Cisco TelePresence MCU Version 4.2(1.50)

Software release notes

D14786.12

October 2011

Contents

Introduction

Version 4.2(1.50) is a maintenance release of the software for the following Cisco TelePresence MCU products:

- Cisco TelePresence MCU 4200 Series
- Cisco TelePresence MCU 4500 Series
- Cisco TelePresence MCU MSE 8420
- Cisco TelePresence MCU MSE 8510

The products are generically referred to as ‘the MCU’ in this document.

This document lists and describes the features supported in this release.

New features in Version 4.2

Version 4.2 of the MCU introduces the following new features:

- Support for IPv6
- Slave participant content negotiation mode
- Lecture mode enhancements
- Increased number of conferences
- Multiple templates
- Templating for maximum participants setting
- Per conference content settings
- Resolutions higher than CIF on calls to Cisco Unified Communications Manager
- Improved layout and camera control
- Different ports for ConferenceMe and web
- ConferenceMe calls via Port B
- Per conference enable/disable of ConferenceMe
- Guest or chair access for ConferenceMe
- Private IP address hiding for ConferenceMe calls
- Full HD mode
- 60 frames per second video
- API enhancements
- SIP content enhancements

New feature descriptions

Support for IPv6

Release 4.2 of the MCU introduces IPv6 functionality. IPv6 is enabled by assigning an IPv6 address to a physical interface on the system. A restart is not needed. There is no feature key or global configuration required.

The key elements of IPv6 functionality are described here:

- Address assignment
- Routes
- DNS
- Services
- Link-local addresses

IPSec is not supported.

IPv6 address fields

Note that when entering an IPv6 literal address in any address field in the web user interface, the address must be enclosed in square brackets [ ].

Address assignment

IPv6 address assignment supports manual or automatic configuration modes.

In manual configuration mode you specify a single global IPv6 address with the prefix length. Optionally you can define a default gateway, either a link-local or global address.

In automatic configuration mode the gateway obtains an IPv6 address automatically with one of the following protocols:

- SLAAC (stateless address auto-configuration)
- Stateful DHCPv6 (address assignment by DHCPv6)
- Stateless DHCPv6 (address assignment by SLAAC; other configuration information by DHCPv6)

Use of DHCPv6 is controlled by the M and O bits in router advertisements (RA) as specified in RFC2462, and DHCPv6 is also used if no RAs are received.

Multiple global IPv6 addresses are not supported. If multiple IPv6 prefixes are advertised by the Router Advertisement (RA) messages then the gateway will select one valid IPv6 address prefix.

To configure IPv6 address assignment, go to **Network > Port A** or **Network > Port B** as appropriate.

Routes

The default gateway of a physical interface can be selected as the IPv6 gateway preference. All outgoing traffic is routed using the default gateway preference unless specified otherwise using explicit routes. You can add explicit routes to the routing table by specifying the IPv6 address in standard CIDR notation (address/prefix length) and selecting a physical interface or specifying a gateway IP address.

To configure IPv6 routing settings, go to **Network > Routes**.

DNS

DNS preference settings now include IPv6 options for Port A and Port B. If these are specified the DNS information will be obtained using DHCPv6. This is subject to the corresponding interface address configuration method being used for the port. For example, to apply IPv6 DNS information for Port A requires the IPv6 address configuration for Port A to be set to “Automatic”.

To configure DNS settings, go to **Network > DNS**.

Services

All network services available in the MCU support IPv6. Services can be enabled, disabled and configured to use a custom port.

To configure services settings, go to **Network > Services**.

Link-local addresses

Link-local IPv6 addresses are generated using the MAC address of each physical interface, and are thus unique per physical interface. No restrictions are imposed on link-local IPv6 addresses and all services enabled on their corresponding global IPv6 address are available on the link-local address. They support basic configuration and administration services (such as the web interface) but may not support full functionality such as making and receiving calls. Full functionality is only guaranteed for the main global IPv6 address on each interface.

Cisco recommends using a PC with a single network interface connected to the local subnet when trying to access the MCU web UI using its link-local IPv6 address.

For example, if you are using a PC with multiple network interfaces, login to the MCU web UI might fail since web browsers do not support URL redirection for an address with a scope ID.

Serial command enhancements

As a result of adding IPv6 support to the MCU there have been some changes to the serial input commands on the MCU. Type ‘help’ at the serial prompt for details of the new syntax and commands.

