Cisco TelePresence Conductor XC2.2.1

Release Notes
Revised February 2014

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Product documentation

The following documents provide guidance on installation, initial configuration, and operation of the product:

- *Cisco TelePresence Conductor Administrator Guide*
- *Cisco TelePresence Conductor Getting Started Guide*
- *Cisco TelePresence Conductor Virtual Machine Deployment Guide*
- *Cisco TelePresence Conductor with Cisco TelePresence VCS (B2BUA) Deployment Guide*
- *Cisco TelePresence Conductor with Cisco TelePresence VCS (Policy Service) Deployment Guide*
- *Cisco TelePresence Conductor with Cisco Unified Communications Manager Deployment Guide*
- *Cisco TelePresence Conductor Clustering with Cisco TelePresence VCS (B2BUA) Deployment Guide*
- *Cisco TelePresence Conductor Clustering with Cisco TelePresence VCS (Policy Service) Deployment Guide*
- *Cisco TelePresence Conductor Clustering with Cisco Unified CM Deployment Guide*
- *Cisco TelePresence Conductor Certificate Deployment Guide*
- *Cisco TelePresence Multiway Deployment Guide*
- *Cisco TelePresence Conductor API Guide*

New features in XC2

New features in XC2.2.1

New option key supporting up to 50 concurrent call sessions

From Cisco TelePresence Conductor version XC2.2.1 a new option key is available for the Virtual Machine TelePresence Conductor which supports up to 50 concurrent call sessions. This option key can be obtained from your Cisco representative. It provides access to Cisco TAC (Technical Assistance Center) support and is suitable for small and medium-sized deployments.

See Limitations [p.10] for information on the limitations when running TelePresence Conductor with this option key installed.

New features in XC2.2

XML-RPC API support for scheduled WebEx conferences

The TelePresence Conductor API now supports the ability to create conferences that can bridge to a WebEx cloud. It supports the ability to add a WebEx cloud link via a single SIP connection for both audio and video traffic, or via a video SIP connection and an audio SIP-TSP connection.

In order for the TelePresence Conductor to connect to WebEx, an application like Cisco TMS is required to control the API. For Cisco TMS support, please see *Cisco TMS Release Notes*.

Improved TIP-compliant endpoint support

Multiscreen endpoints that are compliant with the TelePresence Interoperability Protocol (TIP) do not need to be pre-configured any longer. The TelePresence Conductor is now able to retrieve the number of screens and the associated resources that are required on the conference bridge via TIP. The TelePresence Conductor no longer over-allocates resources on the conference bridge for multiscreen endpoints.

However, these improvements are only applicable to deployments where SIP signaling is routed via the TelePresence Conductor; Cisco VCS deployments using the external policy service continue to work as in previous releases. Additionally, the TelePresence Conductor still over-allocates resources initially for reserved chairperson participants and for escalated Unified CM ad hoc conferences.

360p video support

The TelePresence Conductor now supports 360p video for TelePresence Servers running software version 3.1 or later. There is a new pre-defined quality level with 360p video and mono audio defined that can be selected for conference templates and pre-configured endpoint codecs. New quality levels can be added that use 360p video.

Support for TelePresence Server software on new hardware

The TelePresence Conductor now supports new hardware platforms for the TelePresence Server software version 3.1. It supports the platforms Cisco Multiparty Media 310 and Cisco Multiparty Media 320, as well as the Cisco TelePresence Server on Virtual Machine.

Alarm for minimum conference bridge version

The TelePresence Conductor now raises a minimum version alarm when connected to a MCU running version 4.3 or lower, and when connected to a TelePresence Server running version 3.0 in remotely managed mode. If a TelePresence Server is running version 2.x and/or is in locally managed mode, TelePresence Conductor will raise an alarm stating that the conference bridge is running in the wrong mode.

These older conference bridge versions do not support some of the new features for XC2.2.

Automated intrusion protection

An automated intrusion protection feature has been added. It can be used to detect and block malicious traffic and to help protect the TelePresence Conductor from dictionary-based attempts to breach login security.

Automated protection should be used in combination with the existing firewall rules feature - use automated protection to temporarily block specific threats and use firewall rules to block permanently a range of known host addresses.

Changes to B2BUA security status handling

The TelePresence Conductor back-to-back user agent (B2BUA) now modifies the conference security status to be unencrypted when the inbound SIP connection is over TCP and the outbound SIP connection is over TLS. For the conference security status to be encrypted, SIP signaling must be encrypted on all call legs.

