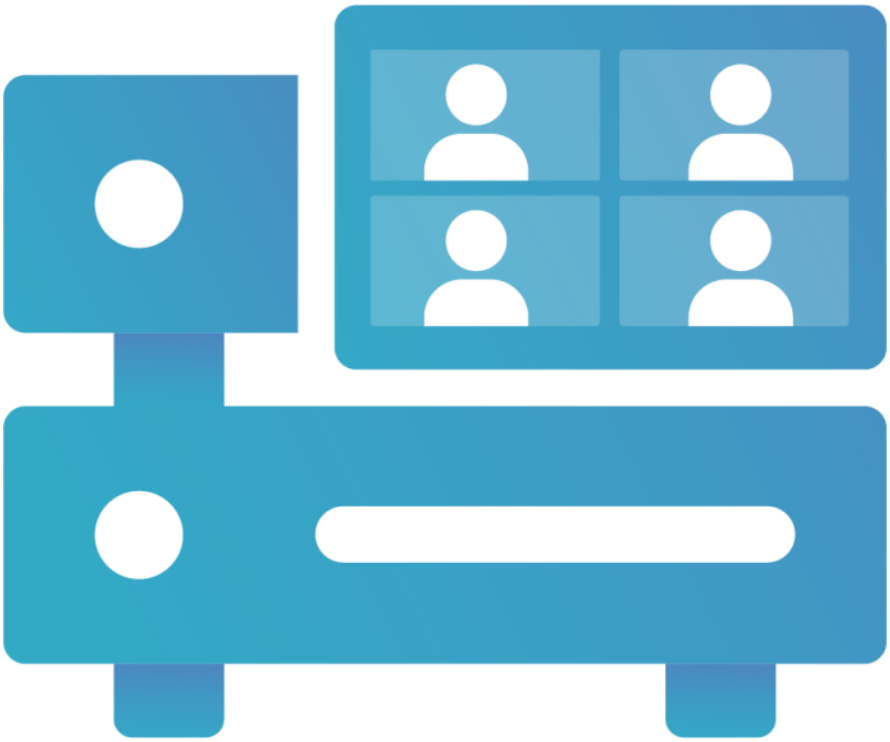
TrueConf

TrueConf MCU

Administrator guide



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1. What is TrueConf MCU?

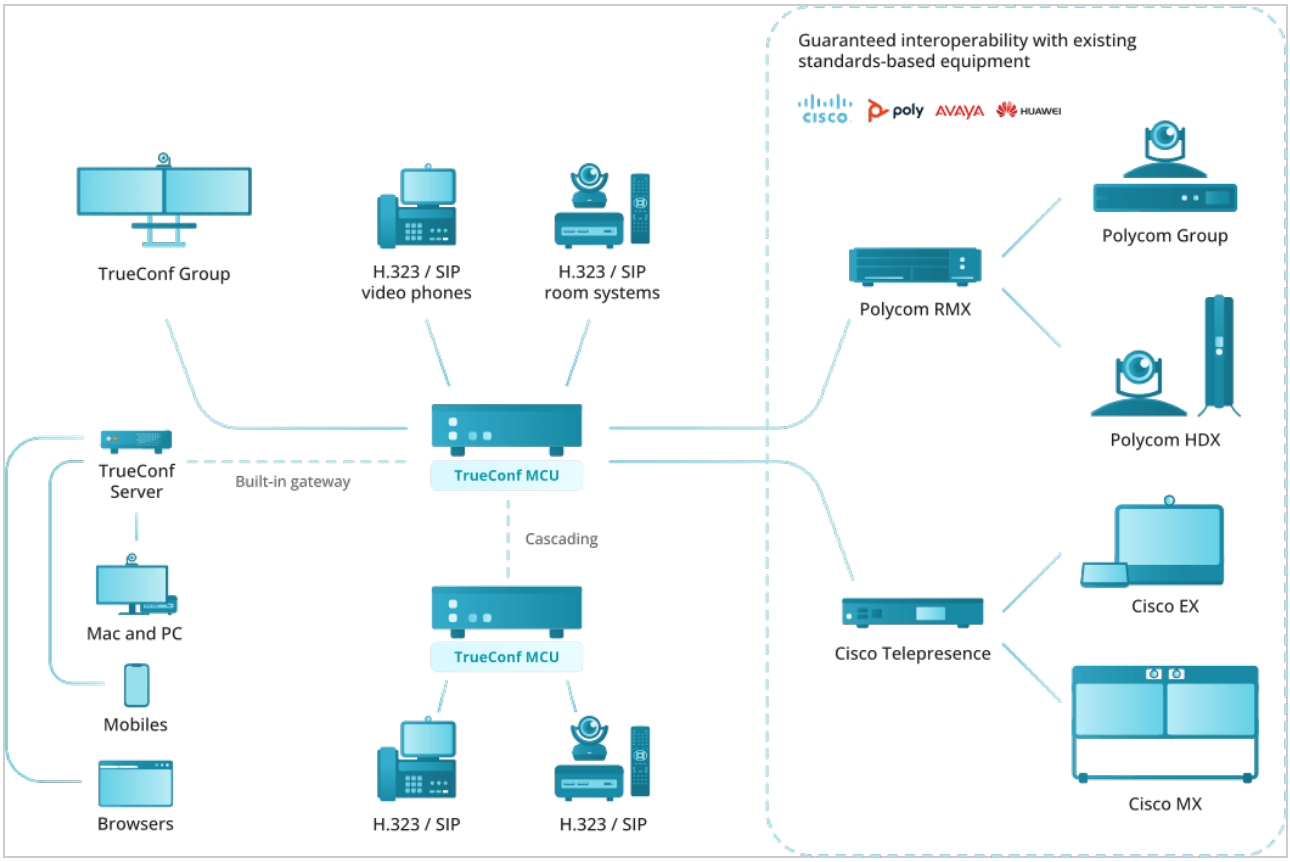
1.1. Purpose

TrueConf MCU is a software-based video conferencing server designed for holding multipoint conferences. It provides standard MCU server functionality and ensures integration with SIP/H.323 video conferencing endpoints by Polycom, Cisco and Lifesize, Huawei, and others. TrueConf MCU is also compatible with software video conferencing solutions such as Polycom Real Presence Desktop/Mobile.

So, TrueConf MCU is a software alternative to such solutions as Polycom RMX, Polycom RealPresence Collaboration Server, Cisco Meeting Server, Avaya Scopia, Pexip Meetings, or Poly Clariti.

To use TrueConf MCU, you must have a physical server or a hypervisor that meets the system requirements.

1.2. Work Scheme



1.3. TrueConf MCU features

1.3.1. Supported protocols

- H.323 video calls, including H.221, H.225, H.231, H.239, H.241, H.242, H.243, H.245, H.281, H.283, H.350, H.460, H.460.18, H.460.19 protocols support
- Video calls via SIP, including ICE, TURN, BFCP, RFC 2833 support
- Video calls via RTSP protocol
- Conference participation from a browser (via WebRTC)
- Remote camera control (FECC, H.224, H.281)
- TCP/IP, SRTP, TLS, Static IP, DHCP, IPv4, IPv6, DNS
- Support for management via SSH, WEB (HTTP, HTTPS) and NTP

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- NTP time synchronization.
- MTU modifiable size
- QoS support: DSCP, DiffServ

1.3.2. Supported video codecs

- H.261, H.263, H.263+, H.264 Baseline Profile, H.264 High Profile, H.265 Main profile