Slave participant content negotiation mode

In previous versions of the Cisco TelePresence MCU, it was possible to make calls to and receive calls from another MCU and send media successfully in both directions. H.239 content could be received from another MCU by the Cisco TelePresence MCU, however, certain other MCUs (such as the Polycom MGC) did not send on H.239 content received from the Cisco TelePresence MCU to their participants because they expected to always act as a master in content negotiation.

In Version 4.2 it is possible to configure the Cisco TelePresence MCU to be a slave in content negotiation with another MCU. It can be configured as a true slave, where content will only be transmitted if the master MCU agrees, or as a mimic slave where the Cisco TelePresence MCU still acts as a slave in the content negotiation, but will try to send content over other links even if the mimic slave's master rejects the token request.

This is configured via a new field (*Content negotiation*) in the **Add participants** page.

Lecture mode screen layout enhancements

Previously, when in lecture mode all participants except the speaker in a conference would see the same layout. This has been changed so that those joining using the chair ID/PIN (lecture mode) and those joining using the guest ID/PIN see different layouts.

The table below illustrates the screen layout functionality prior to Version 4.2:

	Layout seen by speaker	Layout seen by guest	Layout seen by chair
When a guest is speaking	Continuous presence or participant's custom layout	Speaker	Speaker
When the chair is speaking	Continuous presence or participant's custom layout	Speaker	Speaker

In Release 4.2 automatic lecture mode has two options which determine the screen layout that is seen by a guest when another guest is speaking:

- **Type 1**: The speaker sees continuous presence or their custom layout and all participants see the loudest speaker, be they a chair or a guest.
- **Type 2**: All guests including the speaker see the last chair who spoke full screen. All chairs will see their custom layout.

This is controlled via the existing *Automatic lecture mode* field in the conference **Configuration** page. When this field is set to *Type 1*, the screen layout behavior is as it was prior to Version 4.2 (see the table above). The table below illustrates the new screen layout behavior when *Automatic lecture mode* is set to *Type 2.*

	Layout seen by speaker	Layout seen by guest	Layout seen by chair
When a guest is speaking	Last chair who was speaking	Last chair who was speaking	Participant's custom layout
When the chair is speaking	Participant's custom layout	Speaker	Participant's custom layout

Note that MCUs can be cascaded and lecture mode functionality will continue to work, subject to the following restrictions:

- Cascaded conferences can only be two MCUs deep, with one master MCU and multiple slave MCUs called into it.
- All chairs must connect to the master MCU.
- Cascade links must be H.323.
- All MCUs must have the same setting for *Automatic lecture mode*.

Increased number of conferences

The Cisco TelePresence MCU MSE 8510 can now support up to 500 conferences.

Multiple templates

It is now possible to add additional templates below the top level template in a tree structure. A child template inherits all the settings of its parent.

Templating for maximum participants settings

The “Maximum video participants” and “Maximum audio-only participants” conference settings have been added to the conference templates. These settings can be applied to ad hoc conferences.

The settings for reserved ports have also been added to templates (“Video ports to reserve” and “Audio ports to reserve”). These do not apply to ad hoc conferences as ad hoc conferencing is not available in port reservation mode, but they do apply to scheduled conferences.

As with the **Conference > Configuration** page, only one of the “ports to reserve” or “maximum participants” settings is displayed, depending on whether the unit is in port reservation mode or not.

Per conference content settings

Version 4.2 allows the following content settings to be made on a per conference basis instead of unit wide:

- Outgoing transcoded codec
- Minimum outgoing bit rate

These setting are available in the **Contents** section of the **Configuration** tab for conferences and templates.

Resolutions higher than CIF on calls to Cisco Unified Communications Manager

In previous versions of the MCU, calls to Cisco Unified Communications Manager were limited to CIF resolution. From Version 4.2 it is now optionally possible to send resolutions higher than CIF.

To enable the MCU to send resolutions higher than CIF, go to **Settings > Conferences** and check the *Enable resolutions above CIF to be sent to Cisco Unified CM* box.

Improved layout and camera control

In this release it is now possible to specify whether FECC or DTMF is used to control endpoint cameras. The layout control setting has also been changed to add more options. Both settings now have 5 options:

- Disabled
- FECC only
- DTMF only
- FECC with DTMF fallback
- Both FECC and DTMF

If FECC or DTMF is selected for layout but not camera control then it is not possible to enter camera control mode with that control mechanism. Similarly, if FECC or DTMF is selected for camera control but not layout then using that control will send the camera control to the endpoint immediately and will not affect the state of the layout controls. When one control only affects one action, you directly do that action without any selection (e.g. you don’t need to press zoom in to alter endpoint cameras). When one control can do both layout and camera changes, it will have the existing behaviour of controlling the layout until zoom in or ‘1’ is pressed, then it controls the camera.