ActiveControl support

The TelePresence Conductor now allows ActiveControl to be negotiated between an endpoint and TelePresence Servers that support this feature. To operate, ActiveControl must be enabled on a TelePresence Server version 3.1 or later by enabling the iX protocol on the TelePresence Conductor under **Conference templates > Advanced template parameters**. Information about capabilities and limitations of this feature is available in the *Cisco TelePresence Server Release Notes*.

Allow or disallow conference creation

A conference alias can now be configured to either allow or disallow conference creation. If the conference alias is configured to disallow conference creation, participants can only join the conference via that alias if the conference already exists. The conference can still be created via the API or by dialing a different conference alias defined for the same conference.

New XML-RPC API parameter added for maximum conference duration

A new XML-RPC parameter has been added to the TelePresence Conductor API that allows API users to override the maximum conference duration configured on the conference template with a lower value.

New XML-RPC API parameter added for number of endpoint screens

A new XML-RPC parameter has been added to the TelePresence Conductor API that allows API users to override the number of endpoint screens configured on the conference template with a lower value. This parameter is only applicable to conference templates that:

- point to a Service Preference containing TelePresence Server pools
- have **Allow multiscreen** set to *Yes*
- have a **Maximum screens** value that is greater than the value specified in the API parameter

Firewall rules configuration

When configuring the firewall rules priority, it is now easier to change the order of the rules by using up/down arrow buttons to swap the priorities of adjacent rules.

Managing trusted CA certificates

The TelePresence Conductor's server and trusted CA certificates can now be viewed in either a human-readable, decoded format, or in raw PEM format.

Administrator authentication source

When configuring the source for administrator account authentication, the *Remote* option is now labeled as *Remote only*. You can no longer access the TelePresence Conductor via a locally configured admin account if a *Remote only* authentication source is in use.

The *Local* option has also been renamed to *Local only*.

Improved user interface

Changes have been made to improve the TelePresence Conductor user interface.

New features in XC2.1

Limited system capacity when running without a release key

The TelePresence Conductor can be run without a release key. In this mode the system capacity is limited; only a single un-clustered conference bridge can be enabled and the TelePresence Conductor cannot be clustered.

Where the TelePresence Conductor has no release key, only "community support" is available. This is a self / collaborative support effort, using technical forums like https://supportforums.cisco.com/community/netpro/collaboration-voice-video/telepresence. TAC support is only available for TelePresence Conductors that have a release key; for further details see https://www.cisco.com/web/services/portfolio/product-technical-support/index.html.

For deployments in production environments we recommend that customers upgrade to a fully licensed installation of TelePresence Conductor.

New features in XC2.0.2

This is a maintenance release.

New features in XC2.0.1

This is a maintenance release.

New features in XC2.0

Cisco TelePresence Server support

A new conference bridge type of Cisco TelePresence Server is supported in this release of the TelePresence Conductor. Conference bridge pools can now be made up of either TelePresence Servers or MCUs.

Cisco Unified Communications Manager support

The TelePresence Conductor now supports direct connection to Cisco Unified Communications Manager for ad hoc and rendezvous calls. Endpoints can be registered with either Unified CM or Cisco VCS and call into the same conference.

Addition of multiple IP addresses

Multiple IP addresses can be added on TelePresence Conductor. A different IP address is needed on the TelePresence Conductor for each ad hoc Unified CM location and each rendezvous Unified CM location. This allows the TelePresence Conductor to mimic Unified CM's expectation that it is connecting to separate conference bridges in each location, for ad hoc and rendezvous calls.

Known and unknown multiscreen endpoint support for TelePresence Server conferences

The TelePresence Conductor supports endpoints with more than one screen in conferences hosted on TelePresence Servers.

Cisco TelePresence System (CTS) series endpoints, including Cisco TelePresence System T3, can be pre-configured, in which case they will be allocated the resources defined for the endpoint, or supported without pre-configuration, in which case they will be allocated the resources defined for the conference template.

Other customized multiscreen endpoints have to be pre-configured if sufficient resources are to be allocated on the TelePresence Servers used in the relevant conferences.

Support for third-party and customized multiscreen TelePresence systems (i.e. those other than CTS3xxx, TX9000 or T3) require the optional third-party interop key on the TelePresence Server.

