



Cisco TelePresence MCU 5300 Series

Version 4.3

Tutorial

D14472

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Using the tutorial

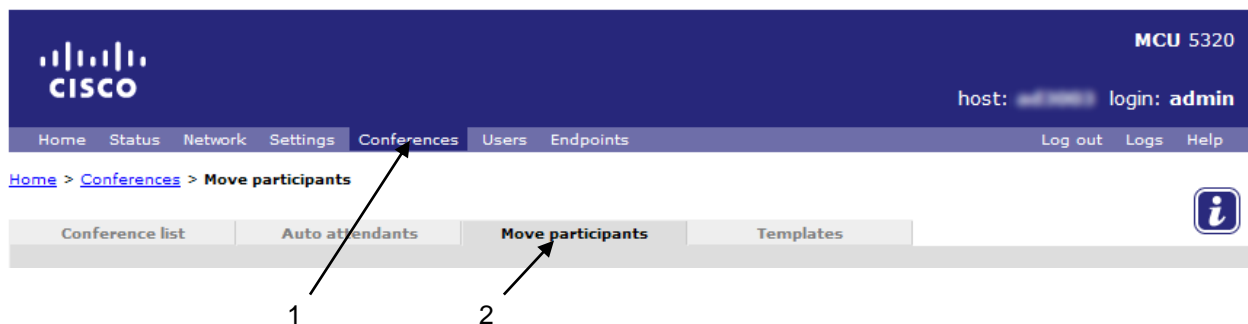
NOTE: Refer to the document [Cisco TelePresence MCU 5300 Series Getting started](#) for instructions on how to connect and configure the MCU before reading this tutorial.

The tutorial is designed to be followed in the order in which the steps are provided.



The online help complements this guide by providing detailed descriptions of each field. To display the help files at any time, click this icon in the top right hand corner of the screen.

In this tutorial the instruction 'Go to **Conferences > Move participants**' means click the Conferences link on the menu bar and then click the Move participants tab.



Throughout this guide there are helpful tips in green that explain things in more detail, or provide useful advice on the features and functions of the device, for example:

To see all commands available from the terminal interface type **help** and press **Enter**.

Note: Screenshots are representative and sensitive data has been blurred. This practice does not alter the meaning or purpose of the screenshots.

Assumptions

It is assumed that you have used video conferencing equipment before and understand industry standard terms.

Ideally, you should have at least two endpoints in two adjoining rooms so you can see the effect of some options for conferences. Some features will require additional endpoints; however, even if you cannot demonstrate the features for yourself, you can still follow the steps.

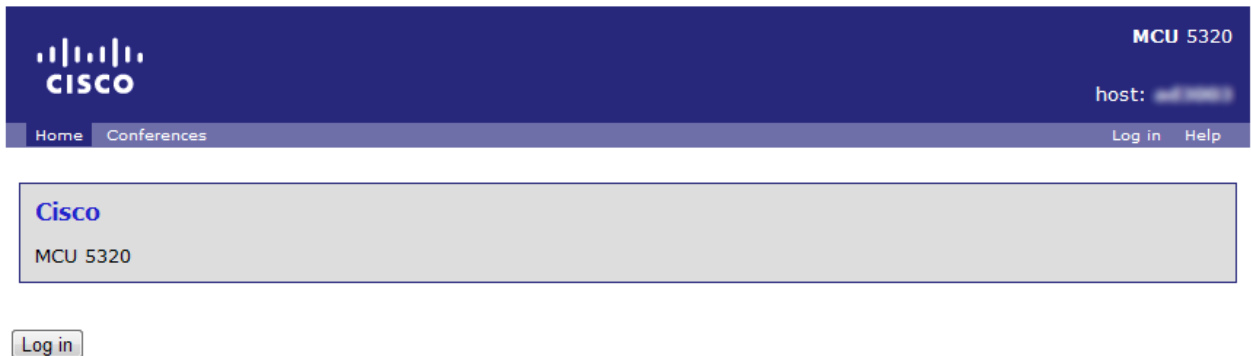
MCU software version

This tutorial was prepared using an MCU 5300 Series device running software version 4.3.

Logging in to the web interface

Once you have connected and performed the initial configuration of the MCU you can log in and control it via the web interface. The web interface is used to administer the MCU device and manage conferences, users, and associated devices.

1. Using a web browser, type in the host name or IP address that you assigned to the MCU during initial configuration as the URL.



2. Click **Log in**.

Log in



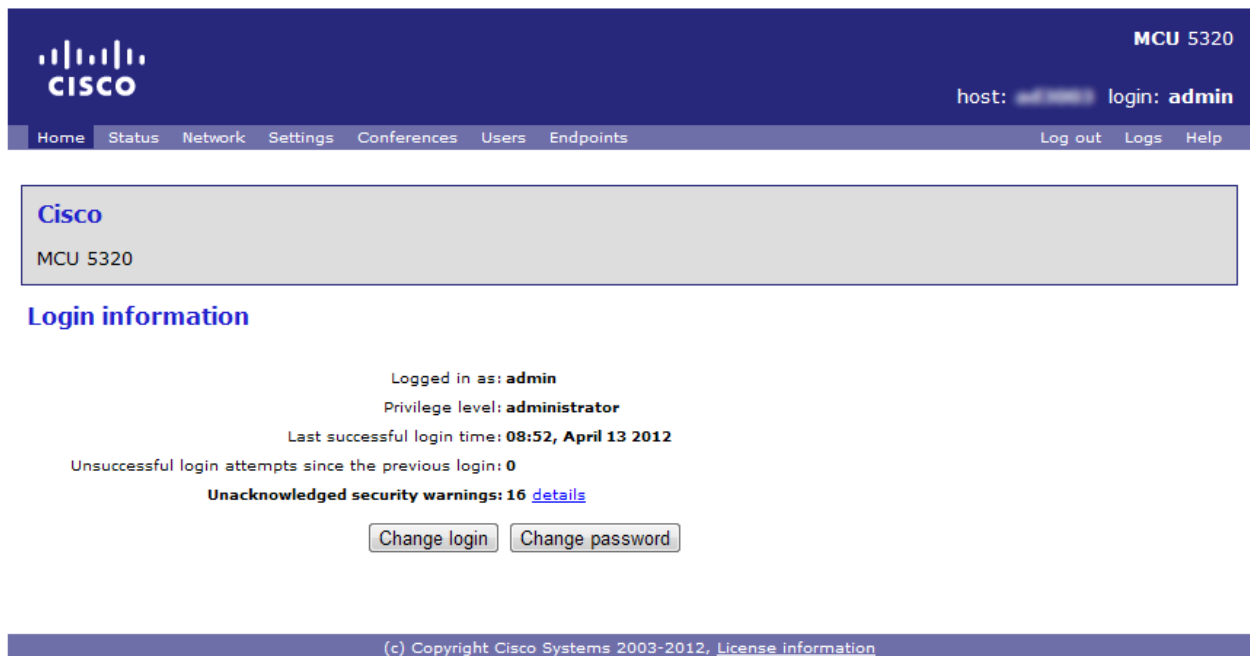
Username

Password


When the MCU is delivered there are two default users: *admin* and *guest*. (Later in the tutorial you will add a third user.) To configure the unit, you must log in as *admin*.

3. Type in the username *admin* with no password and click **OK**.

You are advised to [set up a password for the admin account](#) [p.46] to restrict who is able to perform box-wide configuration changes such as changing the MCU's IP address.



The web interface screens have a number of features in common:

- ▶ Menu bar with a number of options that open setup, configuration or status screens
- ▶ Screens with one or more tabs. Each tab is a separate page
- ▶ Pages with one or more sections. Section headings are in blue with white text. Some pages have several sections and you will need to scroll down to see all the sections
- ▶ Links and buttons. Some buttons appear more than once on a page so that you do not need to scroll too far
- ▶ Every page except the Home page shown above has a help  icon. Clicking this icon opens the online help page for the current page. There is also an index for the online help that you can access from any help page
- ▶ The 'breadcrumbs' navigation aid, below the menu bar, shows where you are in the web interface by identifying the levels that you have worked through to reach the current page

Creating your first conference

This section describes how to set up your first conference, dial in to the conference from an endpoint and have the MCU call out to endpoints. It also describes some of the advanced abilities of the MCU, including the individual screen layout options and text chat feature.

However, your organization may require that you enable certain prerequisites before you start.

Prerequisites

Enabling encryption

You can create encrypted conferences if the encryption option is installed on the MCU; however, you must globally enable encryption on the device before you create conferences.

1. Go to **Settings > Upgrade** and look in the **Feature management** section to check if the encryption option is in the list of Activated features.
2. Go to **Settings > Encryption** to check if encryption is already enabled – it should be enabled by default.

(If you do not have the encryption option, this page is not available.)

The screenshot shows the MCU web interface. At the top is a navigation bar with links: Home, Status, Network, Settings, Conferences, Users, Endpoints, Log out, Logs, and Help. Below this is a breadcrumb trail: Home > Settings > Encryption. A secondary navigation bar contains tabs: Conferences, H.323, SIP, Content, Encryption (selected), Media ports, User interface, Time, Security, Upgrade, and Shutdown. An information icon (i) is on the right. The main content area is titled 'Encryption' and contains two dropdown menus: 'Encryption status' set to 'Enabled' and 'SRTP encryption' set to 'Secure transports (TLS) only'. An 'Apply changes' button is located at the bottom left of the form.

3. For *Encryption status*, select *Enabled* and then click **Apply changes**.

The second field on this page determines whether SRTP encryption is applied to all transports or TLS only, or is disabled. This setting can be modified on a per conference basis. You can also choose whether ad hoc conferences will be encrypted.

For an explanation of ad hoc conferences and the consequences of these settings, see the online help. SRTP encryption only applies to SIP calls; if you will be using SIP, see the online help for more information.

