optimized Conferencing now supports entry-level video conferencing, with new, lower cost platforms (virtual and hardware) that can support lower capacity configurations. Capacity can be grown subsequently by adding screen licenses. Single-bridge configurations have the option to use a trial version of TelePresence Conductor—that is, running it without a release key. The following bridges are available for entry-level SIP-based video conferencing in an Optimized Conferencing deployment:

Table 1: Bridges that support entry-level SIP-based video conferencing

Bridge	Type
Cisco TelePresence Server on Multiparty Media 310	Physical

Cisco TelePresence Server on Multiparty Media 320	Physical
Cisco TelePresence Server on Virtual Machine	Virtual

The TelePresence Server Version 3.1 release notes contain details about bridge call limits and screen license requirements.

Resolution modes

The TelePresence Server now supports a conference service level for 360p30.

More endpoints supported by Cisco Unified CM

These Cisco TelePresence endpoints can now be registered to Cisco Unified CM, provided they are running software version TC6.1 or later (TC6.2 or later is required for some Optimized Conferencing features):

- C20, C40, C60, C90
- MX200, MX300
- SX20
- Profile Series

For a list of endpoints supported in Optimized Conferencing deployments, see *Optimized Conferencing for Cisco Unified CM and Cisco VCS Solution Guide*.

Ad hoc conferencing

Subject to running TC6.1 or later, the endpoints listed above now support a conferencing button which allows users to escalate a point-to-point (two-way) call to an ad hoc conference (three-way). The three-way conference can optionally be further extended by adding more participants. As additional participant(s) leave, the conference is automatically returned to a point-to-point call when only two participants remain.

Administration for TIP multiscreen endpoints

This feature applies to deployments with Cisco TIP multiscreen endpoints and TelePresence Server bridges. Previously we recommended that you manually pre-configure endpoints to ensure allocation of the appropriate number of screens at connection time (to override the *Maximum screens* setting in the TelePresence Conductor conference template for endpoints with fewer screens than the defined maximum). In this release, providing you are running TelePresence Conductor version XC2.2 and it is deployed in back-to-back user agent (B2BUA) mode, Cisco TIP devices are automatically allocated the appropriate number of screens up to the *Maximum screens* setting in the template, *except* in the following cases:

- Pre-configured endpoints. Resources are allocated according to the configured settings.
- Ad hoc conferences. The default maximum screens defined in the conference template are allocated (although subsequently on successful connection the allocation is optimized down if appropriate).

Manual configuration may still be needed for multiscreen devices that do not support TIP, and for some third-party devices. For details about resource allocation and optimization settings, see *Cisco TelePresence Conductor Administrator Guide*.

PSTN audio support

TelePresence Server bridges now support PSTN-based audio for WebEx conferencing. The audio traffic can be routed via a telephony network to a telephony service provider (TSP). Note that TelePresence Server bridges used for WebEx participation must be configured in locally managed operation mode.

Software upgrade sequence

The recommended software upgrade sequence to implement Optimized Conferencing has changed from the previous release.

Addition of VCS-centric model

In this release of Optimized Conferencing it is now possible to use the Cisco VCS as the primary call control system for rendezvous and Multiway calls. This VCS-centric model is designed for customers who only have Cisco VCS. Customers with Cisco Unified CM should use the UCM-centric model.

Resolved issues

The following issues were found in previous releases of Optimized Conferencing and are resolved in Version 2.0.

Identifier	Description
CSCtx16122	Resolved the issue of intermittent lack of video or audio experienced by H.323 endpoints registered to a Cisco VCS when in a call with a Cisco Unified CM endpoint.
CSCud38739	Resolved the issue of no received video on H.323 endpoints if the **`vcs-interop`** script was enabled on TelePresence Conductor.
CSCud59961	EX60 endpoint users added to a Cisco Unified CM ad hoc conference may see the Welcome screen with a randomly generated conference name. This does not impact the conference. Instructions have now been added to the TelePresence Conductor user documentation to explain how to suppress the Welcome screen.
CSCud83749	Resolved the issue where if a participant left a 3-party ad hoc conference, the remaining two endpoints in the call might lose video or audio after the participant left the call.
CSCue04207	[Reassigned to ID CSCue58577]
CSCue21164	Resolved the issue where calls were not resumed after de-escalating from an ad hoc conference involving Jabber for Windows or EX90 (running TE6.x) endpoints and endpoints registered to another Cisco Unified CM.
CSCue58577	Resolved the issue where CTS 3000 endpoint users might experience corrupted video on calls de-escalated from MCU or TelePresence Server ad hoc conferences.
CSCug94725	[This was found during Early Field Trials of Optimized Conferencing Version 2.0 and is now resolved in TelePresence Conductor XC2.2] Previously some HTTPS clients caused high CPU loads on MCU 4500 Series and MCU 4200 Series devices when connected to the MCU. **Note:** High CPU loading may still occur if HTTPS traffic to the MCU does not maintain its session.
CSCug89748	[This is resolved in Cisco Unified CM Version 9.1.2.] In Versions 9.0, 9.1, and 9.1.1, pressing **Hold** on a CTS (or TC) endpoint in a conference hosted on a TelePresence Server through TelePresence Conductor causes the call to drop.