Resource optimization

Resource optimization allows resources that are initially over-allocated on a TelePresence Server to be recovered and re-allocated for other participants, allowing more participants to be handled by a single TelePresence Server.

XML-RPC API support to communicate between Cisco TMS and TelePresence Server 3.0

The TelePresence Conductor API now has support added to translate information being sent between Cisco TelePresence Management Suite and TelePresence Server version 3.0 running in 'Remotely managed' mode. See *Cisco TelePresence Management Suite Release Notes* for information on when this support has been added to the Cisco TMS.

Improvements to logging

Filtered event logs can now be downloaded from the UI.

It is possible to specify the remote syslog server mode as one of the following:

- Legacy BSD format
- IETF syslog format
- IETF syslog using TLS connection
- Custom

The Configuration Log page provides a list of all changes to the TelePresence Conductor configuration, providing users with an audit trail of the TelePresence Conductor configuration.

System Administration session timeout and limits

It is now possible to set a session time out, as well as limits for concurrent sessions and concurrent logins per administrator account for web, SSH and serial sessions.

Certificate signing request (CSR)

The TelePresence Conductor can now generate server certificate signing requests, which removes the need to use an external mechanism to generate and obtain certificate requests.

Firewall rules

Firewall rules can now be added to the TelePresence Conductor, which provide the ability to configure IP table rules to control access to the TelePresence Conductor at the IP level.

Addition of multiple administrator accounts

It is now possible to add multiple administrator accounts with pre-determined access level settings.

Other changes and improvements

Improvements have been made to the TelePresence Conductor web interface.

Resolved issues

Resolved in XC2.2.1

There are no issues that were resolved in XC2.2.1.

Resolved in XC2.2

The following issues were found in previous releases and were resolved in XC2.2:

Identifier	Description
CSCuh98153	There was an inconsistency in the Cisco TelePresence Conductor with Cisco Unified Communications Manager Deployment Guide (XC2.1) in regards to the recommended SIP setting on the TelePresence Server. This has been corrected in the XC2.2 version of the deployment guide.
CSCuh95327	The TelePresence Conductor deployment guides did not mention specifically that multiscreen auto-dialed participants are not supported. This has been corrected in the XC2.2 version of the deployment guide.
CSCuh30073	The TelePresence Conductor online help pages contained some incorrect regular expression examples. These have been corrected in the XC2.2 version of the online help.
CSCug78943	When configuring two TelePresence Server conference pools in a prioritized list using Service Preferences on TelePresence Conductor, conferences were only ever placed in the first pool. Lower priority pools were not used. This has been fixed in XC2.2.
CSCui42333	Failure to make a call via TelePresence Conductor (i.e. scheduled call from TMS) when the dial-out URL contained unicode strings. This has been fixed in XC2.2.
CSCug62478	The conference bridge status page on Telepresence Conductor sometimes reported an incorrect number of TelePresence Server screen licenses. This has been fixed in XC2.2.
CSCuf38907	Enhancement request for TelePresence Conductor to support auto detection of endpoint multiscreen capabilities via TIP. This feature was added in XC2.2 (Note that it still requires "Provision for multiscreen" to be set).
CSCui21923	The Cisco TelePresence Conductor with Cisco Unified Communications Manager Deployment Guide (XC2.1) detailed steps on how to upload a self-signed server certificate to TelePresence Conductor. Because Unified CM may not support the default TelePresence Conductor server certificate the recommendation has been changed to use an officially signed server certificate instead.
CSCuh15866	MCU 4501 running 4.4(3.49) experienced high CPU load when connected to TelePresence Conductor via HTTPS. There were no issues when connected via HTTP. This has been fixed in XC2.2.
CSCug88040	When configuring TelePresence Conductor according to "Cisco TelePresence Conductor with Cisco VCS (B2BUA) Deployment Guide", with the neighbor zone profile set to "Infrastructure device" and with a TelePresence Conductor cluster, VCS still routed conference calls to any Out Of Service TelePresence Conductors causing call failure. The deployment guide has been modified to recommend a neighbor zone profile setting of "Custom" with "Automatically respond to SIP searches" set to "On", which will avoid these issues.

Identifier	Description
CSCue71379	The TelePresence Conductor B2BUA deployment needed to pass through max-rcmd-nalu-size in the SDP for H.264 in order to support the CTS 10bears codec as it advertised H.264 restricted pack mode 1. This issue has been fixed in XC2.2.