1.3.3. Supported audio codecs

- Opus, AAC, G.711, G.719, G.722, G.722.1, G.722.1c, G.723, G.726, G.728, G.729

1.3.4. Features

- Conferences of the "everyone on display" type with up to 250 participants and Ultra HD (2160p) video quality.
- Schedule conferences or create virtual rooms, enjoy a number of scheduling options for recurring meetings (set a number of repetitions, repeat every day, every week or every month)
- Real-time monitoring and management of active conferences
- Set up a conference ID (either automatically or manually)
- Lock conferences from new participants (they can be added only by the administrator)
- Display conference participants' names in the layout
- If the connection failed, a participant will be prompted to reconnect to the meeting after the connection is restored
- View participant’s video, content and layout in use
- Set up and manage participants' devices
- Move participant from one conference to another on the fly. Participant's camera and microphone can be turned off if needed
- Set both general layout for all participants or an individual layout for each user (including an active spear) and create a layout specifically intended for recording and streaming
- Configure a type of every video window in the layout: empty window, autofill, fixed participant, active speaker, participant shuffle, or content window
- Switch to the layout with a priority window in one click for each participant
- Select a video scaling mode with or without cropping or select an automatic mode (TrueConf MCU will automatically determine the best scaling mode)
- Remove a participant's self-view from the automatic layout to save up screen space
- Create overlay layouts displaying a full-screen window with thumbnail windows laying on top of it
- Create audio channels with attendees (able only to receive audio) and presenters (able to sent audio)
- Remove non-video participants from the layout to free layout windows for other users
- Select audio and video codecs, maximum resolution, fps and video bitrate when creating a conference
- Display volume level in the video windows
- Stream conferences to external RTMP sources
- Show media files such as images and videos during a conference (they can be displayed in the primary and secondary video streams)
- Stream from VNC servers during a conference
- Use built-in noise cancellation and automatic gain control individually for each participant

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- Address book where you can add new users, edit existing ones, and form groups
- Record conferences
- Configurable main and sub stream encoding profiles for adjusting the balance between frame rate and image quality depending on the channel bandwidth
- Connect IP cameras and view IP streams via RTSP
- PTZ camera control
- Control participants' devices with DTMF commands
- Authorize to log into TrueConf MCU control panel
- Integrate with TrueConf Server via cascading
- Compatible with Polycom, Cisco, Lifesize hardware endpoints, as well as Polycom RealPresence desktop and mobile software
- Compatible with Debian
- Support for Oracle VM VirtualBox, VMware ESXi, KVM hypervisors, Microsoft® Hyper-V, Xen.
- Works in LAN/VPN without internet access

1.3.5. Administration features

- Real-time monitoring and system data tracking
- Export system logs and call history
- Check connection to any video conferencing server directly from TrueConf MCU web interface without the need to call the endpoints registered on it
- Traffic recording and downloading in the **.pcap** format.
- Adjust settings for storing, viewing and searching though media files
- Specify the maximum size of file storage
- Set up network connection (TCP/IP ports, NAT passing)
- Set up call parameters (protocols, their priority and order of calls)
- Set up a SIP/H.323 gateway
- Second channel bandwidth limitation in percentage ratio
- Set a tine interval for shuffling or alternating participants in the layout
- Change video layouts skins
- Customize participant's display name styles
- Add user avatars for address book contacts
- View information about TrueConf MCU license and software module versions
- Update TrueConf MCU
- Import and export the built-in database
- Import and export the address book
- Server shutdown, MCU or OS restart directly from the web interface
- Assign each user a specific role with corresponding permissions: administrator, operator.

1.4. System requirements

	Basic configuration	Recommended configuration

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CPU	Intel(R) Xeon(R) Silver 4210 CPU @ 2.20GHz	Intel(R) Xeon(R) Gold 6230 CPU @ 2.10GHz
CPU sockets	1	2
RAM (DDR4)	32 GB	64 Gb or more
Effective RAM speed	2400 MHz	2933 MHz or higher
Peak memory bandwidth	19200 Mbps	23464 Mbps or more
Disk space	512 GB (SSD is preferred)	512 GB or more (SSD is preferred)
Network	1 Mbit/s in both directions for 720p@30fps	2 Mbit/s in both directions for 1080p@60fps. If a virtual machine or server is used, Ethernet 1 Gbit/s is recommended.
Ports	The list of ports that need to be opened for correct operation of TrueConf MCU →	
Operating system	Dedicated or virtual Debian 10/11	
Supported hypervisors	Oracle VM VirtualBox, VMware ESXi, KVM, Microsoft® Hyper-V, Xen	
Maximum number of participants displayed in the layout for standard and preferred configurations *		
A general layout (1080p) used for all participants	30	64
Individual layouts (1080p) used for all participants	6	15
Individual layouts (720p) used for all participants	12	30
* Testing conducted with H.264 codec used for all participants		

* Please note that TrueConf MCU can support up to 250 participants.

1.4.1. Improved performance when working with TrueConf Group

If the TrueConf Group endpoint is connected to TrueConf MCU, the streams sent between them are optimised thanks to the exchange of additional data. For example, if the layout window with the video from the endpoint is made smaller on the MCU, the server will request and receive a video stream with a smaller resolution from the device. This leads to reduced CPU load for the MCU and makes it possible to connect a larger number of TrueConf Group endpoints simultaneously than other hardware endpoints of other vendors.

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2. TrueConf MCU installation

You can download the TrueConf MCU distributive file on our website:

https://trueconf.com/products/mcu.html

Fill out the registration form and click the **Download TrueConf MCU** button. A registration key will be sent to the email address you provided.

When you fill out and submit the form, a new page with instructions will open. Click on the link in the second section to check the full installation guide in our knowledge base. There, you can also download the installation package for your OS.

> *i* To install TrueConf MCU, you need to have superuser (root) rights.

2.1. If Internet connection is available

1. Update the system packages using the console command:

```sh
apt update && apt -y upgrade
```

2. To start installation, run the following command in the directory with the downloaded distribution:

```sh
apt install -yq ./<file_name>.deb
```

3. The installation of the TrueConf MCU server begins. During installation, click **OK** to accept the terms of the license agreement.

You may need to install additional dependencies. In this case, run the following command:

```sh
apt install -f
```

Once the dependencies are installed, TrueConf MCU installation will resume.

4. To test TrueConf MCU, run the following command:

```sh
systemctl list-units | grep tcmcu
```

If installation is successful, the status will be **active**.

2.2. Installation in the private network

When TrueConf MCU is being installed, additional packets (dependencies) are downloaded. So, if the host server does not have access to the Internet, you can configure additional settings for your system. Here is an example of deployment on Debian 10.

In addition to TrueConf MCU installation file, you will need to download the full Debian 10 distro from the official repository . This distribution includes 3 DVDs with **.iso** images. You will need to copy these images to a USB drive.

> *i* All further operations will require superuser (root) rights.

> * The instruction below shows how to create folders with certain names, but you can select any names for them.