Open issues

The following issues apply to Optimized Conferencing Version 2.0.

Identifier	Description
CSCuc34385	Cisco Unified CM is unable to handle Multiway with Cisco ad hoc call escalation. This limitation is explained in Ad hoc escalation of a rendezvous or Multiway conference causes a chained conference [p.11]
CSCud83776	Clustering TelePresence Conductors is currently not supported in Cisco TMS. Only add a maximum of one node from a cluster into the Cisco TMS conference control center.
CSCud89449	If a call between an H.323 endpoint to a Cisco Unified CM endpoint is escalated, the H.323 endpoint may receive the presentation in the main video rather than the presentation channel.
CSCug68727	CTS endpoint users hear audio corruption while joining as the first participant in an MCU-hosted conference.
CSCug89748	[This is resolved in Cisco Unified CM Version 9.1.2.] In Versions 9.0, 9.1, and 9.1.1, pressing **Hold** on a CTS (or TC) endpoint in a conference hosted on a TelePresence Server through TelePresence Conductor causes the call to drop.
CSCuh00285	The "conference ends in five minutes" warning message to participants is not adjusted if a conference master extends the meeting duration. The warning to the conference master is adjusted, but not to other participants.
CSCuh09381	Escalating a call from a DCE DX650 endpoint to a TX9000 endpoint over a SIP TLS trunk causes the TX9000 to drop from the call (also see SIP trunk configuration [p.14])
CSCuh38547	Issues exist with the ClearPath technology for conferences initiated from a Quickset SX 20 endpoint. See the TC6 software release notes for details.
CSCuh58152	The TelePresence Server does not support ClearPath for the source content channel from ClearPath-enabled endpoints.
CSCuh60040	For outdialed calls the TelePresence Conductor-generated Call Tags (UUIDs) are used in user interface displays and in event logs, instead of participant names.
CSCuh60704	In encrypted calls, DCE DX650 endpoints do not send video to Cisco VCS-managed H.323 endpoints.
CSCuh64139	CTS endpoints in escalated conferences send content in the main video channel.
CSCuh64828	Conferences escalated from an H.323 call may display a black screen when the session refreshes.
CSCuh69830, CSCuh89695	[Only applies to VCS-centric model of Optimized Conferencing] DCE DX650 endpoints with encryption enabled stop sending audio and video after escalating to a Multiway conference on an MCU.
CSCuh78199	Joining a Cisco Unified CM-registered endpoint into an existing Multiway conference on the Cisco VCS fails.
CSCuh99378	Scheduled conferences that include immersive endpoints are routed direct to the conference bridge rather than via TelePresence Conductor, even though TelePresence Conductor is defined as the preferred bridge type.

CSCui01713	For an H.323 endpoint that is defined with an E.164 number (and no SIP URI) Cisco TMS does not correlate an active interworked H.323 to SIP call with scheduled outdialed calls to that same endpoint.
CSCui06221	The Touch controller on endpoints running TC6.2 displays a button to change the layout of remote participants in ad hoc, Multiway, and rendezvous conferences. This button has no effect and is only relevant in multisite conferences:
CSCui15439	Cisco VCS-managed H.323 endpoints with encryption switched off cannot call secure Cisco Unified CM endpoints.
CSCui15445	Under exceptionally heavy loads, MCU-hosted rendezvous conferences with a reserved content channel and no participant limits may result in audio only on a cascaded MCU.
CSCui15452	"Session Interval Too Small" (422) SIP messages are not proxied back to the call originator and instead the interworking function tries to send them out over H.323 as an interworked call.
CSCui15462	Requests to escalate a call initiated from a Cisco VCS-managed EX90 endpoint may fail on an MCU bridge managed by TelePresence Conductor.
CSCui34699	Multiway fails when CTS dials in.
CSCui40418	EX90 endpoints occasionally exhibit high latency and video corruption in low bandwidth calls.

Limitations

The following limitations apply to Optimized Conferencing Version 2.0.