Adding a conference

1. Click **Conferences** on the menu bar (not the tab).

MCU 5320

host: null login: admin

Home Status Network Settings **Conferences** Users Endpoints Log out Logs Help

Home > Conferences > Conference list

Conference list Auto attendants Move participants Templates

No active conferences

Page 1 2 3 4 5 6 7 8 9 10 11 12 13

Name	Description	Owner	Registration	Participants	Start time	Time remaining
No active conferences						

Page 1 2 3 4 5 6 7 8 9 10 11 12 13

No scheduled conferences

Delete selected Template for new conference Top level Add new conference

Page 1 2 3 4 5 6 7 8 9 10

Name	Numeric ID	Security	Owner	Status	Start time	End time
No scheduled conferences						

Delete selected Template for new conference Top level Add new conference

Page 1 2 3 4 5 6 7 8 9 10

No completed conferences

Purge selected Purge all

Page 1 2 3 4 5 6 7 8 9 10

Name	Owner	Start time	End time
No completed conferences			

Purge selected Purge all

Page 1 2 3 4 5 6 7 8 9 10

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The Conference list has three sections:

- ▶ Active conferences that are happening now
- ▶ Scheduled conferences whose start time has not been reached and conferences that recur, for example weekly conferences
- ▶ Completed conferences that are not scheduled to recur

2. Click **Add new conference**.

The screenshot shows the 'Add conference' page in the Cisco TelePresence MCU 5320 web interface. The page has a dark blue header with the Cisco logo and 'MCU 5320'. Below the header is a navigation bar with links: Home, Status, Network, Settings, Conferences, Users, Endpoints, Log out, Logs, and Help. The main content area is titled 'Add conference' and contains a form with the following fields and options:

- Name:** Training
- Description:** My first conference (optional)
- Numeric ID:** 123 (optional)
- PIN:** (optional)
- Guest numeric ID:** (optional)
- Guest PIN:** (optional)
- Owner:** admin (dropdown)
- Numeric ID registration:** ☐ H.323 gatekeeper ☒ SIP registrar
- When only guests remain:** Disconnect all participants (dropdown)
- Automatic lecture mode:** Disabled (dropdown)
- Timeout for Type 1 automatic lecture mode:** Immediately (dropdown)
- Visibility:** Public (dropdown)
- Encryption:** Optional (dropdown)
- Invite pre-configured participants:** At the start of the conference (dropdown)
- Mute on join:** ☐ Audio ☐ Video
- Start locked:** Unlocked (dropdown)
- Maximum video participants:** (optional)
- Maximum audio-only participants:** (optional)

3. Type in a *Name* for the conference, for example *Training*.
4. Type in a *Description*, for example *My first conference*.
5. Add a *Numeric ID*, for example *123* and, if required, a *PIN* needed to join the conference and a second numeric ID/PIN pair for conference guests.

The numeric identifier can be used in a number of ways. If you are using an H.323 gatekeeper or a SIP registrar it is the phone number that participants can use to join the conference directly when calling in to the MCU via a gatekeeper or proxy.

Participants who connect to the conference using the primary ID and PIN become 'chairpersons' (or 'chairs') and those who connect using the guest ID and PIN become 'guests'. Chairs and guests have different sets of privileges. See the online help for further details.

The conference can only start when at least one chairperson has joined (any guests joining earlier will see a blank screen with the message: 'Waiting for conference chairperson'). What happens when the last chairperson leaves the conference is determined by the setting in *When only guests remain*.

Note that, by default, the conference starts immediately and will last for one hour. We recommend while completing the tutorial you create a 'permanent' conference. To do this, under *Start time and duration* select *Permanent*.

6. Select the *H.323 gatekeeper* checkbox to register this numeric ID with an H.323 gatekeeper, if the MCU is configured to use one. See [Setting up an external gatekeeper](#) [p.42].
7. Select the *SIP registrar* checkbox to register this numeric ID with a SIP registrar, if the MCU is configured to use one. See [Using a SIP registrar](#) [p.44] of this tutorial.
8. To encrypt this conference, select *Optional* or *Required* in the *Encryption* field.

With *Optional* encryption, H.323 endpoints that support AES encryption will use it when they join this conference. With *Required* encryption, endpoints that do not support AES will not be allowed to join this conference. The situation is similar for SIP endpoints that support SRTP.

See the online help for more information about encryption and how to enable it for the different endpoint types.

9. Leave the default values for all other conference settings.
10. Scroll down and click **Add conference**.

The conference is now active (if you did not set a start time, it starts immediately). If you chose a start time in the future, the conference is listed as scheduled instead.

Home > Conferences > Conference list

Conference list | Auto attendants | Move participants | Templates

Conference "Training" added

1 active conference

Name	Description	Owner	Registration	Participants	Start time	Time remaining
Training	My first conference	admin	Registered	0	09:42	58 minutes, 14 seconds

1 scheduled conference

Delete selected | Template for new conference | Top level | Add new conference

Name	Numeric ID	Security	Owner	Status	Start time	End time
<input type="checkbox"/> Training	123	<none>	admin	In progress	09:42	10:42

Delete selected | Template for new conference | Top level | Add new conference

You can have up to 200 scheduled conferences at any one time. When you add a conference you can:

- ▶ Register a conference with a H.323 gatekeeper, if one is configured. A gatekeeper allows a telephone number to be assigned to a conference.
- ▶ Enable and disable participants' use of far end camera control (FECC) and DTMF to change the conference view layout.

- ▶ Set the conference start time and duration.
- ▶ Make the conference permanent, a one-off, or a recurring conference.
- ▶ Add pre-configured endpoints to the conference so that the MCU will automatically call out to these endpoints, either when the conference first becomes active or after a non-configured endpoint calls in. This is useful for recurring conferences with regular participants.
- ▶ Reserve ports for your conference. This is an advanced feature outside the scope of this tutorial.

Calling out to invite participants in to the conference

Participants can now join the active conference in two ways: either the MCU can call out to connect to the specified endpoints, or the endpoints can call in to connect to the MCU.

This procedure describes calling out from the MCU.

1. Go to **Conferences** and click on the name of the conference (*Training*).

There are five pages for controlling the conference. The **Participants** page opens by default.

The screenshot shows the Cisco TelePresence MCU 5320 web interface. The top navigation bar includes links for Home, Status, Network, Settings, Conferences, Users, and Endpoints. The 'Conferences' page is active, showing a breadcrumb trail: [Home](#) > [Conferences](#) > [Conference "Training"](#) > **Participants**. The 'Participants' page has tabs for Participants, Configuration, Custom layout, Statistics, and Send message. The main content area shows 'Conference "Training", no active participants' with navigation links '<prev' and 'next>'. It displays conference settings: Video port usage: 0 (no configured limit), Audio-only port usage: 0 (no configured limit), Registration: Registered, Content channel: not configured, and Encryption: <not required>. There are buttons for 'End conference' and 'Add participants'. A status message indicates 'This conference is not currently locked' with 'Lock conference' and 'Unlock conference' buttons. Below this is a table with columns: Type, Participant, Controls, Status, and Preview. The table shows 'No current participants'. At the bottom, there is a section for 'All participants' with icons for Importance, Mute, Disconnect, View, and Control.

On this page you can:

- ▶ Add participants.
- ▶ See a snapshot view of each participant's video and their audio level.

- ▶ Scroll down to see a list of participants who were connected to the conference but have already disconnected.
- ▶ Connect/disconnect each participant individually or all participants simultaneously.
- ▶ Mute and unmute each participant individually or all the participants of the conference.
- ▶ See summary status information about conference participants.
- ▶ Make a conference participant or the content channel important (See [Controlling the conference](#) [p.17]).
- ▶ Lock the conference, preventing more participants from joining it.

2. Click **Add participant**.

Home Status Network Settings **Conferences** Users Endpoints Log out Logs Help

Home > Conferences > Conference "Training" > Add participants

Add participants

Conference "Training"

New endpoint

Call-out parameters

Address

Call protocol ☒ H.323 ☐ SIP

Use SIP registrar ☐

Outgoing transport

DTMF sequence

Active speaker link parameters

Use video from

Conferencing parameters

Display name override

Motion / sharpness tradeoff

Transmitted video resolutions

Content contribution

Content receive

View border size

Default view family

Preferred bandwidth from MCU

Preferred bandwidth to MCU

Layout control via FECC / DTMF

Send camera control to other participants

Mute in-band DTMF

Appear as a recording device

Dial out as

Initial audio status

Initial video status

Automatic disconnection

Advanced interoperability parameters

Content negotiation

Adaptive Gain Control

Custom codec selection

- For *Address*, type in the IP address or host name of an accessible endpoint on your network.
- For *Call protocol*, select which protocol (SIP or H.323) to connect to the endpoint with.
- Leave the other fields as their default values and click **Call endpoint**.
- If the endpoint is not configured to automatically answer calls, accept the call on the endpoint.

By setting *Initial audio status* and *Initial video status* to *Muted* (instead of *Active*), participants using this endpoint can be added to the conference but not allowed to contribute audio or video respectively.

Alternatively, you can select the *Mute on join* check boxes in the conference configuration to mute audio, video or both for every participant when they join the conference.


When you click **Call endpoint**, the MCU automatically connects to the endpoint. You are returned to the **Participants** page and the new participant is shown in the active participants list. (The icons are described later in the tutorial.)

Typically, the endpoint will take a few seconds to start sending video and audio streams to the MCU, and so it might be necessary to refresh the page in order for the thumbnail Preview image and audio level to be shown.