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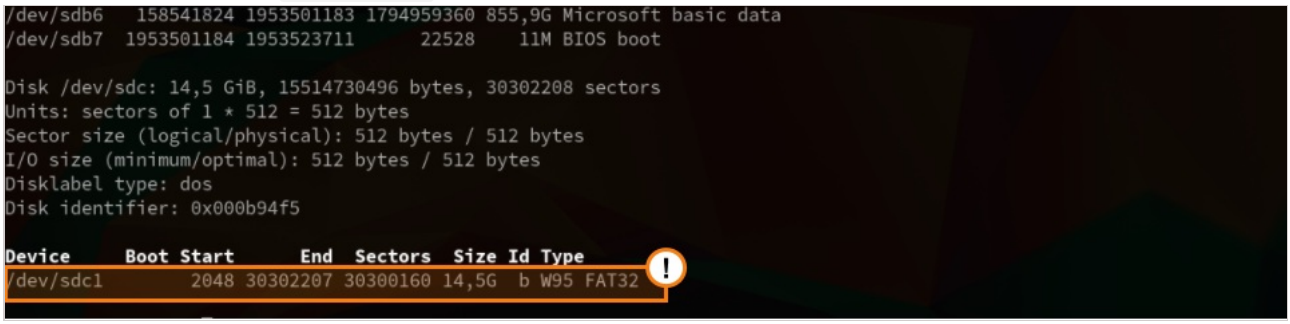
2.2.1. Step 1. Copy files to your computer

1. Connect a USB drive to your server.
2. You will need to get additional information about the USB drive. To do it, run the following command in the terminal:

```sh
fdisk -l
```

You will see information about all drives. Find out which of the drives is your USB drive. You can do it by checking the disk size. For example, you may need to check information about this disk `/dev/sdc1`, but in your case it may be `/dev/sdb1`:



3. Create a folder with the following command:

```sh
mkdir /home/$USER/usb/
```

4. Run the following command to mount the USB drive to the `/home/$USER/usb` folder:

```sh
mount /dev/sdc1 /home/$USER/usb/
```

5. Create an iso directory:

```sh
mkdir /home/$USER/iso
```

6. Copy data from the USB drive to the `/home/$USER/iso/` folder:

```sh
cp -r /home/$USER/usb/ /home/$USER/iso/
```

> *i* Copying data may take some time.

2.2.2. Step 2. Connect OS images as a repository

Then, you will need to mount OS images as a repository:

1. Create the directories with the following commands:

```sh
mkdir /debian
mkdir /debian/dvd4
mkdir /debian/dvd5
mkdir /debian/dvd6
```

2. Mount ISO images of the operating system:

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```sh
mount -o loop /home/$USER/iso/usb/debian-10.12.0-amd64-DVD-1.iso /debian/dvd4
mount -o loop /home/$USER/iso/usb/debian-10.12.0-amd64-DVD-2.iso /debian/dvd5
mount -o loop /home/$USER/iso/usb/debian-10.12.0-amd64-DVD-3.iso /debian/dvd6
```

3. To make sure that the drive is properly mounted, run the following command:

```sh
df -h
```

```
Filesystem      Size  Used Avail Use% Mounted on
udev            2,0G     0  2,0G   0% /dev
tmpfs           394M  5,8M  388M   2% /run
/dev/sda1       216G   15G  190G   7% /
tmpfs           2,0G   16K  2,0G   1% /dev/shm
tmpfs           5,0M     0  5,0M   0% /run/lock
tmpfs           2,0G     0  2,0G   0% /sys/fs/cgroup
tmpfs           394M     0  394M   0% /run/user/1000
/dev/loop0      3,5G  3,5G     0 100% /debian/dvd4
/dev/loop1      4,4G  4,4G     0 100% /debian/dvd5
/dev/loop2      4,4G  4,4G     0 100% /debian/dvd6

root@debian:~#
```

4. Open the repository configuration file with the **nano** editor and make sure that all the lines are commented out:

```sh
nano /etc/apt/sources.list
```

If some of the lines are not commented out, comment them out with the "#" character which should be put the beginning of each line and add the following code at the end of the file:

```sh
deb [trusted=yes] file:/debian/dvd4 buster contrib main non-free
deb [trusted=yes] file:/debian/dvd5 buster contrib main non-free
deb [trusted=yes] file:/debian/dvd6 buster contrib main non-free
```

Save changes with `Ctrl+O` and close the editor with `Ctrl+X`. Update the list of packets and make sure that no error occurred during the process:

```sh
apt update
```

2.2.3. Step 3: TrueConf MCU installation

Since you previously copied deb-package together with OS images, TrueConf MCU installation will be located in the `/home/$USER/iso/usb/` path. To install TrueConf MCU via the terminal, run the following command:

```sh
apt -f install /home/$USER/iso/usb/<file_name>.deb
```

To make sure that the server has been started, run the following command:

```sh
systemctl list-units | grep tcmcu
```

2.3. Authorization

TrueConf MCU starts automatically once the video conferencing server is launched. You can connect to the server from a browser using its IP address. You will need to enter your login and password on the authorization page.

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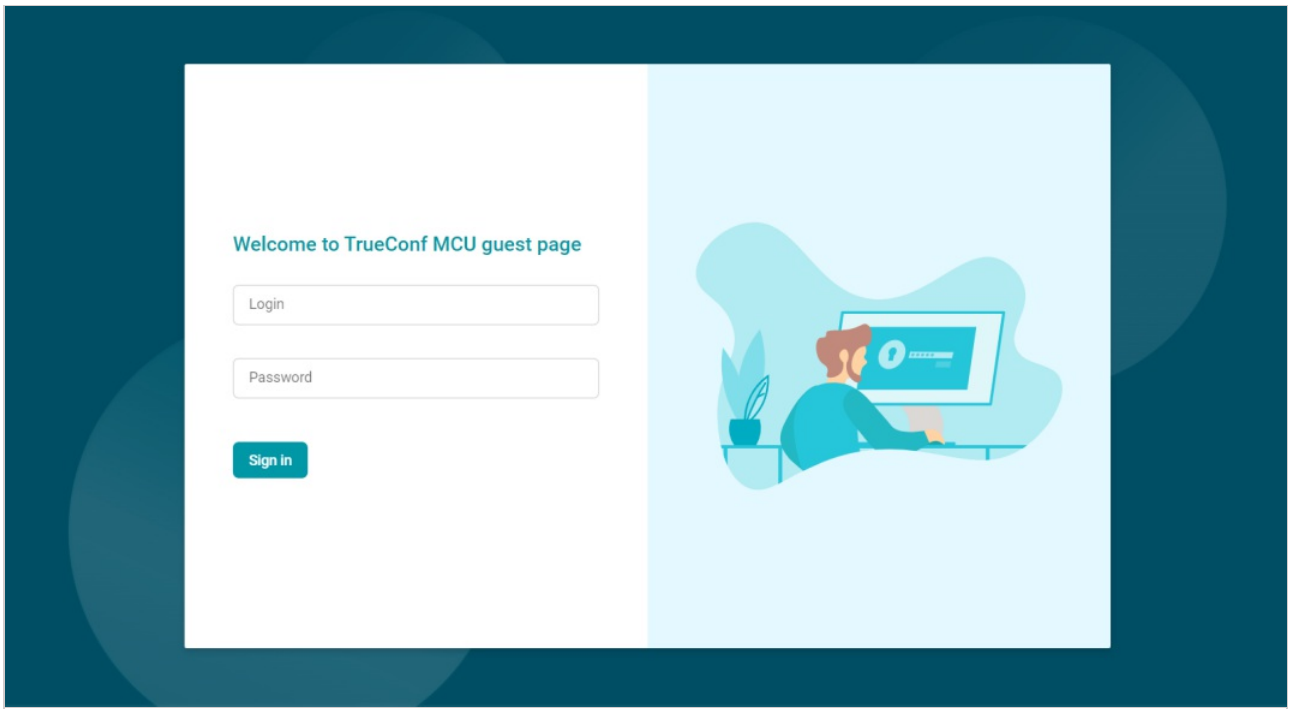
Authorization data by default:

Login - **admin**

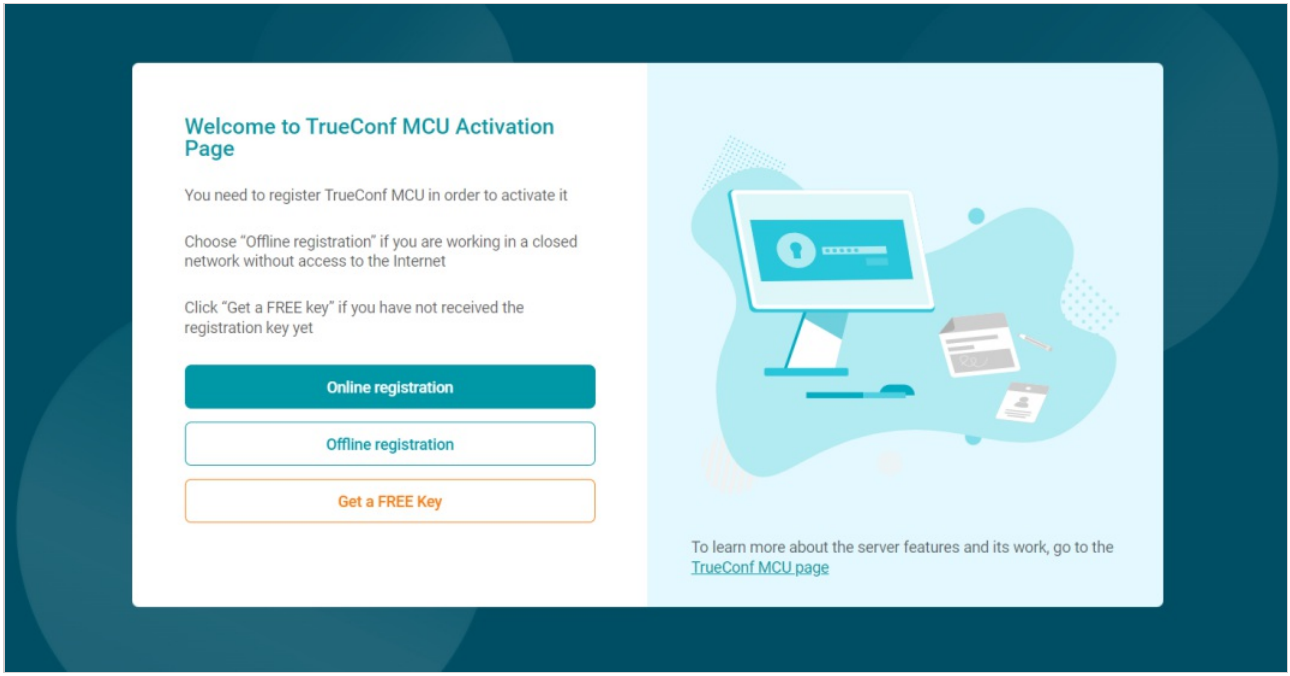
Password - **admin**

You can change the authorization data after registering the server.



2.4. Registration

After authorization, the registration window will appear:



2.4.1. Online

On the registration page, click the **Online registration** button, then in the **Registration Key** field enter

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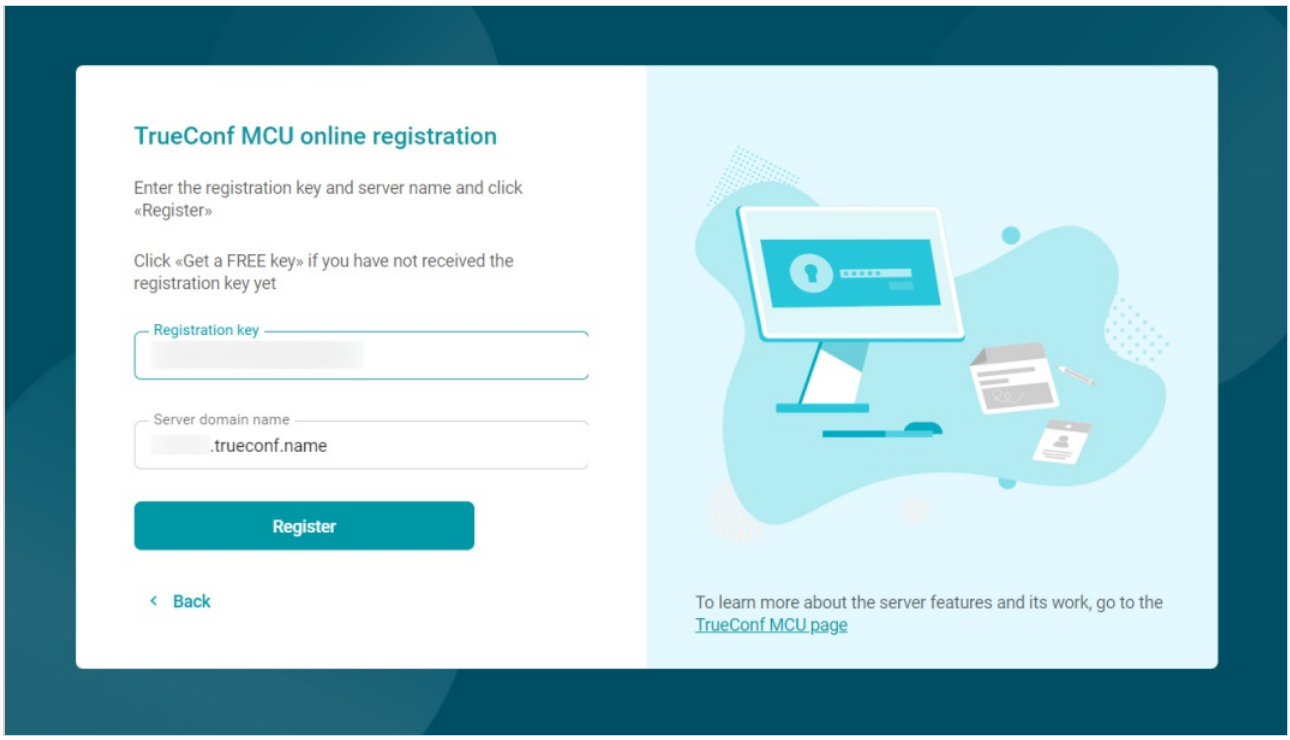
the key you received via e-mail, and click the **Register** button.



2.4.2. Offline

> **!** Offline registration is available only in the TrueConf MCU full version. If you would like to request a trial version that works without Internet connection, please contact our sales department.

If you are operating in a closed network without internet access, go to the registration page, click on the **Offline registration** button, enter the key that was received by e-mail, and then press the **Create a registration file** button. A **regoffline.mrg** file will be generated and its download to your computer will start automatically. Save the file at a convenient location and click on the **Next** button.

Send the previously saved file **regoffline.mrg** to our sales department email address.

You will receive a registration confirmation file in the reply email. Upload it and click **Register**.

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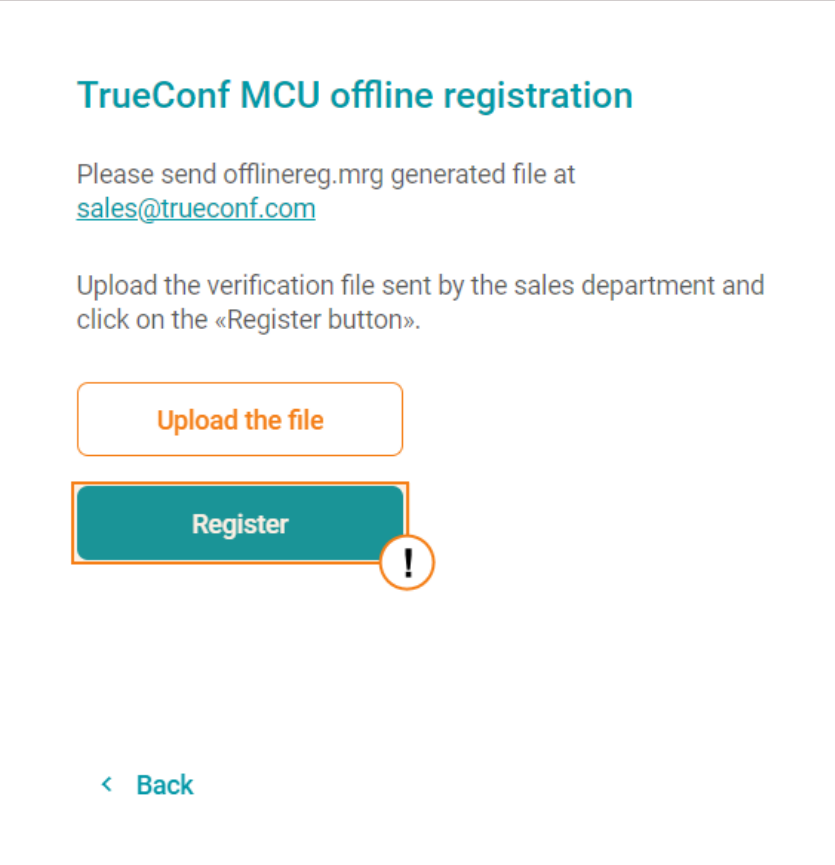

If the activation is successful, you will be automatically redirected to the TrueConf MCU control panel.

2.5. Performance

To evaluate the performance of the computing platform, TrueConf MCU uses metrics based on the speed of performing key operations - transcoding, scaling, transferring data from one memory area to another, and so on.

It is a major misconception to think that everything comes down to the number of cores and clock speed. The memory speed, which is composed of numerous factors: the type of memory, the number of memory channels (slots on the motherboard), and the size of the processor cache, plays a crucial role.

* Memory in virtualization systems operates slower than memory in hardware servers.

Performance also depends on the number of processors, as data need to be "exchanged" between processors as well.

The calibration procedure allows you to measure these indicators on a specific platform to later understand how many and what type of connections the server can handle without reducing resolution and frame rate (FPS).

2.5.1. Power

We would like to highlight the management of CPU power in the Linux OS separately. This is an important factor that affects the server's performance.

By default, the processor in Linux operates in power-saving mode. You can check the current operating mode using the following command:

```sh
sudo cpupower frequency-info
```

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You can enable maximum performance mode using the command:

```sh
sudo cpupower frequency-set --governor performance
```

By default, this utility is not included in the system. For most versions of Linux OS, it is available for installation from repositories:

```sh
sudo apt install linux-cpupower
```

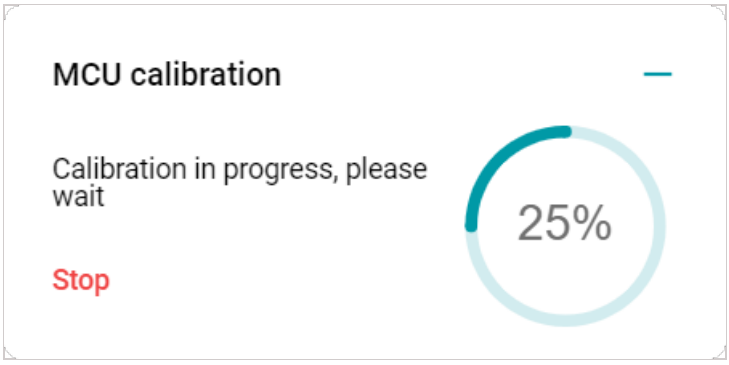
* According to our observations, full power management support appeared in Debian 11.

2.5.2. Calibration

To ensure better performance, you should perform calibration each time when the server hardware is changed or when a major update of TrueConf MCU is released (e.g., an update from v 1.2 to v.1.3). This will allow you to increase the maximum number of users simultaneously participating in a conference and improve audio and video quality. Calibration also affects the correctness of the display of server statistics.

To perform calibration, go to the **Administration** →**Calibration** section and click **Start calibration**.

In the lower right corner there will be the calibration progress bar. You can end this process by clicking on the **Stop** button. During calibration TrueConf MCU will automatically rate the server performance in different modes and with different audio and video codecs.



! When the calibration process starts, all ongoing conferences will be forcibly ended. Also, you won't be able to hold conferences on the server until the process is completed or canceled. The calibration can take several hours and depends on the server capacity.

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3. TrueConf MCU Update

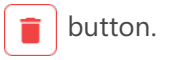
The classic TrueConf MCU transcoder server allows you to communicate both with hardware SIP/H.323 terminals and with TrueConf client application users and browsers (via WebRTC). This solution is actively evolving, and we will show you how to properly update it. You can learn about new versions in our blog and news releases.

To update the TrueConf MCU, download the distribution from our website:

https://trueconf.ru/blog/knowledge-base/deploying-and-setting-up-trueconf-mcu-in-15-minutes.html#_3_TrueConf_MCU

3.1. Through the control panel

! Updating the TrueConf MCU via the control panel is recommended if only the third digit in the version number changes (for example, from 1.5.0 to 1.5.1). Otherwise, for major versions with changes in the first two digits, for example, from 1.4 to 1.5 or from 1.5 to 2.0, a fresh installation of the new version is required as shown below.

1. Go to the **Administration** →**About** section in the control panel.
2. Press the **Upload file** button and select the downloaded package.
3. When it is added to the list, click the icon to install the update.
4. Later, you can delete unnecessary files from the list using the  button.

3.2. Clean installation of the update

i Major updates to TrueConf MCU, which contain significant innovations, require a clean installation after the previous version has been removed. This usually applies to the release of major versions with changes to the first two digits, for example, from 1.4 to 1.5 or from 1.5 to 2.0.

3.2.1. Step 1. Saving backup of necessary settings

Save the server configuration as shown here.

* When transferring data from version 1.5 to 2.0, you must use the **.csv** format, in doing so, **only** the list of contacts and groups will be restored.

3.2.2. Step 2. Removing the existing version

On the operating system where TrueConf MCU is installed, go to the terminal and execute the command:

Debian