Scheduling using Outlook plug-in (WebEx Enabled TelePresence configurations)

Scheduling using the Outlook plug-in provided with another version of the WebEx Productivity Tools is not supported when the WebEx and TelePresence Integration to Outlook is installed. Only one plug-in can be installed and used on a single computer.

Resource allocation by TelePresence Conductor

For rendezvous calls on TelePresence Servers, TelePresence Conductor decides what TelePresence Server resources are required to set up the call by adding the resources required for the incoming call to the *maximum* quality/resource requirements defined by the associated conference template. The combined resource total is used to calculate whether sufficient resources exist to set up the call. TelePresence Conductor first checks the highest priority bridge pool, and if this fails then it checks in turn through other bridge pools associated with the Service Preference order defined for the template, until it can service the call.

IPv6

This release of Optimized Conferencing does not support IPv6. IPv6 is however supported for interworked calls through the Cisco VCS Control.

Encryption on content channel over SIP (MCU bridges)

The MCU sends encrypted outgoing content over SIP in the main video channel.

Content in main video channel in some SIP/H.323 interworking cases

Content channel implications exist for H.323-registered endpoints calling into an MCU-hosted SIP conference registered to the Cisco VCS. If one H.323 endpoint has an active content channel associated with it, subsequent attempts by other H.323 endpoints to acquire the presentation will fail and the content is instead sent in the main video channel. The original endpoint (which still thinks it is sending) similarly receives the content in main video.

iX protocol support (for ActiveControl)

In this release of Optimized Conferencing the Cisco VCS does not fully support the iX protocol (which is required for ActiveControl).

Locking MCU-hosted conferences behind TelePresence Conductor

It is not possible to lock a rendezvous conference (through the Cisco TMS Conference Control Center) on an MCU bridge which is managed through TelePresence Conductor.

Ad hoc escalation of a rendezvous or Multiway conference causes a chained conference

Clicking the conference button on a Unified CM endpoint results in the endpoint trying to create a new ad hoc conference escalation rather than extending the rendezvous or Multiway conference. This causes the ad hoc conference to be chained with the existing rendezvous or Multiway conference. The endpoints will be distributed across the two chained conferences resulting in a degraded conference experience for the participants.

The ad hoc call escalation method is only supported in an ad hoc conference that was created by it, and conferences generated by other methods cannot be extended by the ad hoc mechanism.

Compatibility

We endeavor to make our Cisco TelePresence products interoperable with all relevant standards-based equipment. While it is not possible to test all scenarios within the Optimized Conferencing solution, the tables below indicate the equipment and software versions that were tested for compatibility with this release of the solution.

Table 2: Infrastructure equipment tested with Optimized Conferencing Version 2.0

Product	Hardware/platform	Software	Comments
Cisco Unified CM	UCS	9.1.2	
Cisco VCS (Control and Expressway)	■ Cisco VCS appliance ■ VMware (virtual)	X7.2, X7.2.2 (X7.2.2. recommended)	
Cisco WebEx	T28.12	T28.12	
TelePresence Conductor	■ Cisco VCS appliance ■ VMware (virtual)	XC2.2	B2BUA mode only
MCU	■ 5300 Series ■ MSE 8510	4.4	
TelePresence Server	■ TS 7010 ■ MSE 8710	3.1	Running in remotely managed operation mode
TelePresence Server	■ TS 7010 ■ MSE 8710	3.1	Running in locally managed operation mode for WebEx participation
TelePresence Server	■ Multiparty Media 310 ■ Multiparty Media 320	3.1	
TelePresence Server on Virtual Machine	C240 M3S (SFF) TRC 1 specification	3.1	
Cisco TMS		14.3	
Cisco TMSXE		3.1	

Table 3: Cisco endpoints and peripherals tested with Optimized Conferencing Version 2.0

Software/firmware	Hardware/platform	Registered to...
CTS 1.10.2	CTS-500, CTS-1100, CTS-1300, CTS-3010, CTS-3210	Cisco Unified CM
TX6.0.3	TX 1310-65, TX 9000, TX 9200	Cisco Unified CM
TE4.1.3	E20	Cisco VCS Expressway, Cisco VCS Control