The screenshot shows the Cisco TelePresence MCU 5300 Series web interface. The top navigation bar includes links for Home, Status, Network, Settings, Conferences, Users, Endpoints, Log out, Logs, and Help. The breadcrumb trail is Home > Conferences > Conference "Training" > Participants. The main content area is titled "Conference 'Training', 1 active participant" and includes tabs for Participants, Configuration, Custom layout, Statistics, and Send message. It displays conference statistics: Video port usage: 1 (no configured limit), Audio-only port usage: 0 (no configured limit), Registration: Registered, Content channel: active - no viewers, and Encryption: <not required>. There are buttons for End conference, Add participants, Lock conference, and Unlock conference. Below this is a table with columns: Type, Participant, Controls, Status, and Preview. The table lists one participant, SIP, with various control icons and status information. At the bottom, there is a summary bar with columns: Importance, Mute, Disconnect, View, and Control, showing icons for all participants.

7. Repeat steps 2 to 6 to add more endpoints to the conference.

Copying conference contact details

1. Go to **Conferences** and click the name of the conference.
2. Click on the summary icon  in the top right hand corner of the screen.

The conference summary page opens in a new window.

Conference "Training"

Conference "Training" started at 11:00 on April 13 2012.
It has no fixed duration set, so will continue indefinitely.

To join this conference, connect to "192.47.205.3" from a H.323/SIP videoconferencing device, and select it from the menu.

To view the configuration or active state of this conference, or to add people to it, you will need to use a web browser to connect to: <http://192.47.205.3/conference.html?name=Training>

[Copy to clipboard](#)

This page gives the following information about the conference:

- ▶ The address of the conference as it would be called from an endpoint
 - ▶ The direct link to manage the conference via a web browser
3. Click **Copy to clipboard** if you want to use the summary information elsewhere; for example to send email about the forthcoming conference to potential participants.
 4. Close the summary window.

Calling in to the conference

Endpoints can also call in to the MCU. In this section use your second endpoint.

1. From your endpoint, dial the IP address of the MCU that you made a note of earlier.

The default auto attendant displays a menu of the available auto attendants and conferences.



2. Set the endpoint's controls to manage the far end camera control.

By putting the endpoint into FECC mode, the MCU can receive commands from the endpoint and perform actions based on them. The remote control buttons have the following meanings with auto attendant menu:

- ▶ UP or DOWN moves the blue cursor bar up and down to select a conference or auto attendant name
- ▶ RIGHT is used to select the highlighted auto attendant or conference
- ▶ LEFT is used to go back through the menu hierarchy, for instance after selecting a child auto attendant or starting the "Create new conference" process

You can also use DTMF tones to navigate the auto attendant menu. To enable DTMF menu navigation, press the hash key twice (##) on your endpoint keypad.

3. Scroll down the list to the conference you want to join.
4. To add the endpoint to the conference, press the right hand arrow to select the conference that you created earlier.

If you added a PIN for the conference, you will need to enter the PIN followed by #. You may also be able create new conferences from this page, if **Create new conference** is on the menu.

Controlling the conference

This section describes how to change some of the features of the conference and control the screen layout, for all participants, using some of the pages in the **Conferences** screen. (In the section *Managing individual participants* [p.23], you will change the settings for an individual participant.)

Controlling the layout

When a participant joins a conference, their screen layout is typically determined by the default view set for the MCU. It is also possible to set the layout for all of the conference participants on the conference's **Custom Layout** page. The breadcrumb trail shows you which conference you are working with.

You can also control the layout on a per participant basis and you will do this later in the tutorial.

1. Click the **Custom layout** tab.

The screenshot shows the 'Custom layout' configuration page for a conference named 'Training'. The page has a navigation bar at the top with links: Home, Status, Network, Settings, Conferences, Users, Endpoints, Log out, Logs, and Help. Below the navigation bar is a breadcrumb trail: Home > Conferences > Conference "Training" > Custom layout. On the right side of the page, there are two icons: a help icon and an information icon. Below the breadcrumb trail is a tabbed interface with tabs: Participants, Configuration, Custom layout (selected), Statistics, and Send message. The main content area is titled 'Conference "Training"' and includes a '<prev next>' link. Below this is a 'Pane placement' button. The 'Conference custom layout' section contains a visual representation of the current layout (a large rectangle with a smaller rectangle on the right) and the 'Current status' is set to 'Enabled' (radio button selected). There are also radio buttons for 'Disabled' and a checkbox for 'Make new participants see this view'. A button labeled 'Switch all participants to this view' is also present. Below this section is the 'Available layouts' section, which contains a grid of 24 layout thumbnails. A note states: 'These layouts are designed to be suitable for all video conferencing situations.' Below the grid, another note states: 'These layouts are designed to be suitable for displaying composed views of standard (4:3) video streams on widescreen (16:9) displays.' Below this note is a row of 10 additional layout thumbnails.

If the *Current status* is *Disabled*, each endpoint controls their layout and the participants see the default that is configured on the MCU.

(The current status automatically changes from *Disabled* to *Enabled* when you select a layout.)

2. Select a view from the top part of the *Available layouts* section which has a large pane plus smaller ones.

This type of layout is useful if the endpoint is set up to use a voice-controlled layout. This is the default behavior: the participant who is talking the loudest appears in the largest pane.

The newly-configured conference custom layout is now available for all participants of the conference to select for themselves. This is in addition to the pre-defined layout families and, optionally, a custom layout specific to each endpoint. Using the controls in the Conference custom layout section, you can now:

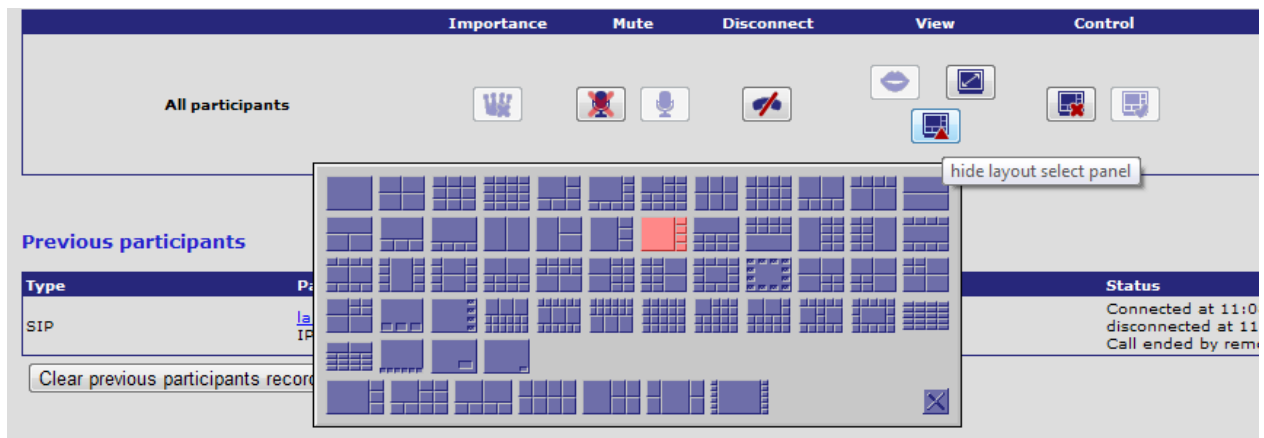
- ▶ Make new participants see this view when they join the conference
- ▶ Switch all participants to this view at any time in the conference

Note that the participant can change their view immediately using their controller. The features are meant for easy set up, not to restrict the participants.

3. Click **Switch all participants to this view**.
4. Go to the **Participants** page, and in the All participants box, click the 'display layout select panel' icon



Highlighted in red is the layout that is currently selected. Click on a different layout icon to change the layout for all participants.



5. Return to the **Custom layout** page and click **Pane Placement**.

Home Status Network Settings **Conferences** Users Endpoints Log out Logs Help

Home > Conferences > Conference "Training" > Pane placement

Participants Configuration **Pane placement** Statistics Send message

Conference "Training" [<prev](#) [next>](#)

Custom layout

Conference pane placement

Current status ☒ Enabled ☐ Disabled

Pane 1 <loudest speaker>

Pane 2 SIP:

Pane 3 H.323:

Pane 4 <default>

Pane 5 <default>

Pane 6 <default>

Pane 7 <default>

Pane 8 <default>

Pane 9 <default>

Pane 10 <default>

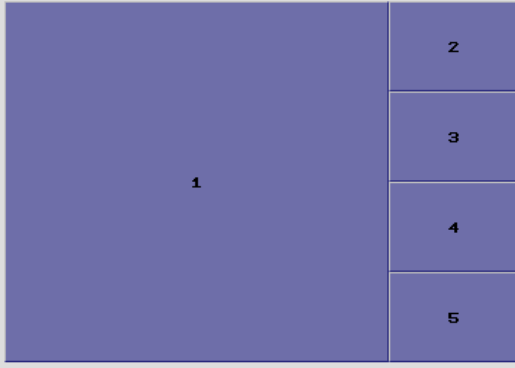
Pane 11 <default>

Pane 12 <default>

Pane 13 <default>

Pane 14 <default>

Pane 15 <default>



By enabling pane placement, particular panes in your chosen conference layout can be locked to display a particular participant across all endpoints, a blank screen, content (see later in the tutorial), voice activated or the default.

6. For Current status, select Enabled.
7. Place both conference participants in set panes by selecting their entry from the drop down list.
8. Click **Update pane placement**. See how the layout is updated on both endpoints.
9. Reset the panes by selecting <default> and click **Update pane placement**.
10. Click the **Participants** tab.

The **Participants** page has a row of controls for each participant and an "All participants" section below with similar controls.