```sh
sudo apt purge trueconf-mcu -y
```

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3.2.3. Step 3. Installing the new version

1. Install following our instructions.
2. Open the control panel of TrueConf MCU and activate it with your registration key. You can find this in the email you received when you first downloaded our solution.

When changing the hardware configuration of a virtual or physical machine where TrueConf MCU is installed, you will need to reset the key hardware binding. Please contact us by any convenient means to do this.

3.2.4. Step 4. Data recovery from backup

Restore the TrueConf MCU configuration from a saved file as shown here.

* To restore the configuration with TrueConf MCU 1.5, select a backup in the **.csv** format.

3.3. TrueConf MCU calibration

After updating, it is **mandatory** to perform a calibration.

Now you can start working with the new version of TrueConf MCU.

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4. License

After installing the TrueConf MCU video conferencing server software, you need to activate it using a registration key.

* You can get a three-week trial, so you can try all the features and benefits of TrueConf MCU before purchasing it. Just contact us in any convenient way.

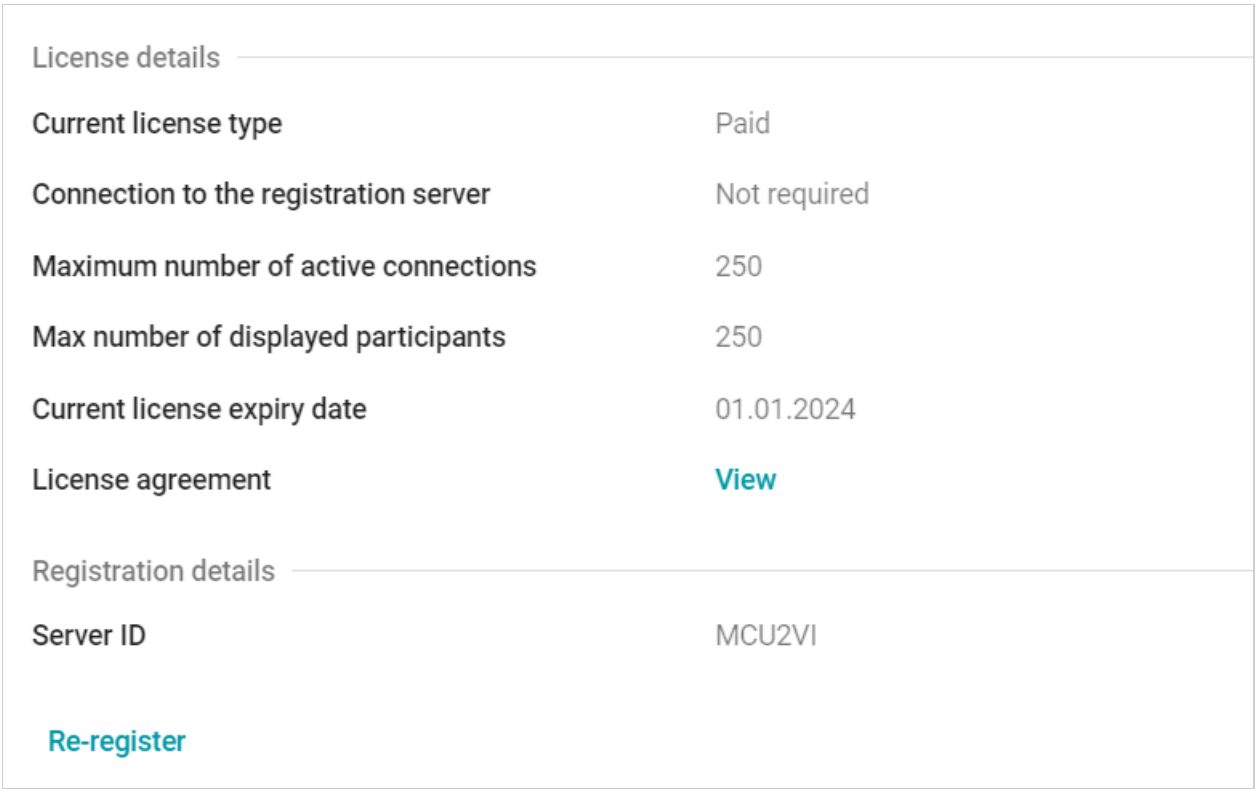
Please note that even the free version of TrueConf MCU has no restrictions on the duration of the conference or active connection to it.

The difference between the paid and free versions of TrueConf MCU is shown in the table:

License type	Free	Premium
Maximum number of concurrent conference participants	100	Up to 250
Maximum number of concurrent conferences	4	Unlimited
"TrueConf MCU Free" watermark in the upper right corner of the screen during video conferences	Yes	No
Connection to the registration server (via 443 TCP port)	Required	Not required

4.1. License information

To view information about the connected license, the license agreement, and to re-register the server, go to the **Administration** →**License** menu:



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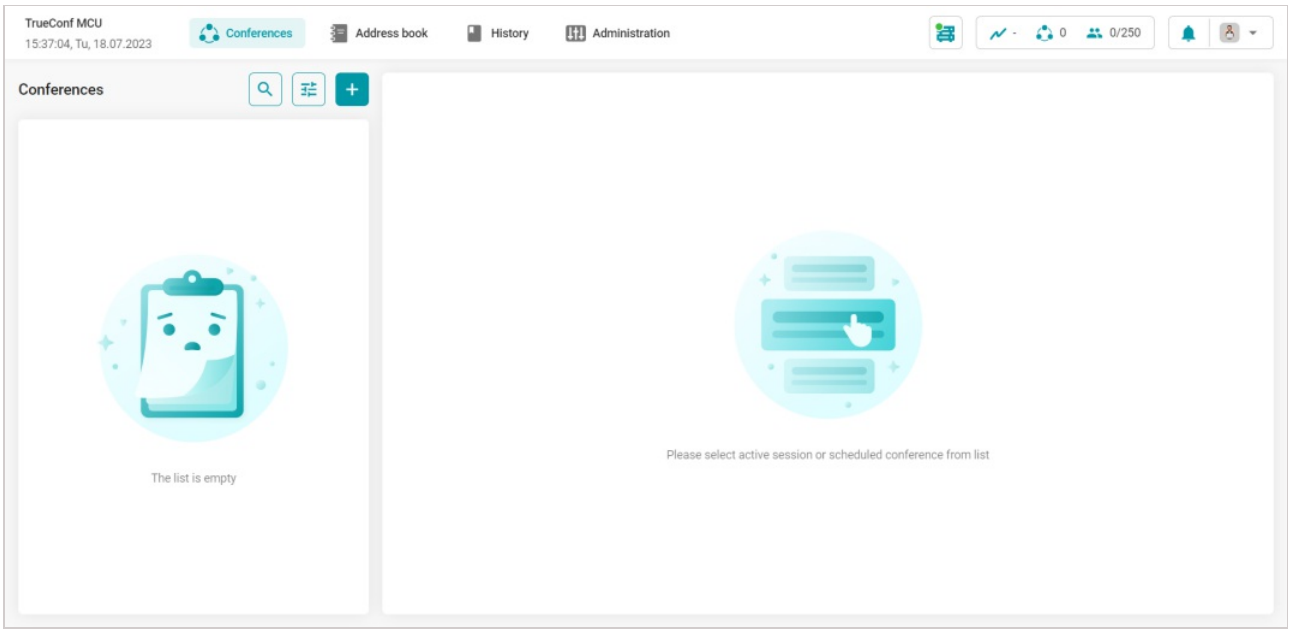
5. Control panel

> *i* The panel with the user list is only displayed when the browser window width exceeds 1600 pixels at 100% scaling.

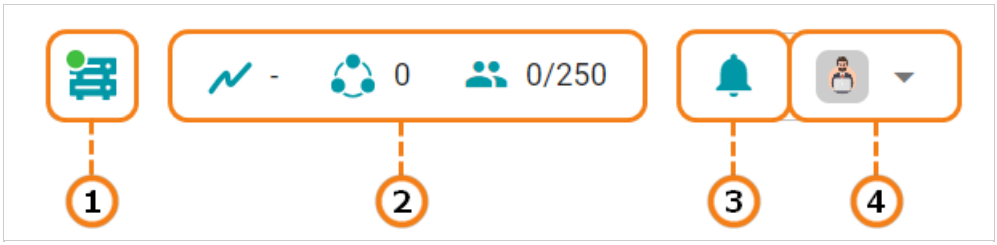