Camera control always applies to largest pane, or top left pane when panes are the same size. Note that if you have no way to control the layout then you cannot select which participants' camera to move – you can only control the camera in the top left pane.

Different ports for ConferenceMe and web

It is now possible to give users access to an MCU web page which allows them to join conferences using ConferenceMe and invite other participants to the conference, but has no links to MCU pages unrelated to ConferenceMe. The ConferenceMe installer can also be accessed via the new join page.

To enable this feature go to **Network > Services** and check the *ConferenceMe* box in the TCP service settings and set the port for the ConferenceMe service. If the *Allow ConferenceMe to use web service* box is checked on **Settings > Streaming**, users are still able to connect to the MCU via the web service as before.

ConferenceMe calls via Port B

It is now possible to make calls using Port A or B on the MCU. Links can be generated to the ConferenceMe join page on a different physical port to that which is being used to browse the web interface using **Conferences > Conference name** and clicking on the ConferenceMe *Invite* button.

Per conference enable/disable of ConferenceMe

It is now possible to enable or disable the use of ConferenceMe on conferences on an individual basis. This is done by setting the unit-wide setting *Streaming & ConferenceMe settings* in **Settings > Streaming** to enable ConferenceMe, then selectively enabling or disabling ConferenceMe by setting the *ConferenceMe* parameter in the conference configuration page (go to **Conferences** and click the name of the conference to be enabled or disabled for ConferenceMe).

Guest or chair access for ConferenceMe

In conferences set up with two different PINs for guest and chair participants, ConferenceMe users may now enter either the guest or chair PIN in order to join the conference as that type of participant. If the chair and guest PINs are identical, the ConferenceMe participant will join as a guest.

Private IP address hiding for ConferenceMe calls

Previously, in calls using the ConferenceMe software endpoint private IP addresses were shown in SIP logs. Private IP addresses are now hidden and the dummy address IN IP4 127.0.0.1 is shown instead. Note that this same dummy data is also populated in logs for IPv6. The call is not using IPv4.

Full HD mode

The Cisco TelePresence MCU 4500 series and MSE 8510 now support Full HD mode. Full HD mode allows the MCU to decode at a maximum resolution of 1080p at 30fps, as well as transmit at 1080p at 30fps. Note that the HD+ mode that was introduced in a previous release allowed transmission of these resolutions but only supported decoding of received video in 720p at 30fps.

On the Cisco TelePresence MCU 4500 series, using Full HD mode allows half the number of HD video ports, but the full number of audio-only ports. For example, on the MCU 4520, 20 Full HD video ports are available and the usual 40 audio-only ports.

On the Cisco TelePresence MSE 8510, four media port licenses are required for each Full HD video port. Each video port has only one audio-only port associated with it. The maximum number of Full HD ports available on the MSE 8510 is 10. Therefore, 40 media port licenses are required to provide 10 Full HD video ports which in turn provide 10 audio-only ports.

MSE 8510 clusters can also be put in Full HD mode. This will provide up to 30 Full HD ports on a three blade cluster.

To enable Full HD mode go to **Settings > Media ports** and use the drop down menu. You must restart the MCU after making any changes to the media port settings.

Note that there are no dedicated streaming and content mode ports in Full HD mode and content uses a normal video port. This mode supports sending and receiving content at up to 720p at 30fps or 1080p at 15fps.

60 frames per second video

In this release, the Cisco TelePresence MCU 4500 series, and the Cisco TelePresence MCU MSE 8510 can now send and receive video at 60 frames per second (fps).

The MCU will only send 60fps video to endpoints that have been confirmed as capable of receiving and decoding this framerate.To enable 60fps video, box wide, go to **Settings > Conferences** and check the box labeled *Enable transmission of 60fps*. The *Motion / sharpness tradeoff* setting on the same page should be set to *Favor motion*.

API enhancements

The API for the MCU has been enhanced in this release. Refer to the *Cisco TelePresence MCU Remote Management API Reference Guide* for details.

SIP content enhancements

It is now possible to receive SIP content in UDP BFCP. BFCP SIP content can also now be sent in a separate channel from main video. Note, however, that SIP content cannot be sent from the MCU to an endpoint on encrypted calls. To avoid SIP content being sent in the main video channel, disable encryption on the MCU.