Home Status Network Settings **Conferences** Users Endpoints Log out Logs Help

Home > Conferences > Conference "Training" > Participants

Participants Configuration Custom layout Statistics Send message

Conference "Training", 2 active participants [<prev next>](#)

Video port usage: 2 (no configured limit)
 Audio-only port usage: 0 (no configured limit)
 Registration: Registered
 Content channel: active - no viewers
 Encryption: <not required>

This conference is not currently locked
 Lock conference Unlock conference

End conference Add participant

Type	Participant	Controls	Status	Preview
H.323			Connected at 11:16 Tx: 1280 x 720, H.264, 640k, AAC-LD Rx: 1024 x 576, H.264, 704k, AAC-LD Content tx: pending disable Encrypted - check code: EA1D7CED3442E500	
SIP			Connected at 11:08 Tx: 1280 x 720, H.264, 3.94M, AAC-LD Rx: 1280 x 720, H.264, 4.00M, AAC-LD Content tx: pending disable	
Content channel			Content viewers: 0	

End conference Add participant

Page 1

11. Click the icon to make the participant in the other room 'important'.

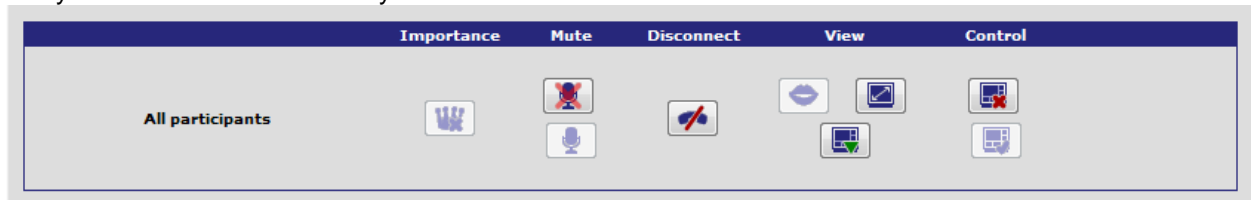
Only one participant can be important at any time. In a voice-controlled layout (the default) the 'important' participant will always be seen in the largest pane regardless of who is talking the loudest. Individual endpoints can still choose to see another layout.

In the same way, the content channel can be made important by clicking on the icon. Alternatively, there is an option in **Settings > Conferences > Advanced settings** to automatically make the content channel important when the content channel is enabled. Note that this does not affect participants using a separate screen for content channel or participants who have specifically allocated their pane placement. For more information on this feature, please refer to the online help.








12. Try speaking loudly in to your endpoint. You should not be able to make yourself appear in the largest pane.
13. If you have a second person with you, click the mute icon for one of the participants in another room and ask the person to go in to that room and start talking. Notice that you cannot hear them.
14. Click on the unmute icon to unmute the participant and click the far right audio preview when they talk.
- Note that the video and audio previews do not update in real time. Click on them to make the previews refresh.
15. Click the **Custom layout** tab and choose a different layout. Then click **Make new participants see this view**.
16. Click the **Participants** tab.
17. Scroll down to the "All participants" section.

18. Disconnect all of the participants and then reconnect them.

Everyone should see the new layout.



The conference-wide controls that would have no effect are not available. For instance, if all participants are already muted then the “mute” icon will be grayed out.

	Clears all participants from being important and resets the default mode in which the loudest participant occupies the largest pane
	Mute and unmute all participants
	Disconnects all participants from the conference
	Forces all participants' view layouts to voice-activated mode. This does not change which layout they are viewing, but stops the layout being focused on a specific participant rather than the loudest speaker
	Selects a full screen layout for all users. i.e. only one participant
	Displays the layout selection panel from which you can select a layout view that all current participants will see. This panel offers the same choices as going to Conferences > Custom layout
	<p>Enables or disables layout control for all participants.</p> <p>If enabled, users may control the layout on their own endpoints. They can do this by putting their endpoints into far end control mode. The buttons on the remote control work differently in this mode:</p> <ul style="list-style-type: none"> ▶ UP or DOWN changes between different styles of layout ▶ LEFT or RIGHT changes the participant who appears in the largest pane of the screen ▶ ZOOM + allows control of the far end camera ▶ Pressing * opens the in call menu which allows you to control many aspects of the conference. See Cisco TelePresence Accessing Conferences Getting started guide MCU 4.3 for more information.

Displaying conference statistics

You can display statistics about a conference and use the information to quickly see how many participants are currently in the conference.

1. Click the **Statistics** tab.
2. Refresh the page to update the *Running time* and other data.

The screenshot shows the 'Statistics' tab for Conference 'Training'. The interface includes a top navigation bar with links: Home, Status, Network, Settings, Conferences, Users, Endpoints, Log out, Logs, and Help. Below the navigation bar is a breadcrumb trail: Home > Conferences > Conference "Training" > Statistics. The main content area has tabs: Participants, Configuration, Custom layout, Statistics (selected), and Send message. The 'Statistics' section displays the following information:

- Start time: 11:00
- End time: <permanent>
- Running time: 27 minutes, 57 seconds (time now 11:27, April 13 2012)
- Gatekeeper ID: n/a
- Guest gatekeeper ID: n/a
- SIP registrar ID: 123
- Guest SIP registrar ID: n/a
- Number of audio / video participants: 2
- Highest number of audio / video participants: 2
- Number of audio-only participants: 0
- Highest number of audio-only participants: 1

Sending a conference message

You can send messages to all participants in a conference simultaneously. This message appears overlaid on each participant's view.

1. Click the **Send Message** tab.

When you send a message from this page, it appears as a text overlay on each participant's screen. All participants see the message simultaneously. (You can also send a message to one participant; see [Sending a message to one participant](#) [p.27])

The screenshot shows the 'Send message' tab for Conference 'Training'. The interface includes the same top navigation bar and breadcrumb trail as the previous screenshot. The main content area has tabs: Participants, Configuration, Custom layout, Statistics, and Send message (selected). The 'Send message' section displays the following form:

- Message text:** A test message
- Position:** Bottom (dropdown menu)
- Duration:** 30 seconds (dropdown menu)
- Buttons:** Send message, Clear message
- Message will be sent to all participants**

2. Type in a message.
3. For *Position*, select one of the options: *Top*, *Middle* or *Bottom*.
4. For *Duration*, set the length of time that the message will be displayed to *1 minute*.
5. Click **Send message**.

The text message appears on all the endpoint screens.

Managing individual participants

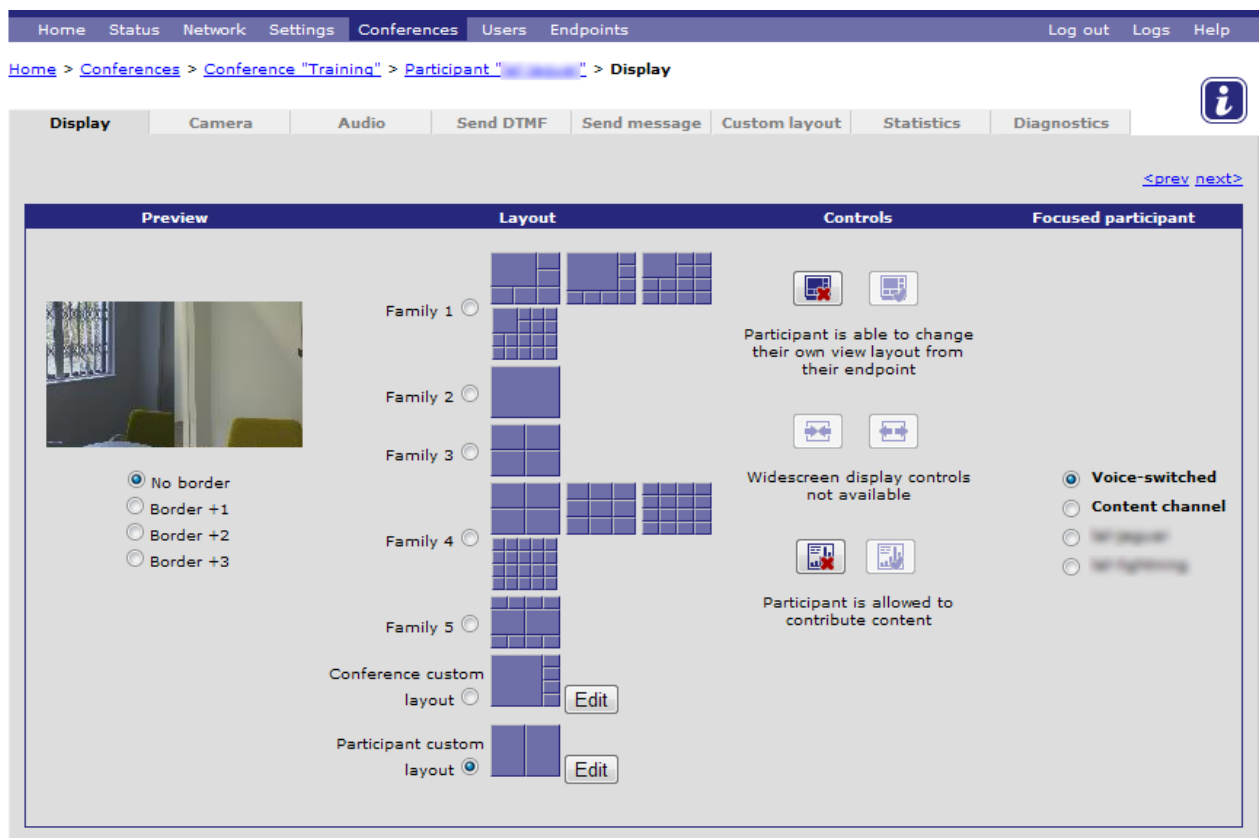
This section takes you through controlling some settings for one participant in a conference, for example the screen layouts and camera controls.

1. Go to **Conferences**, select your conference and then go to **Participants**.

As you saw previously, the participants are listed and the preview shows you the video stream being sent by the endpoint to the MCU.