After authorization, the main window of the web interface will appear:



On the left side of the control panel, there are date and time, which can be adjusted in the settings and synchronized with the NTP server.

The main TrueConf MCU menu is located in the center. Each item is detailed in the corresponding section of the documentation.

The widgets are located on the right:



1. The server status. When you click on this item, a page opens with buttons for restarting and stopping the TrueConf MCU, as well as for rebooting the operating system on which it is installed.
2. A system information widget displaying the level of CPU load, the number of active conferences, and the total number of participants.
3. Notification Center. This is where you receive notifications, for example, when a user enters the waiting room.
4. The user with which you've logged into the control panel. This is also where language changes and logouts from the control panel occur:

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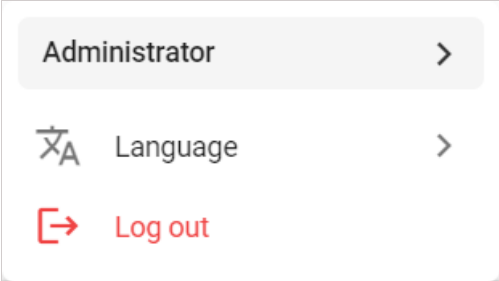
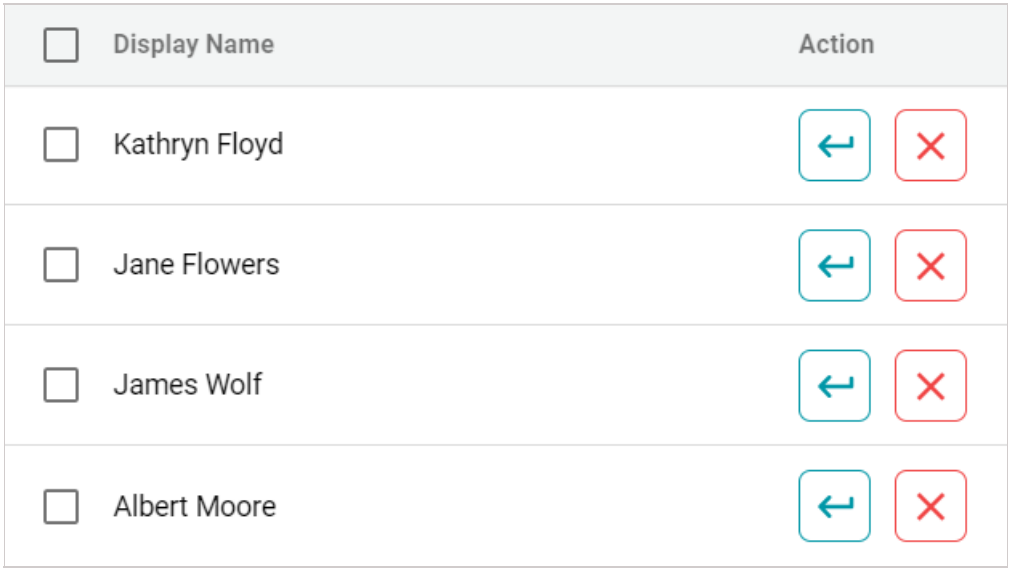


5.1. Waiting Room

When a user makes a call to TrueConf MCU without specifying a conference ID (in the format `#h323:@<server_name>` or `#sip:@<server_name>`), they will be directed to the waiting room. In this case, a notification will appear in the TrueConf MCU control panel's notification center and the counter on the button will increase. Click on it to display the list of users waiting to connect:



* The user will remain in the waiting room until they enter the ID or an administrator adds them from this list to one of the conferences. After 60 seconds, the waiting process will automatically end.

To add a user, press the button, find the required conference in the list, and then click the **Move** button.

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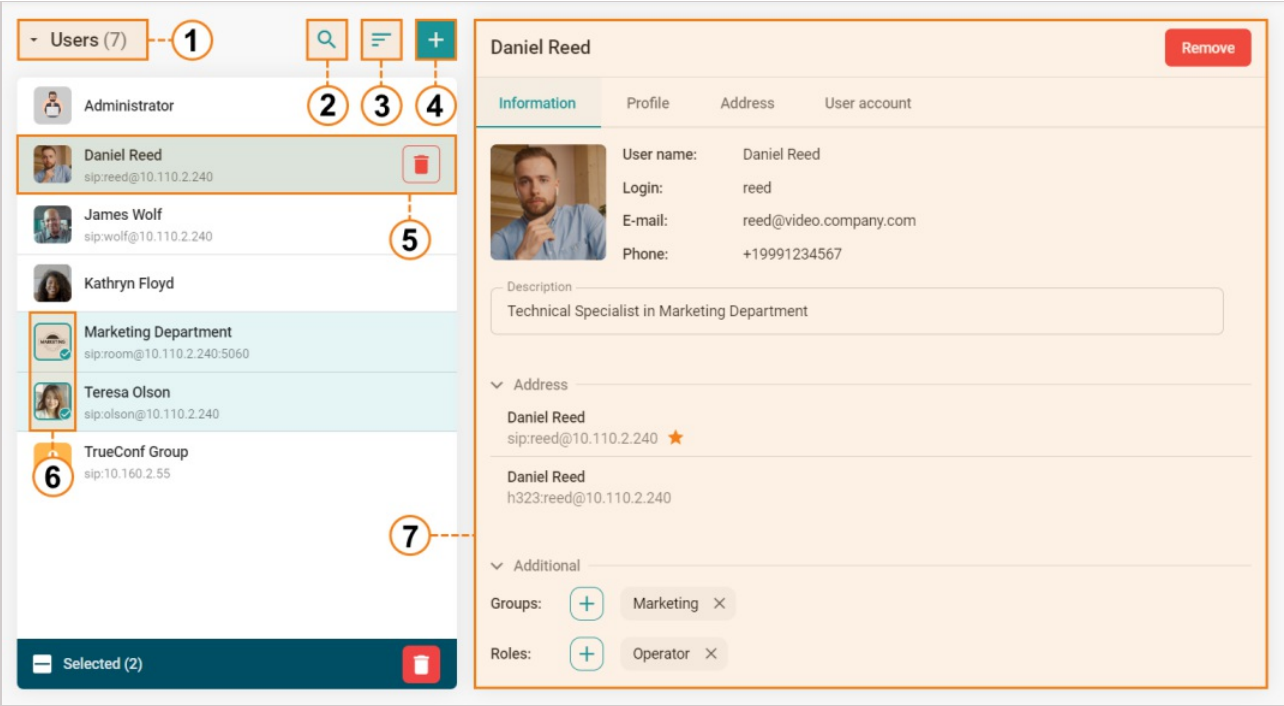
6. Address Book

In the **Address book** section, you can add new users, edit existing ones, and also create user groups.



1. Selection of list display: users or groups.
2. Search address book
3. Sorting the list (from A to Z) or (from Z to A).
4. Creating a new user or group (when selecting group display).
5. User contact with:
   - display name;
   - call string;
   - delete button.