Resolved in XC2.1

There are no issues that were resolved in XC2.1.

Resolved in XC2.0.2

The following issues were found in previous releases and were resolved in XC2.0.2:

Identifier	Description
CSCue89279	**Symptom:** FUR (Fast picture update) messages get dropped if they contain a stream ID - this means that no video or blocky video may be seen, especially if the data network drops video packets. TS prior to TS3.0(2.46) did not send stream IDs for main video. **Diagnosis:** This problem will only be seen if Conductor without this fix in is used with TS >= 3.0 (2.46). **Versions affected:** XC2.0 and XC2.0.1 **Workaround:** Avoid upgrading TS to >= 3.0 (2.46) until Conductor is upgraded.

Resolved in XC2.0.1

The following issues were found in previous releases and were resolved in XC2.0.1:

Identifier	Description
CSCud97851	**Symptom:** Incident report generated. The switchboard process is automatically restarted by the app so there is a limited impact on the customer. **Diagnosis:** **Versions affected:** XC2.0 **Workaround:** None.

Resolved in XC2.0

The following issues were found in previous releases and were resolved in XC2.0:

Identifier	Description
CSCub46878	**Symptom:** Maximum latency for Telepresence Conductor is not documented. **Diagnosis:** None. **Versions affected:** XC1.2 **Workaround:** None.

Identifier	Description
CSCua01811	**Symptom:** Cannot load "trusted CA certificates file" onto Conductor via the web interface. **Diagnosis:** None. **Versions affected:** XC1.2 **Workaround:** Load "trusted CA certificates file" onto Conductor using SCP.
CSCub84541	**Symptom:** Logins on the web can be slow to complete. **Diagnosis:** When remote authentication is enabled, all logins (not just remote users) can be delayed by many seconds if the LDAP server is slow to respond. **Versions affected:** XC1.2 **Workaround:** None, however delays from the LDAP server are outside the control of the Conductor. **Additional Information:** The fix in X8.0 disables LDAP checks for local users, removing local user delays. Remote user delays will still exist if the LDAP server is slow to respond, but this is outside the control of the Conductor.

Open issues

The following issues apply to this version of the Cisco TelePresence Conductor.

Identifier	Description
CSCuc88654	**Symptom:** Conductor does not handle audio only ports on MCUs, it only supports video ports Conductor only handles video participants joining a conference, and so it does not attempt to use MCU audio only ports. If the video ports get used up on an MCU, Conductor will roll over to using the next MCU pool in the service preference, it will not add users as audio only participants. **Versions affected:** XC1.2 or later **Workaround:** None
CSCud10101	**Symptom:** Auto-dialed participant calls which are configured not to “keep conference alive” can be left in a conference if participants try but fail to enter the conference, or no chair participants arrive on a Lecture-type conference. **Versions affected:** XC1.2 or later **Workaround:** Ensure that there is a maximum duration on any conferences that this may affect, so that the auto-dialed participant is not left waiting forever.
CSCud02050	**Symptom:** If a Lecture-type conference is created on the Conductor with an auto-dialed Content Server, the recording device is started as soon as the user dials in, even before they have successfully entered their PIN. If the user disconnects without entering any PIN code, the auto-dialed content server stays in the conference and records for the maximum time defined in the template. This occurs even when on Conductor, under Conference configuration > Auto dialed participants the option 'Keep conference alive' is set to 'No', which means that the conference should automatically end when only this auto-dialed participant remains. In practice the auto-dialed participant will only clear when the last participant actually leaves the conference, after they have joined successfully. **Versions affected:** XC1.2 or later **Workaround:** Ensure that there is a maximum duration on any conferences that is may affect, so that the auto-dialed participant is not left recording forever.