2. Click on one of the participants in order to manage their endpoint in this conference.

The Participant screen has eight tabs and the **Display** page opens by default. This page can be used to control what the participant sees. The navigation aid tells you which participant you are working with.



Changing a participant's layout

There are a number of ways to select the layout that this participant sees: by family or a set layout. If you select one of the families the exact view will depend on how many participants are active in the conference at the time.

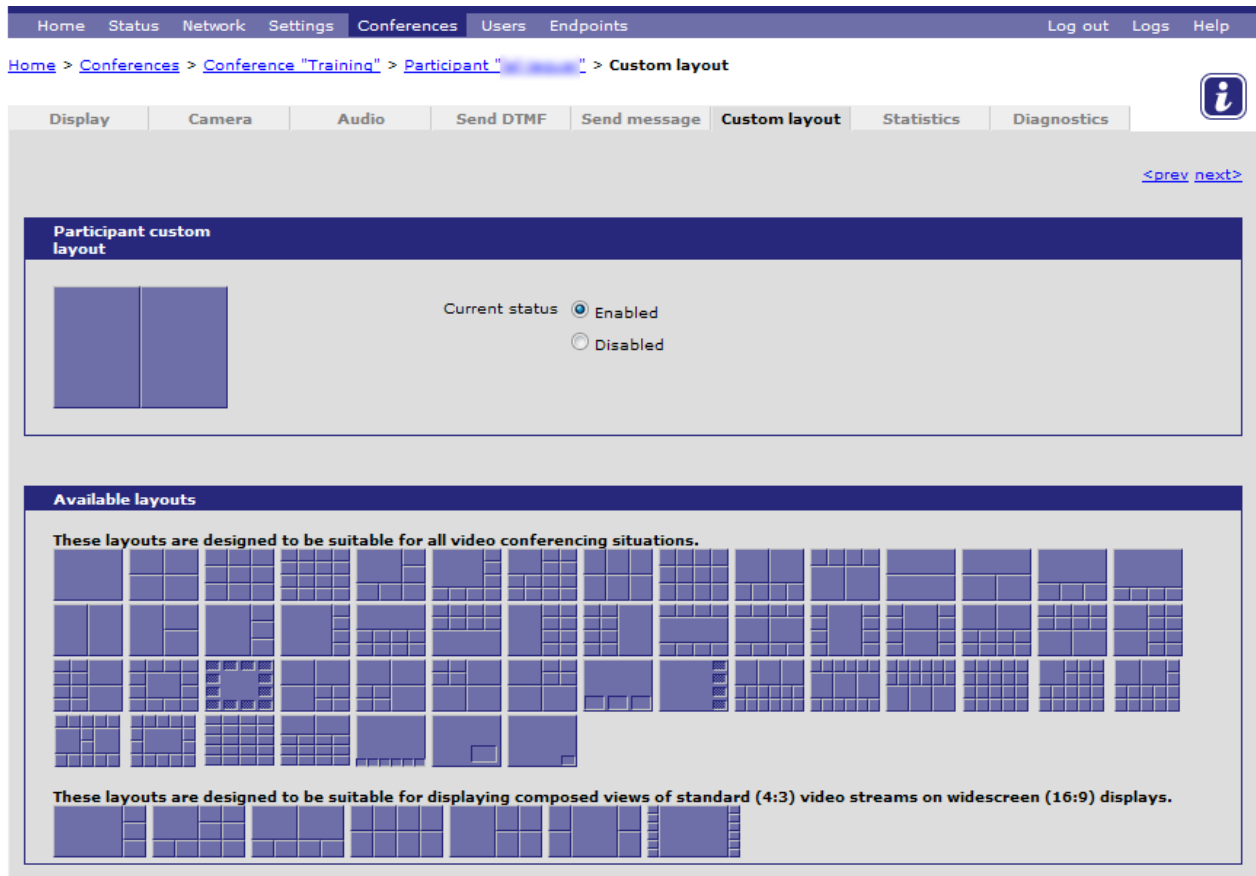
1. If you have enough endpoints, click on *Family 4* and set up and connect to four participants. Now add a fifth participant and notice that the layout changes from 4 panes to 9 panes.

The participant's view changes as soon as you select a family.

The **Edit** buttons work differently. They take you to the **Custom layout** pages for the participant or conference, from which you can select one fixed view that is not in one of the five families.

- For Participant custom layout, click **Edit** or click the Custom layout tab.

The participant **Custom layout** page opens. It is very similar to the one for the whole conference that you saw earlier.



- Click on one of the layouts.

You do not need to click the **Enabled** radio button: as soon as you click on a layout, it is selected automatically.

- Click the **Display** tab.








The thumbnail beside the **Edit** button changes to the selection you made and the radio button is selected automatically so this is the view that the participant is seeing. (The participant can still change their view at any time.)

Home Status Network Settings **Conferences** Users Endpoints Log out Logs Help

Home > Conferences > Conference "Training" > Participant " " > Display

Display Camera Audio Send DTMF Send message Custom layout Statistics Diagnostics

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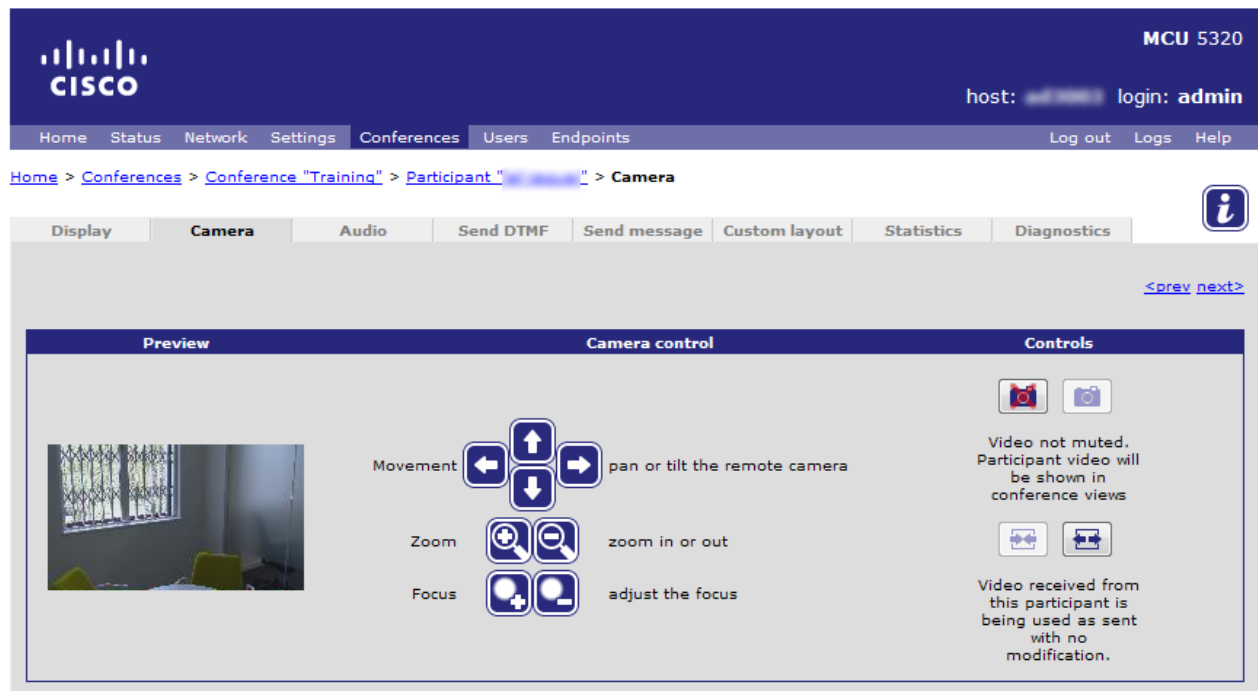
Preview	Layout	Controls	Focused participant
 <p> <input checked="" type="radio"/> No border <input type="radio"/> Border +1 <input type="radio"/> Border +2 <input type="radio"/> Border +3 </p>	<p>Family 1 <input type="radio"/></p> <p>Family 2 <input type="radio"/></p> <p>Family 3 <input type="radio"/></p> <p>Family 4 <input type="radio"/></p> <p>Family 5 <input type="radio"/></p> <p>Conference custom layout <input type="radio"/> Edit</p> <p>Participant custom layout <input checked="" type="radio"/> Edit</p>	<p>   </p> <p>Participant is able to change their own view layout from their endpoint</p> <p>   </p> <p>Widescreen display controls not available</p> <p>   </p> <p>Participant is allowed to contribute content</p>	<p> <input checked="" type="radio"/> Voice-switched <input type="radio"/> Content channel <input type="radio"/> <input type="radio"/> </p>

You can select who appears in the largest pane of this participant's screen (i.e. who is the "focused" participant). The *Voice-switched* option is the default and is always available; there is also a radio button for every other active participant in the conference.

- Click one of the radio buttons to choose who is the focused participant viewed by this participant and click on the preview to update it. Then click a different radio button and click on the preview again to watch the view change.

Moving and muting a participant's camera

- Click the **Camera** tab.



This page shows a preview of what the participant's camera is sending to the MCU and allows you to control the participant's camera and therefore what view the other participants have of him/her (The camera controls only appear if the camera control was negotiated for this call).

2. Use the movement, zoom and focus icons to move and control the camera.

The preview shows a static image from the participant's camera. Click the preview to refresh it.