Resolved caveats

The following issues were found in previous releases and have been resolved since Version 4.2(1.46).

Internal reference	CDETS reference	Summary
113615	CSCts23621	In previous releases, private ad-hoc conferences were visible on the "Move Participants" page for a user who only had privilege level for conference creation and full control. This has been resolved in this release
117295	CSCtr56888	In previous releases, when the MCU was set to disconnect incoming calls to unknown conferences or auto attendants, any user dialing the IP address or the MCU prefix plus certain non-numeric characters would still be able to join the auto attendant. This has been resolved in this release
117726	CSCtr77427	In previous 4.2 releases, when there were more than 20 active conferences on the MCU, the Cisco TelePresence Management Suite (TMS) would fail to create conferences and report "duplicate numeric ID" errors in the logs. This has been resolved in this release.
118213	CSCts02721	In previous 4.2 releases, under rare circumstances, the MCU could try to decode a frame incorrectly which could result in a restart. This has been resolved in this release.

The following issues were found in previous releases and have been resolved since Version 4.2(1.43).

Internal reference	CDETS reference	Summary
115962	CSCtr40271	In the previous 4.2 release, when the MCU sent video in resolution of 1080p30 to an endpoint and the welcome message was a long unicode string, then the message was displayed over several lines. However, this caused the MCU to generate error messages and in rare circumstances, caused a reboot. This has been resolved in this release.
115723	CSCtq88736	In the previous 4.2 release, a participant.add API operation would fail if the participant name was longer than 31 characters. This has been resolved in this release.
115381	CSCtq75034	In the previous 4.2 release, when using multicast streaming, the media packets had incorrect TTL values which prevented remote sites from viewing the streaming video. This has been resolved in this release.
113814	CSCtr06800	In previous releases, using the widescreen controls for a participant that was already disconnected and the MCU was set to only send 4:3 resolutions could sometimes result in a reboot. This has been resolved in this release.

The following issues were found in previous releases and have been resolved since Version 4.1(1.59).

Internal reference	CDETS reference	Summary
107316	CSCtr40238	In previous releases, the MCU incorrectly reported an error message about resolution mismatch on a content channel to a participant that is sending content to that conference. This error message no longer appears in this release.
109780	CSCtr40257	In previous versions, the MCU would occasionally recognize speech as touch tone signals causing participant layouts to change. This has been resolved in this release.

Internal reference	CDETS reference	Summary
109799	CSCtr40251	The MCU would occasionally fail when handling XML RPC requests during periods of high call volume. This has now been resolved in this release.
110831	CSCtr40217	In certain rare circumstances corrupted internal messages on the Cisco TelePresence MCU 4500 series could lead to a restart. This has been resolved in this release.
111123	CSCtq80517	In previous versions, if a DSP failed to decrypt corrupted SRTP packets the MCU might restart. This has been improved in this release so that the MCU does not fail when receiving corrupted SRTP media.
111273	CSCtr40224	Conference Pane Placement does not persist after a reboot if Unicode names are used. This was caused by a problem when handling Unicode characters and has been fixed in this release.
111330	CSCtr40278	In previous versions, users were not told to press the pound key when they had finished entering a PIN. The interface now informs users of this.
111340	CSCtr40243	It was not possible to join a conference with ConferenceMe if SIP registration had failed. This has now been resolved in this release.
111613	CSCtr40234	In some rare cases, performing a refresh of the participant statistics page while the participant was disconnecting could cause a restart. This has been fixed in this release.
111629	CSCtr40265	Incorrectly encoded streams could lead to a flood of error messages on the MCU which resulted in a restart. The rate at which these error messages are sent is now limited.
111996	CSCtr40261	In certain cases, Cisco TelePresence Management Server 12.6.1 or earlier would fail to identify the participant it had added and report that participant as disconnected. This was caused by an issue in reporting the identity of participants via the MCU API and is fixed in this release.
112161	CSCtr51260	In previous releases, when streaming a conference using Windows Media Player, the displayed image would be slightly smaller than 4:3 aspect ratio. This has now been resolved in this release.
112270	CSCtr51289	In the 4.1(1.51) release, the way the MCU handled calls from IP addresses or non-numeric numbers when creating ad-hoc conferences was changed from previous MCU code. This has been fixed in this release.
112439	CSCtr51276	In previous releases, when moving VNC participants to a conference which had the *Mute on join* conference setting enabled, the MCU would sometimes reboot. This has now been resolved in this release.
113028	CSCtr51255	A potential instability in the queue that plays out media has been fixed in this release.
113042	CSCtr57090	In previous releases, the MCU would incorrectly send w448p to Cisco TelePresence C-series endpoints when *Favor 448p* was selected in the **Video resolution selection mode** conference setting even though the endpoints are capable of handling higher resolutions without the loss of frame rate. This has now been resolved in this release.
113263	CSCtr57121	In previous releases, the MCU did not filter STUN packets on the Far End Camera Control channel. This resulted in an error message being logged in the event log. This has now been resolved in this release.
113404	CSCts43944	In previous releases, the minimum requirement for Java support was changed from Version 1.5 to 1.6, which resulted in compatibility issues with certain platforms. In this release, the minimum required version has been changed back to Version 1.5.
113444	CSCtr51267	In previous releases, under rare circumstances, the MCU would display inconsistent participant names for ad-hoc dial in participants when generating a response to the participantEnumerate API command. This has been resolved in this release.