Identifier	Description
CSCuf34880	**Symptom:** TelePresence Conductor may wait up to 30 seconds before releasing resources between conferences. This can potentially cause the following two issues: ■ it can cause a lack of resources with back-to-back scheduled conferences ■ it can cause the overall utilization of the TelePresence Conductor to go up when a participant repeatedly leaves and joins an ad hoc conference, resulting in the participant eventually not being able to join back into the conference any more **Versions affected:** XC2.0 or later **Workaround:** None
CSCuh49198	**Symptom:** From version XC2.2 the Conductor ensures that there is enough space available on the TelePresence Server for the participant dialing in, any reserved chairpersons, any auto-dialed participants and one extra participant. This may cause the situation where there are sufficient resources available on a TelePresence Server for the participant dialing in, the reserved chairpersons and the auto-dialed participants, but the conference fails because there is not enough space for the extra participant on the same TelePresence Server. If there is another pool with a TelePresence Server that has enough capacity the conference will be placed on that conference bridge **Conditions:** This only affects conferences on TelePresence Servers, not MCUs. **Versions affected:** XC2.2 or later **Workaround:** Ensure that there are sufficient TelePresence Servers available to cope with the resources for the additional participant.
CSCuh94523	**Symptom:** An alias attempting to use a conference template with the advanced template parameter 'Custom layout' set to the value 0 fails to be created. **Conditions:** The customer checks the advanced template parameter 'Custom layout' for an MCU and leaves the value as the default of 0 in their configuration. **Versions affected:** XC2.0 or later **Workaround:** Uncheck the 'Custom layout' parameter in the advanced template parameters configuration or change the value to correspond with a valid layout family index value in the range of 1 to 59.
CSCui12885	**Symptom:** Cisco TMS repeatedly outdials participants if the call that the TelePresence Server outdials is put on hold by the receiving endpoint. **Conditions:** If a TelePresence Server performs an outdial (e.g. at the request of TMS via Conductor) and on receipt of the call, the called party puts the call on hold, Conductor interprets the feedback from TelePresence Server as though the endpoint has dropped the call. Conductor reports this back to TMS which then tries to redial the call. **Versions affected:** XC2.2 **Workaround:** None
CSCui42822	**Symptom:** Conductor does not properly load balance multiple scheduled meetings beginning at the same time across multiple TelePresence Servers in a bridge pool. This can lead to situations where one TelePresence Server will fill up and calls are rejected while other TelePresence Servers in the same bridge pool are under-utilized. **Versions affected:** XC2.0 or later **Workaround:** Only add a single TelePresence Server to the bridge pool used for scheduling.

Identifier	Description
CSCui42818	**Symptom:** Conductor does not properly load balance multiple scheduled meetings beginning at the same time across multiple MCUs in a bridge pool. This can lead to situations where one MCU will fill up and calls are rejected while other MCUs in the same pool are under-utilized. **Versions affected:** XC1.2 or later **Workaround:** Only add identical capacity MCUs to a bridge pool and configure either a content, chairperson or cascade port on the conference template.
CSCui59829	**Symptom:** When Cisco TMS is creating TelePresence Conductor-scheduled meetings, if more than 30 out-dial participants are configured to join the same MCU simultaneously, some of those participants may get re-added multiple times causing the MCU to become full and marked as unusable by Conductor. **Conditions:** This problem occurs when Cisco TMS is trying to add in excess of 30 out-dial participants to the same MCU simultaneously. **Versions affected:** XC2.2 **Workaround:** There is no workaround, other than to use fewer than 30 out-dial participants.

Limitations

Full capacity TelePresence Conductor version XC2.2.1 supports:

- 30 conference bridges
- 30 conference bridge pools
- 30 Service Preferences
- 1000 conference templates
- 1000 conference aliases
- conference bridge types of Cisco TelePresence MCU and Cisco TelePresence Server
- conference cascading on MCUs only
- scheduling with Cisco TMS using either a single TelePresence Server, a single MCU or a pool of identical sized MCUs
- clustering of up to 3 TelePresence Conductors to achieve resilience (full capacity versions only)

It does not support:

- T3 point to point calls escalated to a conference functionality
- conference cascading on TelePresence Servers
- auto-dialed participants that are multiscreen endpoints
- advanced parameters for auto-dialed participants that are part of conferences hosted on TelePresence Servers
- scheduling with Cisco TMS using pools with multiple TelePresence Servers or pools with multiple MCUs of different sizes

The following limitations apply to the three different capacity versions of the TelePresence Conductor:

	TelePresence Conductor Essentials (free)	TelePresence Conductor Select	Full capacity TelePresence Conductor
Suitable deployment	Small Recommended for: ■ testing and reviewing new releases ■ proof of concept demonstrations	Small to medium-sized	Medium-sized to large
Total number of conference bridges supported	1 (standalone)	30	30
Maximum number of concurrent call sessions supported	The number of calls supported by the conference bridge	50	2400
Clustering of TelePresence Conductors supported for resilience	No	Yes (limited to 2 TelePresence Conductor Select)	Yes (up to 3 full capacity TelePresence Conductors)
Access to TAC support	No (for deployment in production environments we recommend upgrading to one of the other two capacity versions)	Yes	Yes
Available as virtual machine or appliance	Virtual machine only	Virtual machine only	Virtual machine and appliance
Release and option keys required to install	No release or option key required	Option key to support 50 concurrent call sessions required	Full capacity TelePresence Conductor release key required