3. Mute and unmute the video transmission to conference.

4. Click the  icon for an explanation of the other icons on this page.

Adjusting a participant's audio

1. Click the **Audio** tab.

The screenshot shows the 'Audio' tab in the participant configuration interface. The top navigation bar includes 'Home', 'Status', 'Network', 'Settings', 'Conferences', 'Users', 'Endpoints', 'Log out', 'Logs', and 'Help'. The breadcrumb trail is 'Home > Conferences > Conference "Training" > Participant " " > Audio'. The 'Audio' tab is selected, with other tabs being 'Display', 'Camera', 'Send DTMF', 'Send message', 'Custom layout', 'Statistics', and 'Diagnostics'. The interface is divided into three sections: 'Waveforms', 'Controls', and 'Mute'. The 'Waveforms' section shows 'Participant audio' and 'Conference audio' waveforms. The 'Controls' section displays AGC (Adaptive Gain Control) status as 'Disabled', current voice gain as '0 dB', audio energy (post gain stage) as '-30 dB', average voice level (pre gain stage) as '-29 dB', and average background level (pre gain stage) as '-31 dB'. There are three radio buttons: 'Disable AGC' (selected), 'Enable AGC', and 'Apply fixed gain' with a value of '0 dB'. A 'Mute in-band DTMF' dropdown is set to '<use conference configuration>'. An 'Apply changes' button is at the bottom. The 'Mute' section shows icons for a microphone and a speaker, with a message: 'Audio not muted. Participant audio will be heard by other participants'.

You can enable Adaptive Gain Control or apply a fixed gain. The gain controls how the MCU alters the audio stream received from the endpoint, and so affects how loud they sound to other conference participants. Every 3dB represents a doubling of volume, so +6dB is equivalent to making the participant 4 times as loud, -3dB means the sound will be half as loud, and so on. This setting is useful for endpoints whose audio is consistently too quiet or too loud.

2. Increase the audio level that the endpoint places into the call by selecting *Apply fixed gain*. Type a positive number into the *Apply fixed gain* field and click **Apply changes**.

Sending a message to one participant

1. Click the **Send message** tab.

A text message sent from here appears only on this participant's screen.

The screenshot shows the 'Send message' tab in the participant configuration interface. The top navigation bar is the same as the previous screenshot. The breadcrumb trail is 'Home > Conferences > Conference "Training" > Participant " " > Send message'. The 'Send message' tab is selected, with other tabs being 'Display', 'Camera', 'Audio', 'Send DTMF', 'Custom layout', 'Statistics', and 'Diagnostics'. The 'Send message' form has a 'Message text' field with the value 'Individual test message', a 'Position' dropdown set to 'Middle', and a 'Duration' dropdown set to '1 minute'. There are 'Send message' and 'Clear message' buttons. A message at the bottom states: 'Message will be sent to this participant only'.

2. Type a message into the *Message text* field and click **Send message**.

3. Return to the **Display** tab and click on the preview to check that the text has appeared on the screen.



Checking statistics and diagnostics

1. Click the **Statistics** tab to see information about the connection to this participant.

Home Status Network Settings **Conferences** Users Endpoints Log out Logs Help

Home > Conferences > Conference "Training" > Participant "..." > Statistics

Display Camera Audio Send DTMF Send message Custom layout **Statistics** Diagnostics

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Audio statistics

Media	Control
Receive stream AAC-LD 64k, 20 ms	RTCP receive address [redacted]
Receive address [redacted]	Receiver reports 265
Encryption <not active>	Packet loss reported 0
Received jitter 0.0 ms (buffer=38.0 ms)	Sender reports 265
Received energy -29 dB	Other 575
Packets received 57500	
Packet errors 0	RTCP transmit address [redacted]
Frame errors 0 / 57500	Packets sent 193
<hr/>	
Transmit stream AAC-LD 64k, 20 ms	
Transmit address [redacted]	
Encryption <not active>	
Packets sent 57500	

Video statistics

Media	Control
Receive stream H.264, 1280 x 720, Non-interleaved mode	RTCP receive address [redacted]
Receive address [redacted]	Receiver reports 260
Encryption <not active>	Packet loss reported 0
Channel bit rate 4.00 Mbit/s	Sender reports 260
Receive bit rate 4.00 Mbit/s (actual=2.17 Mbit/s)	Other 553
Received jitter 0.5 ms (buffer=0.0 ms)	RTCP transmit address [redacted]
Delay applied for lipsync 38 ms (RTCP delay=34 ms)	Packets sent 186
Packets received 233806	
Packet errors 0	Fast update requests 0 received, 3 sent
Frame rate 29.8 fps	Flow control messages 0 received, 0 sent
Frame errors 0 / 34474	
<hr/>	
Transmit stream H.264, 1280 x 720, Non-interleaved mode	
Transmit address [redacted]	
Encryption <not active>	
Channel bit rate 3.94 Mbit/s	
Transmit bit rate 3.94 Mbit/s (actual=1.15 Mbit/s)	
Packets sent 422790	
Frame rate 30.0 fps	
Temporal / spatial 20	


Content statistics

Media	Control
Receive stream <no video>	RTCP receive address [redacted]
Receive address [redacted]	Receiver reports 266
Encryption -	Packet loss reported 0

Look out for packet errors and frame errors because these can indicate network issues such as duplex mismatches.

The *Receive bit rate* may be lower than expected: this can be normal behavior because the MCU asks for less data from the participant if no one is viewing them in a full screen. This helps to reduce network load.

- Click the **Diagnostics** tab to see detailed information for this connection.

Display
Camera
Audio
Send DTMF
Send message
Custom layout
Statistics
Diagnostics


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[next>](#)

Status

Call state **Connected at 13:06**

Call bit rate (incoming media) **4.00 Mbit/s**

Call bit rate (outgoing media) **4.00 Mbit/s**

FECC channel status **Established**

Floor control protocol **Not supported**

Endpoint-supplied information

Name **[REDACTED]**

E.164 number **<none supplied>**

Country code / extension **0x00 / 0x00**

Manufacturer code **0x0000**

Product **TC**

Version **5.1.0.280662**

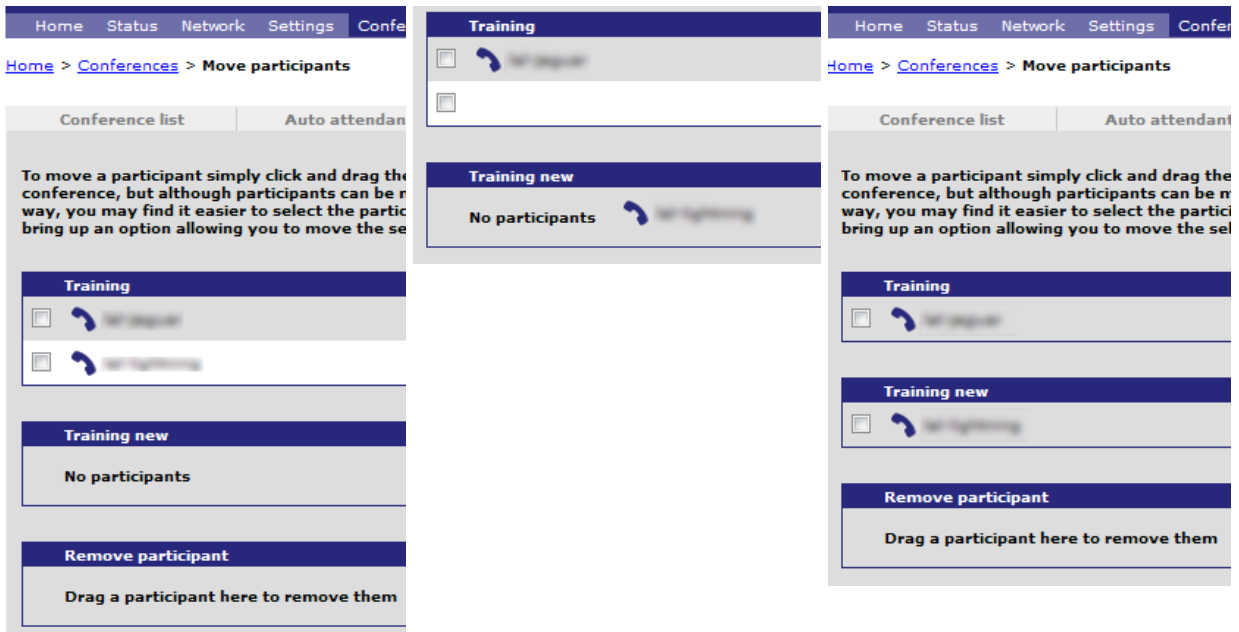
Media capabilities

Sent	Received
Capability sets sent 1	Capability sets received 9
Encryption Supported	Encryption <not supported>
H.261 bit rate limit <not supported>	H.261 bit rate limit <not supported>
H.261 maximum size -	H.261 maximum size -
H.261 symmetry -	H.261 symmetry -
H.261 audio combinations -	H.261 audio combinations -
H.263 bit rate limit <not supported>	H.263 bit rate limit <not supported>
H.263 maximum size -	H.263 maximum size -
H.263 symmetry -	H.263 symmetry -
Interlaced H.263 -	Interlaced H.263 -
H.263 audio combinations -	H.263 audio combinations -
H.264 bit rate limit 4.00 Mbit/s	H.264 bit rate limit 4.00 Mbit/s
H.264 maximum size 1920 x 1088	H.264 maximum size 1280 x 720
H.264 symmetry Non-symmetric	H.264 symmetry Symmetric
H.264 max static Mblocks/s 315500	H.264 max static Mblocks/s 0
H.264 non-interleaved mode Supported	H.264 non-interleaved mode Supported
H.264 audio combinations G.711mu/A, G.722/G.722.1, G.728, G.729/A/B/AB, Polycom(R) Siren14(TM), G.722.1 C, AAC LD+LC	H.264 audio combinations G.711mu/A(S), G.722/G.722.1(S), AAC LD(S)
Audio without video G.711mu/A, G.722/G.722.1, G.728, G.729/A/B/AB, Polycom(R) Siren14(TM), G.722.1 C, AAC LD+LC	Audio without video G.711mu/A(S), G.722/G.722.1(S), AAC LD(S)
H.263+ extended bit rate limit 2.00 Mbit/s	H.263+ extended bit rate limit 2.00 Mbit/s
H.263+ extended maximum size 1280 x 720	H.263+ extended maximum size 1280 x 768
H.263+ extended modes presentation	H.263+ extended modes presentation
H.264 extended bit rate limit 2.00 Mbit/s	H.264 extended bit rate limit 2.00 Mbit/s
H.264 extended maximum size 1920 x 1080	H.264 extended maximum size 1280 x 720
H.264 non-interleaved mode Supported	H.264 non-interleaved mode Supported
H.264 extended modes presentation	H.264 extended modes presentation

Moving participants between conferences

1. Create a new conference (in this example called *Training new*).
2. Go to **Conferences > Move Participants**.
3. Drag a participant from the *Training* conference and drop it on to *Training new*.