TC6.2	EX60, EX90	Cisco Unified CM
TC6.2	EX60, EX90	Cisco VCS Expressway, Cisco VCS Control
TC6.2	C20, C40, C60, C90, SX20, MX200, MX300	Cisco Unified CM
TC6.2	C20, C40, C60, C90, SX20, MX200, MX300	Cisco VCS Expressway, Cisco VCS Control
Jabber for Windows 9.2	Microsoft Windows 7	Cisco Unified CM
Jabber for iPad 9.3	iPad 2, iPad with Retina display, iPad mini	Cisco Unified CM
Jabber Video for TelePresence (Movi) 4.6	Microsoft Windows 7, Microsoft Windows 8	Cisco Unified CM
DCE 10.0(2)	DX650	Cisco Unified CM
9.3(4)	Unified IP Phone 9900 Series	Cisco Unified CM
9.3(2)	Unified IP Phone 8900 Series	Cisco Unified CM

The following third-party endpoints have been tested for compatibility with the Optimized Conferencing solution:

Table 4: Third-party endpoints tested with Optimized Conferencing Version 2.0

Provider	Endpoint
Polycom HDX	8000
Radvision	Scopia XT10000
Microsoft Windows	Lync 2013 through Advanced Media Gateway

Configuration considerations for this release

This section provides guidance on configuration best practices to avoid potential issues with Optimized Conferencing elements or between Optimized Conferencing and external systems or networks.

SIP trunk configuration

Calls are known to drop over inter-call manager trunks following Hold/Resume operations when CTS or TX9000 endpoints are in a TelePresence Server-hosted call (standalone or pooled behind TelePresence Conductor). To avoid this, set the **DTMF Signaling Method** parameter to *RFC 2833* for each trunk. For VCS to Cisco Unified CM trunks this requirement is described in *Cisco TelePresence Cisco Unified Communications Manager with Cisco VCS (SIP Trunk) Deployment Guide* (D14602), in the instructions for configuring SIP information fields for a **SIP Trunk** device.

Configuring the iX protocol (for ActiveControl)

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. In these cases limitations exist on where you can enable iX.

For ActiveControl configuration details, including the iX limitations for external connections, see *ActiveControl in Optimized Conferencing for Cisco Unified CM and Cisco VCS Deployment Guide*. We strongly advise that you review this guide before deploying ActiveControl.

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
ActiveControl in Optimized Conferencing for Cisco Unified CM and Cisco VCS Deployment Guide	D15051	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 Multiway™ Deployment Guide, Cisco VCS, MCU, Conductor	D14366	http://www.cisco.com/en/US/products/ps11775/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 Management Suite Administrator Guide Version 14.3	D13741	http://www.cisco.com/en/US/products/ps11338/prod_maintenance_guides_list.html
Cisco WebEx Enabled TelePresence Configuration Guide	OL-21352-02	http://www.cisco.com/en/US/products/ps11338/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
MCU 5300 Series	http://www.cisco.com/en/US/products/ps12283/tsd_products_support_series_home.html

MCU 4500 Series	http://www.cisco.com/en/US/products/ps11341/tsd_products_support_series_home.html
MCU MSE Series	http://www.cisco.com/en/US/products/ps11447/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

Using the Bug Search Tool

The Bug Search Tool contains information about open and resolved issues for this release and previous releases, including descriptions of the problems and available workarounds. The identifiers listed in these release notes will take you directly to a description of each issue.

To look for information about a specific problem mentioned in this document:

1. Using a web browser, go to the Bug Search Tool.
2. Sign in with a cisco.com username and password.
3. Enter the bug identifier in the Search field and click **Search**.

To look for information when you do not know the identifier:

1. Type the product name in the **Search** field and click **Search**.
2. From the list of bugs that appears, use the **Filter** drop-down list to filter on either *Keyword*, *Modified Date*, *Severity*, *Status*, or *Technology*.

Use **Advanced Search** on the Bug Search Tool home page to search on a specific software version.

The Bug Search Tool help pages have further information on using the Bug Search Tool.

Getting help

If you experience problems with setting up the Optimized Conferencing solution follow these steps:

- Check the Open issues in these release notes.
- Check the documentation for the product concerned. In particular check the product release notes for known open issues.
- Visit the web site at http://www.cisco.com/cisco/web/support/index.html where you will be able to:
  - Make sure that you are running the most up-to-date software.
  - Get help from the Cisco Technical Support team.

Make sure you have the following information ready before raising a case:

- Identifying information for your product, such as model number, firmware version, and software version (where applicable).
- Your contact email address or telephone number.
- A full description of the problem, including the solution architecture, what you expected to happen, and what actually happened.

To view a list of Cisco TelePresence products that are no longer being sold and might not be supported, visit http://www.cisco.com/en/US/products/prod_end_of_life.html and scroll down to the TelePresence section.

Document revision history

Date	Revision	Description
Aug 2013	01	First release.
Oct 2013	02	Modified section on configuring iX protocol for ActiveControl. This configuration information is now available in a separate ActiveControl deployment guide.

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