Scheduling with Cisco TMS

As the scheduling solution with Cisco TMS has notable limitations at this time, we recommend carefully considering these limitations and their workarounds prior to deployment. Upcoming releases of TelePresence Conductor and Cisco TMS will address these limitations, and an updated deployment guide for TelePresence Conductor with Cisco TMS will be made available at that time.

Current limitations:

- TelePresence Conductor does not properly load balance multiple scheduled meetings beginning at the same time across multiple MCUs or TelePresence Servers in a bridge pool. This can lead to situations where one MCU or TelePresence Server will fill up and calls will be rejected while others in the same bridge pool are underutilized.
  - As a workaround for MCUs, we recommend only adding identical capacity MCUs to a bridge pool and configuring either a content, chairperson, or cascade port on the conference template. Bug toolkit identifier for this issue: CSCui42818 [p.10].
  - As a workaround for TelePresence Servers, we recommend only adding one TelePresence Server to a bridge pool. Bug toolkit identifier for this issue: CSCui42822 [p.9].

- In some situations, Cisco TMS is unable to add more than 30 out-dial participants to TelePresence Conductor-scheduled meetings, while dial-in participants are still able to join. Bug toolkit identifier for this issue: CSCui59829 [p.10].
- TelePresence Conductor may wait up to 30 seconds before releasing resources between meetings. This may cause denial of inbound and outbound calls for back-to-back meetings and utilization spikes when participants repeatedly leave and join a meeting. Bug toolkit identifier for this issue: CSCuf34880 [p.9]

Planned changes to future releases

A future version of TelePresence Conductor is expected to remove the following feature:

Support for TelePresence Conductor working as a policy server with the Cisco VCS. In a future release TelePresence Conductor must be deployed using TelePresence Conductor's back-to-back user agent (B2BUA), with a SIP trunk to a Cisco VCS or a Unified CM.

Interoperability

The interoperability test results for this product are posted to http://www.cisco.com/go/tp-interop, where you can also find interoperability test results for other Cisco TelePresence products.

Equipment	Minimum software version	Comments
Cisco Unified Communications Manager	8.6.2	We recommend the use of version 9.1.2 or later to support the iX protocol and encryption of rendezvous and ad hoc calls using SRTP and SIP TLS.
Cisco TelePresence Video Communication Server (VCS)	X7.0.1	iX passthrough (required to use the ActiveControl feature) is not supported using Cisco VCS versions earlier than X7.2. In Cisco VCS version X7.2, iX passthrough is only supported when using the Cisco VCS as a proxy, not when using the Cisco VCS's back-to-back user agent (B2BUA).
Cisco TelePresence MCU 4200 series	4.2	We recommend the use of version 4.4 or later. If versions prior to 4.4 are used, an alarm is raised on the TelePresence Conductor, because a number of features are only supported when running with version 4.4 or later.
Cisco TelePresence MCU 4500 series	4.2	We recommend the use of version 4.4 or later. If versions prior to 4.4 are used, an alarm is raised on the TelePresence Conductor, because a number of features are only supported when running with version 4.4 or later.
Cisco TelePresence MSE8000 blades 8420 and 8510	4.2	We recommend the use of version 4.4 or later. If versions prior to 4.4 are used, an alarm is raised on the TelePresence Conductor, because a number of features are only supported when running with version 4.4 or later.