The participant moves while you drag it and then becomes a participant in the conference where you drop it:



Before the move

While dragging a participant

After dropping the participant

You can move multiple participants by selecting the checkbox next to each one and then dragging the group.

You can also remove one or more participants from the conference by dragging the selected participants from the conference and dropping them on the Remove participant section.

Pre-configuring endpoints


You can pre-configure endpoints and store them in the MCU's configuration, so that you can invite these endpoints into conferences without having to enter their details each time. This acts as an address book for the endpoints on your network.

The MCU is able to recognize when an incoming call is from a pre-configured endpoint, which has the advantage that the conferencing parameters for that endpoint (for instance, sending video in widescreen format) will automatically take effect. The endpoint's settings won't need to be adjusted each time the endpoint calls in.

1. Go to **Endpoints** and click either **Add H.323** or **Add SIP**. (The screen examples are for Add H.323.)

[Home](#) [Status](#) [Network](#) [Settings](#) [Conferences](#) [Users](#) [Endpoints](#) [Log out](#) [Logs](#) [Help](#)

[Home](#) > [Endpoints](#) > **Endpoint list**



Endpoint list

2 configured endpoints

Delete selected

Add H.323

Add SIP

Page 1 2 3 4

Name ▼	Address	Type
<input type="checkbox"/> Other upstairs room HH	192.168.1.100@192.168.1.100	SIP
<input type="checkbox"/> Upstairs HH	192.168.1.101@192.168.1.101	H.323

Delete selected

Add H.323

Add SIP

Page 1 2 3 4

The list of previously configured endpoints is displayed. The white arrow shows which column the list is sorted by and whether the list is in ascending or descending order. You can reorder the list by clicking on the appropriate heading.

Home Status Network Settings Conferences Users Endpoints Log out Logs Help

Home > Endpoints > Add H.323 endpoint

H.323 endpoint

H.323 endpoint

Display parameters

Name

Call-out parameters

Address

DTMF sequence

Call-in match parameters

Name

IP address

E.164

Conferencing parameters

Display name override

Motion / sharpness tradeoff

Transmitted video resolutions

Content contribution

Content receive

View border size

Default view family

Preferred bandwidth from MCU

Preferred bandwidth to MCU

Layout control via FECC / DTMF

Send camera control to other participants

Mute in-band DTMF

Appear as a recording device

Dial out as

Initial audio status

Initial video status

Automatic disconnection

Advanced interoperability parameters

Content negotiation

Custom codec selection

2. Complete the fields using the online help (click  icon) if necessary.

Call-out parameters are the values that the MCU uses to contact this endpoint.

Call-in match parameters are used by the MCU to recognize this endpoint when it calls in. At least one Call-in match parameter must have a value, though you may provide others. All of the call-in parameters you provide here must match those supplied by the endpoint; however, the MCU does not attempt to match on empty fields.

The Conferencing parameters define the preferred settings for this endpoint.

3. Click **Add endpoint**.

The endpoint appears in the list of configured endpoints.

Adding computer displays to the conference

In this section you configure the MCU to share data with a conference using H.239 or BFCP (also known as the content contribution channel or simply the content channel). The content channel is enabled on the MCU by default but you can enable or disable it on a per conference basis. The content channel is in addition to the main video channel.

The MCU has several methods of displaying data within a conference:

- ▶ Via the content contribution channel to endpoints
- ▶ In the standard or 'main' video channel

Enabling the content channel in a conference

1. Go to **Conferences** and click the *Training* conference.
2. Click the **Configuration** tab.
3. Scroll down to the **Content** section (below **Participant Controls**).

The screenshot shows the web interface for configuring a conference. At the top, there is a navigation bar with links: Home, Status, Network, Settings, Conferences, Users, Endpoints, Log out, Logs, and Help. Below this is a breadcrumb trail: Home > Conferences > Conference "Training" > Configuration. The main content area has tabs: Participants, Configuration (selected), Custom layout, Statistics, and Send message. The title of the page is "Conference "Training"". Below the tabs, there is a section titled "Content" with several settings:

- Content mode: Transcoded (dropdown)
- Outgoing transcoded codec: Automatic (dropdown)
- Content contribution from endpoints: Enabled (dropdown)
- Outgoing transcoded resolutions: 4:3 resolutions only (dropdown)
- Minimum outgoing bit rate: <no minimum> (dropdown)
- Preferred minimum passthrough resolution: <no minimum> (dropdown)

 At the bottom of the configuration area, there are two buttons: "Update conference" and "Pre-configured participants".

4. Set *Content mode* to *Transcoded*.

The different content modes are explained in the online help.

5. Scroll down and click **Update conference**.

The conference now has a content channel which is shown in the Participants list.

Type	Participant ▼	Controls	Status	Preview
SIP	Configuration: Other upstairs room HH	 	Connected at 14:59 Tx: 1280 x 720, H.264, 3.94M, AAC-LD Rx: 1280 x 720, H.264, 4.00M, AAC-LD Content tx: pending disable	
	Content channel		Content viewers: 0	

End conference
Add participant
Page 1

The auto attendants

You have seen that when endpoints connect to the MCU they see a display offering a number of choices. This is controlled by a series of screens known as 'auto attendants'.

- ▶ Cisco TelePresence MCUs can have many auto attendants (otherwise known as Interactive Voice Responses or IVRs).
- ▶ You can personalize the banner and choose which conferences to show.
- ▶ You can set up menu structures by linking auto attendants.
- ▶ The MCU uses the default auto attendant when a participant dials the MCU using the MCU's IP address, or URI, or from an unknown number.
- ▶ You can assign numeric IDs to Auto attendants so that they can register with gatekeepers and thus be dialed directly.
- ▶ Endpoints with no FECC capability can use DTMF navigation (numbers 2, 8, 4 and 6) to navigate the auto attendant menu.

Go to **Conferences > Auto attendants** to display the auto attendants list.

Home > Conferences > Auto attendants

Conference list **Auto attendants** Move participants Templates

1 configured auto attendant

Name ▼	Numeric ID	H.323 gatekeeper	SIP registrar	Security	Calls	Banner
Default - default	n/a	n/a	n/a	<none>	1	<default>

Delete selected Add new auto attendant

The Auto attendants list shows all the auto attendants and summary information about each one. When the MCU is delivered there is only one auto attendant - the Default auto attendant.

Creating and linking auto attendants

Additional auto attendants can be added to help callers find the correct conference.

1. Click **Add new auto attendant**.

Home Status Network Settings **Conferences** Users Endpoints Log out Logs Help

Home > Conferences > Auto attendants > Add auto attendant

Add auto attendant

Add auto attendant

Auto attendant

Name

Title (optional)

Numeric ID (optional)

Numeric ID registration ☐ H.323 gatekeeper ☐ SIP registrar

PIN (optional)

Re-enter PIN

Creation of new conferences

Access to ad hoc conferences

Accessible scheduled conferences

All scheduled conferences ☒ Page 1 2 3 4 5 6 7 8 9 10

Selected scheduled conferences ☐ **Available scheduled conferences**

☐ Training

Links to other auto attendants

☐ Default

Add auto attendant

2. Type in a name, for example, *Auto attendant 1*.
3. Leave the other fields as their default setting and click **Add auto attendant**.
4. Repeat the steps in this section to add a second auto attendant (for example, *Auto attendant 2*) but this time selecting *Selected scheduled conferences* and choosing the *Training* conference by selecting the checkbox next to its name.

The middle section of the page lets you configure which conferences are displayed on the auto attendant.

5. Select the *Default* auto attendant.

Home Status Network Settings **Conferences** Users Endpoints Log out Logs Help

Home > Conferences > Auto attendants > Auto attendant "Default"

Auto attendant Banner

Update auto attendant

Auto attendant

Name

Title (optional)

Numeric ID (optional)

Numeric ID registration ☐ H.323 gatekeeper ☐ SIP registrar

PIN (optional)

Re-enter PIN

Creation of new conferences

Access to ad hoc conferences

Accessible scheduled conferences

All scheduled conferences ☒ Page 1 2 3 4 5 6 7 8 9 10

Selected scheduled conferences ☐ **Available scheduled conferences**

☐ Training

Links to other auto attendants

☒ Auto attendant 1

☒ Auto attendant 2

Update auto attendant

There are now checkboxes for the new auto attendants.

6. Select both auto attendants and click **Update auto attendant**.

Auto attendant 1 and Auto attendant 2 are now displayed in the Default auto attendant.

7. Dial the IP address of the MCU from an endpoint.



8. Select *Auto attendant 2* in one of the following ways:

- ▶ Put the endpoint into far end camera control mode, press down arrow twice to highlight *Auto attendant 2* and then press right to join it.
- ▶ For endpoints without far end camera control mode, use DTMF navigation mode: press # twice. The message “DTMF navigation enabled” appears briefly at the bottom of the auto attendant screen. Navigate using the 2, 8, 4 and 6 keys for Up, Down, Left and Right, and use 6 to select the menu option. (Exit this mode by pressing # twice.)