Internal reference	CDETS reference	Summary
113456	CSCts43949	In previous releases, the Cisco TelePresence Management Suite (TMS) was not be able to show the thumbnails for participants if the conference had a Unicode name more than six characters long. This has been resolved in this release.

Known limitations

Issues when removing the CompactFlash™ during operation

Removing the CompactFlash card while the MCU is in operation has been known to cause a restart.

Windows Media Player

Streaming a conference with Windows Media Player in multiple windows or tabs on the same browser will crash the browser. This is a known issue with Windows Media Player. If you need to stream more than one conference simultaneously, use a different player such as QuickTime or Real Player.

In addition, Windows Media Player 11 (WMP11) can display streams incorrectly when used as an embedded player with browsers other than Internet Explorer. This is a known incompatibility. In some cases, setting the video size of the main streaming video window (the Video size field in the Streaming page) to Large will correct the problem. To work around this issue, you can use QuickTime or RealPlayer instead of WMP, or use Internet Explorer instead of your normal browser.

Streaming to QuickTime7 causes problems with some browsers

Streaming to an embedded QuickTime player using the QuickTime 7.0 plus later option for the Player format on the MCU can cause certain browsers to crash or remain in the 'negotiating' state indefinitely. Affected browsers include: IE6; Firefox 1.5 (Mac and PC); Safari 2.0.3 and earlier, and Camino. IE7 and Safari 2.0.4 do not appear to be affected by this. Using the QuickTime 6.5 plus later option for the Player format on the MCU will allow streaming to QuickTime using any browser that supports a QuickTime plugin.

Clustering limitations

Cisco TelePresence MCU Conference Director will only work with the master blade in a cluster.

If you are using Cisco Telepresence Management Server Version 12.6 or earlier to schedule conferences on clustered blades, only add the master blade to TMS. Do not add slave blades to TMS and remove from TMS any blade that you subsequently configure as a slave blade: you will need to reconfigure any scheduled conferences that were previously configured on slave blades as new conferences running on the master blade.

Uploading and downloading large files while heavily loaded

It is recommended that you do not upload or download large files from the MCU while it is heavily loaded. Files such as CDRs, audit logs and code images should be transferred when there are few or no calls on the MCU.

Multi-cast streaming

In this release multicast streaming is not supported for IPv6.

Binary Floor Control Protocol on encrypted calls

The transmission of SIP content from the MCU using Binary Floor Control Protocol (BFCP) is not supported on encrypted calls. To allow content to be transmitted over SIP calls in a separate channel from main video, you should disable encryption on the MCU or on the target endpoint.

Raw IPv6 addresses in Firefox 4.0

It is not possible to access an MCU HTTPS web interface in Mozilla Firefox Version 4.0 using a raw IPv6 address. It is possible with IPv4 addresses and in earlier versions of Firefox, or if a hostname is used instead of the raw IPv6 address. This is being tracked by Mozilla as bug 633001.

Open caveats

The following issues currently apply to this version of the MCU.

Internal reference	CDETS reference	Summary
105378	CSCtt28978	Disabling encryption while encrypted SIP calls are in progress may cause media problems or disconnections for the calls' participants. We recommend that you do not change global encryption settings while calls are in progress. H.323 calls are unaffected.
110049	CSCtr53874	Slot 10 of the Cisco TelePresence MSE 8000 chassis does not support clustering in this MCU software release. However, slot 10 in the same chassis as a cluster can be used for a standalone blade of any type.
113143	CSCtr51282	Under some circumstances, a Polycom MGC will send content to the MCU that is outside the advertised capabilities of the MCU and therefore the MCU is unable to correctly decode it.