Equipment	Minimum software version	Comments
Cisco TelePresence MCU 53XX series	4.3 (2.30)	All other MCUs used by the same TelePresence Conductor need to be running release 4.3(2.18) or later. We recommend the use of version 4.4 or later. If versions prior to 4.4 are used, an alarm is raised on the TelePresence Conductor, because a number of features are only supported when running with version 4.4 or later.
Cisco TelePresence Server	3.0 (2.46)	We recommend the use of version 3.1 or later. If versions prior to 3.1 are used, an alarm is raised on the TelePresence Conductor, because a number of features are only supported when running with version 3.1 or later. TelePresence Server must be running in 'Remotely managed' mode.
Cisco TelePresence Server on Virtual Machine	3.1	TelePresence Conductor must be configured to use SIP for this TelePresence Server.
Cisco TelePresence Server on Multiparty Media 310/320.	3.1	TelePresence Conductor must be configured to use SIP for this TelePresence Server.
Cisco TelePresence Management Suite	13.1.2	Cisco TMS version 14.1 or later is required to support scheduling on TelePresence Conductor and MCU. We recommend that you use either a single MCU or a pool of identical sized MCUs for scheduling. The use of mixed sized MCUs may lead to call failures and is not supported. Cisco TMS version 14.3 or later is required to support scheduling on TelePresence Conductor and TelePresence Server. We recommend that you use a single TelePresence Server for scheduling. The use of multiple TelePresence Servers may lead to call failures and is not supported.

Upgrading to XC2.2.1

The upgrade requires you to have:

- a valid **Release key**, if you are upgrading the major release of the TelePresence Conductor (for example from XC1.2 to XC2.2.1).
  A release key is not required for:
  - dot releases (for example XC2.0 to XC2.2.1)
  - systems that are running without a release key and with limited capacity (as TelePresence Conductor Essentials)

  Note: if you do not supply a valid release key when upgrading the major release, your system will run as TelePresence Conductor Essentials with limited capacity.
- a software image file for the component you want to upgrade, stored in a location that is locally accessible from your client computer.

Upgrading a standalone TelePresence Conductor

To upgrade a TelePresence Conductor that is not in a cluster the following procedure should be followed:

1. Stop the Cisco VCS from sending requests to TelePresence Conductor.
2. Log into the TelePresence Conductor web interface.
3. Create a backup of your configuration.
4. Upgrade using the **Upgrade** page (**Maintenance > Upgrade**) as described in the Administrator guide.

Upgrading a cluster of TelePresence Conductors

To upgrade a cluster of TelePresence Conductors the following procedure should be followed:

1. Remove the TelePresence Conductor that should be upgraded from the cluster, as described in the relevant *Cisco TelePresence Conductor Clustering Deployment Guide*.
2. Log into the web interface.
3. Create a backup of your configuration.
4. Upgrade using the **Upgrade** page (**Maintenance > Upgrade**) as described in the *Cisco TelePresence Conductor Administrator Guide*.

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.

Technical support

If you cannot find the answer you need in the documentation, check the website at 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.

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

Additional information

Secure communications

For secure communications (HTTPS and SIP/TLS) we recommend that you replace the Cisco TelePresence Conductor default certificate with a certificate generated by a trusted certificate authority. See Cisco TelePresence Conductor Certificate Creation and Use Deployment Guide for TelePresence Conductor to generate certificate signing requests and install certificates.

Hardware shutdown procedure

The TelePresence Conductor uses a hard drive for storing logs. We recommend that you shut down the appliance prior to it being unplugged to ensure a clean shutdown process. This can be done from the web interface.

Initial installation

Initial configuration of the TelePresence Conductor IP address, subnet and gateway can be accomplished through the installation wizard via the serial port or through the front LCD panel. See *Cisco TelePresence Conductor Getting Started*.

Virtual machine

From XC1.2 the TelePresence Conductor software can run on VMware.

Before you can order your release key and any option keys, you must first download and install the .ova file in order to obtain your hardware serial number. The TelePresence Conductor provides limited capacity until a valid release key is entered.

Note that the .ova file is only required for the initial install of the TelePresence Conductor software on VMware. Subsequent upgrades should use the .tar.gz file.

See *Cisco VCS on Virtual Machine Installation Guide* for full installation instructions.

Third-party software included in TelePresence Conductor

Third-party software used in the TelePresence Conductor includes:

Third-party software	Version
Apache	2.4.2
OpenSSL	1.0.1e

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Document revision history

Date	Revision	Description
February 2014	07	Updated description of minimum version alarm feature
October 2013	07	Release of Cisco TelePresence Conductor XC2.2.1
February 2014	06	Updated description of minimum version alarm feature
September 2013	06	Updated with resolved issues in XC2.2.
August 2013	05	Release of Cisco TelePresence Conductor XC2.2
May 2013	04	Release of Cisco TelePresence Conductor XC2.1
March 2013	03	Release of Cisco TelePresence Conductor XC2.0.2
February 2013	02	Release of Cisco TelePresence Conductor XC2.0.1
December 2012	01	Release of Cisco TelePresence Conductor XC2.0

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