The Training conference is listed and you can select this option to join the conference.

Personalizing the auto attendant

1. On the MCU web UI, select the default auto attendant from the auto attendant list and click the **Banner** tab.

The **Banner** page shows which banner is displayed on the auto attendant. You can upload a customized banner instead of the default banner provided by Cisco.

Home Status Network Settings **Conferences** Users Endpoints Log out Logs Help

Home > Conferences > Auto attendants > Auto attendant "Default"

Auto attendant Banner

Auto attendant banner

Default ☒

Specific to this auto attendant ☐

Remove banner

Update

Banner upload

Banner for this auto attendant No file chosen

(file must be GIF, JPEG or Windows BMP format, and a maximum size of 90 KB, 1600 x 1200 pixels)

Restricting access to conferences

The MCU's default behavior is for all conferences to appear on the Default auto attendant, and for that auto attendant to be available to all callers.

This behavior can be changed in various ways:

- ▶ You can configure the Default auto attendant so that it only shows specific conferences [p.37].
- ▶ You can apply guest and chair PINs to a conference so that participants must know the guest PIN to join the conference and the chair PIN to initiate the conference.
- ▶ You can configure the Default auto attendant with a PIN so that only a restricted set of callers can see the available conferences.
- ▶ In a gatekeeper-controlled environment, you can set up each conference with an E.164 number (as well as a PIN if required) and configure the default auto attendant to not show any of them; people can only access the conferences for which they know the number and they call in to those conferences directly (rather than through the video auto attendant menu).
- ▶ To restrict availability of conferences via the web interface, you can configure user accounts with different privilege levels [p.46].

Setting up an external gatekeeper

If you are going to be using an external gatekeeper with your MCU follow the instructions in this section.

1. Go to **Settings > H.323**.

The screenshot displays the H.323 configuration page. The top navigation bar includes links for Home, Status, Network, Settings, Conferences, Users, Endpoints, Log out, Logs, and Help. The breadcrumb trail is Home > Settings > H.323. The main configuration area is titled 'H.323' and contains the following fields:

- H.323 gatekeeper usage:** A dropdown menu set to 'Enabled'.
- H.323 gatekeeper address:** A text input field.
- Gatekeeper registration type:** A dropdown menu set to 'MCU (standard)'.
- Ethernet port association:** Checkboxes for 'Port A IPv4', 'Port A IPv6', 'Port B IPv4', and 'Port B IPv6'.
- (Mandatory) H.323 ID to register:** A text input field.
- Use password:** A checkbox and a 'Password:' text input field.
- Prefix for MCU registrations:** A text input field.
- MCU service prefix:** A text input field with '(optional)' next to it.
- Allow numeric ID registration for conferences:** A checked checkbox.
- Send resource availability indications:** A checkbox and two input fields for 'Thresholds' for 'conferences' and 'video ports'.

Below the configuration fields is an 'Apply changes' button. At the bottom, the 'Current status' section shows:

- H.323 gatekeeper status:** not in use
- Registered address:** <not registered>
- Alternate gatekeepers available:** 0
- Resource availability status:** <indications not configured>
- Number of active registrations:** 0 [details](#)
- H.323 ID registration:** n/a
- MCU service prefix:** n/a

2. Complete the fields using the notes below and the online help if necessary.
 - ▶ **H.323 gatekeeper usage** (Enabled/Disabled/Required): If you select *Required*, the MCU must be able to connect with the gatekeeper otherwise no calls will be allowed.
 - ▶ **H.323 gatekeeper address**: the IP address or host name of the gatekeeper.
 - ▶ **Gatekeeper registration type**: In general it is best to use *Terminal/Gateway*.
 - ▶ **Ethernet port association** (Port A and/or Port B): Choose which port(s) and IP protocol(s) are associated with the gatekeeper when the Video Firewall option is enabled.
 - ▶ **Prefix for MCU registrations**: this number is prefixed to the beginning of all E.164 numeric identifiers registered with the gatekeeper. One use is for prefixing the identifiers with the telephone code for your country or local area.
 - ▶ **MCU service prefix**: one or more digits used as a prefix that the gatekeeper will recognize as calls to this MCU.

- ▶ *Allow numeric ID registration for conferences*: Allows conferences to register with the gatekeeper.
- ▶ Leave all other fields blank.

See the online help for information on the fields not discussed here.

3. Click **Apply changes**.

A message indicates that the names and numbers are being registered. Wait a few seconds and click the **H.323** tab again or refresh the page to see whether their registration was successful. If registration fails, ensure that the MCU can reach the gatekeeper by going to the **Network > Connectivity** page. Check that the gatekeeper doesn't have any existing registrations for these numbers.

You can now use the gatekeeper when setting up and making connections in a conference.

Using a SIP registrar

Configure a SIP registrar to allow conference participants with SIP endpoints to connect to the MCU by dialing a directory number rather than an IP address.

1. Go to **Settings > SIP**.

The settings on this page control the MCU's interaction with the SIP registrar and with SIP endpoints.

The screenshot shows the web interface of the Cisco TelePresence MCU 5300 Series. The top navigation bar includes links for Home, Status, Network, Settings, Conferences, Users, Endpoints, Log out, Logs, and Help. The breadcrumb trail is Home > Settings > SIP. The main content area is titled 'SIP' and contains two sections: 'SIP registrar usage' and 'SIP call settings'. In the 'SIP registrar usage' section, 'SIP registrar usage' is set to 'Enabled' and 'Registered'. The 'SIP registrar domain' field is empty. The 'Username' field contains 'tutorialMCU' and the 'Password' field is empty. The 'Allow numeric ID registration for conferences' checkbox is checked. In the 'SIP call settings' section, the 'SIP proxy address' field is empty. The 'Outgoing transport' section has radio buttons for UDP (selected), TCP, and TLS. The 'Use local certificate for outgoing connections and registrations' checkbox is unchecked. An 'Apply changes' button is at the bottom.

2. For SIP registrar usage, select Enabled.

3. Complete the remaining fields as follows:

- ▶ *SIP registrar domain*: This can be specified either as a host name or as an IP address. For example, if you are using the MCU with a Cisco TelePresence Video Communication Server (VCS) this will be the IP or host name of your VCS
- ▶ *Username*: The login name for the MCU on the SIP registrar
- ▶ *Password*: The password for the MCU on the SIP registrar
- ▶ *Allow numeric ID registration for conferences*: This controls whether any scheduled conferences' configured numeric IDs are allowed to be registered with the registrar
- ▶ *Use local certificate for outgoing connections and registrations*: This forces the MCU to present its local certificate when registering with the SIP registrar

See the online help for more information on the fields not discussed here.

4. Click **Apply changes**.

With the SIP registrar enabled, SIP endpoints can now dial directly into registered conferences by calling the conference ID. Conversely, the MCU can call out to SIP endpoints using the URIs they have registered.

Setting up and editing users' privileges

Adding a new user

1. Go to **Users**.

The list of current users is shown. When the MCU is delivered there are two users: *admin* and *guest*. You must be logged in as the admin user to add new users or change a user's configuration.

Home Status Network Settings Conferences **Users** Endpoints Log out Logs Help

Home > Users > User list

User list

2 configured users

Delete selected users Add new user Page 1 2 3 4

User ID ▼	Name	Privilege	E.164	Video endpoint	Picture
admin	<system-created>	administrator			<not present>
quest	<system-created>	conference list only			<not present>

Delete selected users Add new user Page 1 2 3 4

2. Click **Add new user**.

Home Status Network Settings Conferences **Users** Endpoints Log out Logs Help

Home > Users > Add user

Add user

User information

User ID

Name

Password

Re-enter password

Disable user account ☐

Lock password ☐

Force user to change password on next login ☒

Privilege level

E.164 phone number

Associated video endpoint

Add user

3. Type in the *User ID* and *Name* for the new user. (The *User ID* is used to log in; the *Name* is the preferred name for that user.)
4. If this user account needs to be password-protected, type in the password twice.
5. Select the *Lock password* check box if you would like to prevent the user from changing their password.

This is useful where you want multiple users to be able to use the same *User ID*. If you do not lock the password, one person could change it and then everyone else who uses this *User ID* would be unable to log in.

6. Set the *Privilege level* from the drop down list.

It is possible to associate audio-only endpoints (via the *E.164 phone number*) with a user.

- ▶ If this audio only endpoint calls the MCU (or is called by the MCU), the MCU can either display a static picture of the user which can be uploaded after the user has been created, or
- ▶ The MCU can call out to an associated video endpoint so the user has audio on their audio device and video on their video device.

7. If required, set up the *E.164 phone number* and *Associated video endpoint*.
8. Click **Add user**.

The new user appears in the Users list.

Editing the guest user's configuration

By changing the configuration of the default *guest* user, you can limit what a guest user may do.

1. Click the **guest** link.
2. Change the access rights as required by changing the privilege level and click **Update guest settings**.

Entering a password for the admin user

When you logged in as the *admin* user at the start of this tutorial there was a blank password. This is not secure and you should change the password to something secret.

1. Click the **admin** link.
2. Type in the password that you want to use to gain access to this MCU as the admin user from now on.
3. Re-type the password.
4. Click **Update password**.

If the admin password is lost, you can use the *reset_config* command at the serial console to reset the system configuration. You can only issue this command during the first 30 seconds of startup. This will reset the admin password and all user passwords.

Note: *reset_config* will also reset your local configuration including any feature keys you may have installed.

Closing the MCU browser

You have completed the tutorial.

Click **Log out** to exit from the MCU web interface. The MCU is designed to be left powered on at all times; therefore you can then simply close the browser window.

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