Updating to Version 4.2

CAUTION: You **must** back up your configuration **before** upgrading to Version 4.2.

You must also remember the administrator user name and password for the backup configuration. You will need these if you ever need to make use of this backup file.

CAUTION: Upgrading causes all CDRs to be deleted. If you are using Call Detail Records (CDR) for billing, auditing or any other purpose, before you upgrade to this release, you **must** download and **save** your current CDR data. Also, if you downgrade from this release to any older version, the MCU will delete **all** existing CDRs.

Upgrade instructions

Using a web browser

1. Unzip the image file.
2. Browse to the IP address of the MCU using a web browser.
3. Log in as an administrator.
4. Go to the **Settings > Upgrade** page.
5. In the Main software image section, type in, or browse to the location of the software image file.
6. Click **Upload software image**.

   A progress bar is displayed in a separate pop-up widow while the web browser uploads the file to the MCU or MSE media blade. This takes some time – dependent on your network connection. Do not move your web browser away from the Upgrade software page or refresh this page during the upload process; otherwise, it will abort.

   After a number of minutes, the web browser refreshes automatically and displays “Main image upload completed successfully”.
7. Click **Close Status window**.
8. In the changed Upgrade page, click **Shut down MCU**.
9. Click **Confirm MCU shutdown**.
10. When shutdown has completed, click **Restart MCU and upgrade**.
11. When prompted, confirm the restart. The unit will restart and upgrade itself – this may take up to 25 minutes to complete.

Using FTP

1. Use an FTP client to connect to the MCU – e.g. **`ftp <MCU IP Address>`** from the command prompt.
2. Log in as an administrator.
3. Upload the upgrade file from the command prompt. For example:
   `put codian_mcu_4.2(1.50)`
4. When the upload has completed, go to the Upgrade page within the web interface.
5. Click **Shut down MCU and upgrade**.
6. Click **Confirm MCU shutdown**.

7. When shutdown has completed, click **Restart MCU and upgrade**.
8. When prompted, confirm the restart. The unit will restart and upgrade itself – this may take up to 25 minutes.

Note: If you have been logged out due to inactivity, log in again as admin and click **Restart MCU and upgrade** on the Shutdown page.

Notes

- The progress of the upgrade can be monitored through the serial port
- Before upgrading, make sure that the MCU is not in use. Anyone using the MCU at the time of the upgrade may experience poor performance and loss of connectivity

Downgrade instructions

If you need to reverse your upgrade, you can re-install the former version of the software. The downgrade procedure is the same as for the upgrade except that it uses the earlier software image.

CAUTION: If you use CDR data for any purpose you must download and save the CDR data before you downgrade to an earlier version.

To downgrade from release 4.2:

1. Go to **Settings > Upgrade**.
2. In the **Restore configuration** area, locate a *configuration.xml* file that is compatible with the release to which you want to downgrade. Note that this must be a configuration file saved **before** Advanced account security mode was enabled.
3. Check the *User settings* check box.
4. If required, check the *Network settings* check box.
5. Click **Restore backup file**.
6. When the configuration has been restored, follow the instructions as detailed in *Upgrade instructions* above.

Checking for updates and getting help

Cisco recommends registering your product at http://www.tandberg.com/services/video-conferencing-product-registration.jsp in order to receive notifications about the latest software and security updates. New feature and maintenance releases are published regularly, and we recommend that your MCU software is always kept up to date.

If you experience any problems when configuring or using your MCU, consult the online help (available within the UI of your MCU) for an explanation of how its individual features and settings work. If you cannot find the answer you need, check on the web site at http://www.tandberg.com/support to make sure that your MCU is running the most up-to-date software and for further relevant documentation.

You or your reseller can get help from our support team by raising a case at http://www.tandberg.com/support/video-conferencing-online-support.jsp. Make sure you have the following information ready:

- The serial number and product model number of the unit
- The software build number which can be found on the product user interface
- Your contact email address or telephone number

References and related documents

The following table lists documents and web sites referenced in this document.

All documentation can be found on the Cisco web site.

For advice from the technical support team, see the Knowledge Base at http://www.tandberg.com/support/video-conferencing-knowledge-base/index.jsp.

Name	Document reference
Creating and managing an MCU cluster deployment guide	D14718. Dated September 2010.