6. Multiple user selection for deletion.
7. The selected contact's card with information about them is divided into tabs: Information, Profile, Address, Account.

You can also bulk delete users by selecting the ones you need to remove.

> **!** You cannot remove users who are currently participating in a conference from your address book.

6.1. Creating a Contact and Group

To add a new subscriber to the address book, click **+**, enter the display name, and click **Save**. You will open a contact card in the **Profile** tab.

To create a group, you need to enable group display and repeat the steps described above. After that, an empty group will open for you, where you can add users, edit the name, or delete the group (without removing its members).

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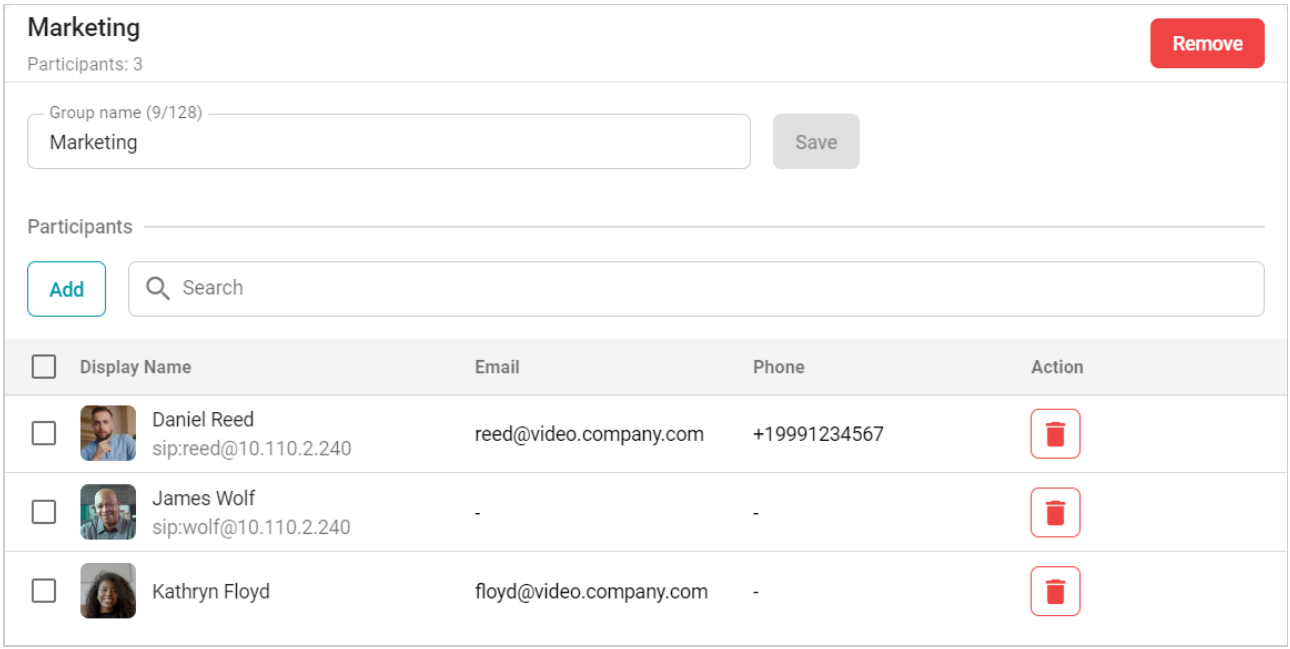

6.2. Contact Card

6.2.1. Information

Here you can:

- view the details entered on other tabs (display name, login, email, phone number, addresses);
- upload a custom avatar;
- add a contact description;
- pin the user's address in the contact list using the ★;
- add a contact to groups and assign the necessary roles to them.

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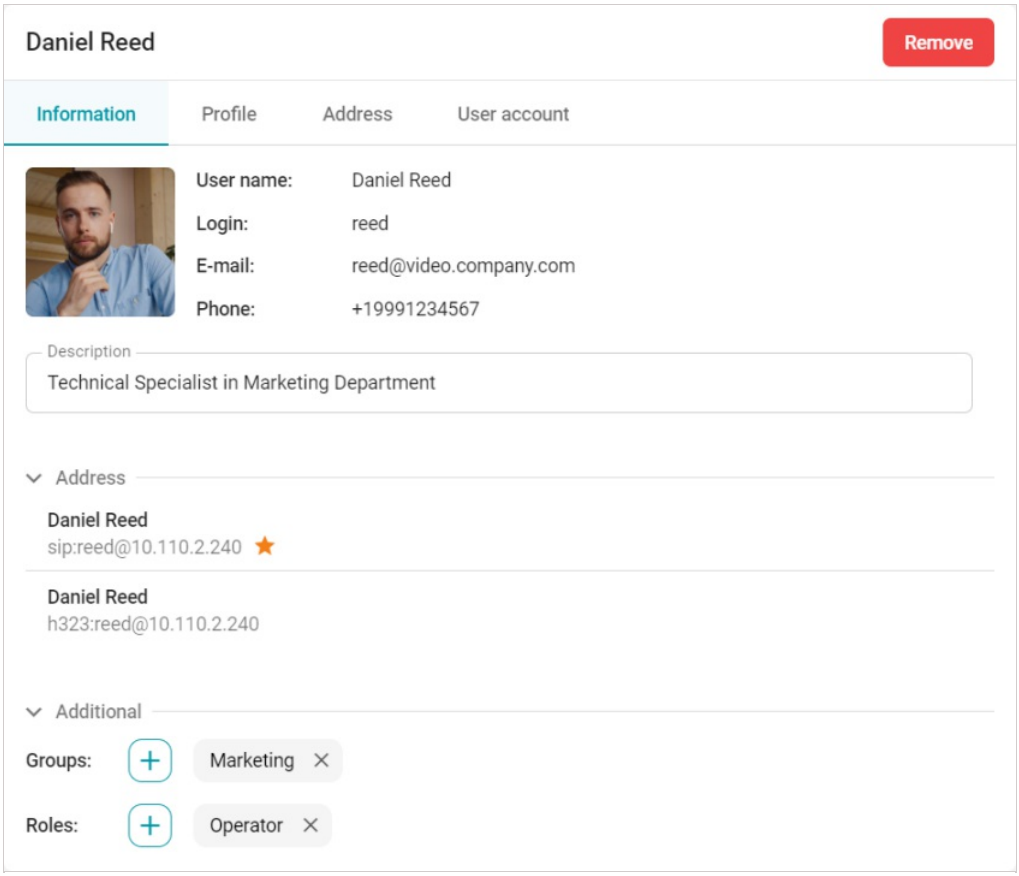

6.2.2. Profile

On this tab, you can specify:

- Display name
- email;
- phone number;
- The language in which the control panel will be displayed for this user (if they are assigned the role of an operator or administrator).

These data are displayed in the contact card under the **Information** tab.

6.2.3. Address

Here you can assign multiple addresses with different protocols (SIP, H.323, RTSP, VNC) to a contact. To do this:

1. Press the **Add** button.
2. Select the protocol type to be used for the connection.
3. Enter the route address.
4. Press the **Save** button.

If necessary, specify the **Display name** - the name displayed during the conference. If it is not specified, the user's name will be displayed in the conference.

6.2.3.1. Additional

On the **Additional** tab, you can choose audio and video codecs, set up resolution and bitrate restrictions for outgoing video stream, and check the **Cascading** box.

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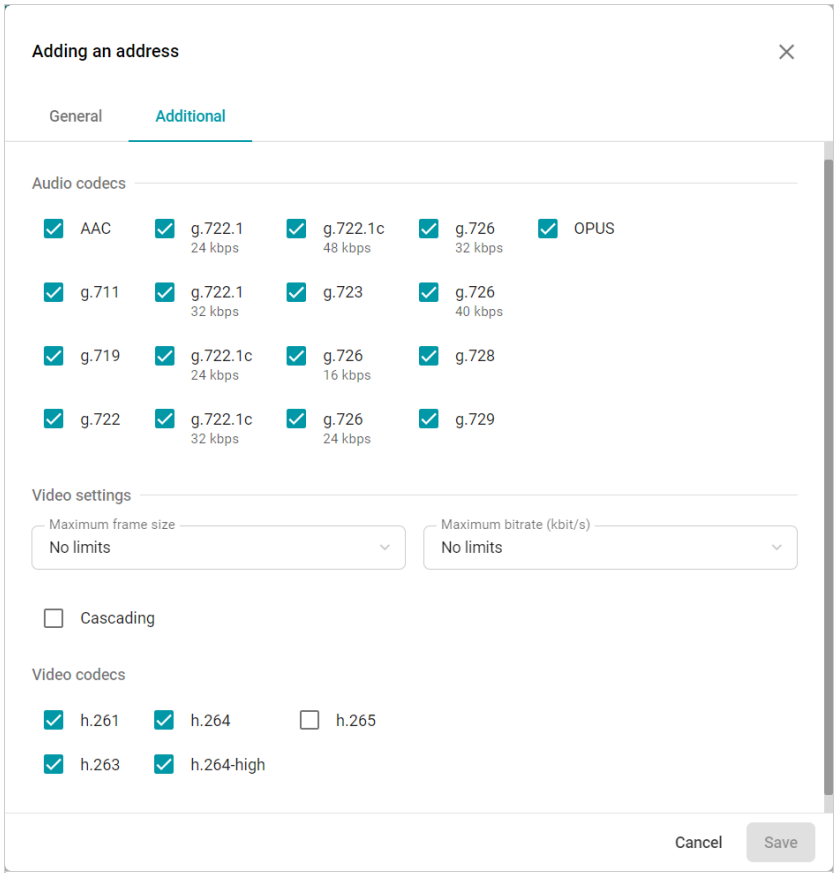
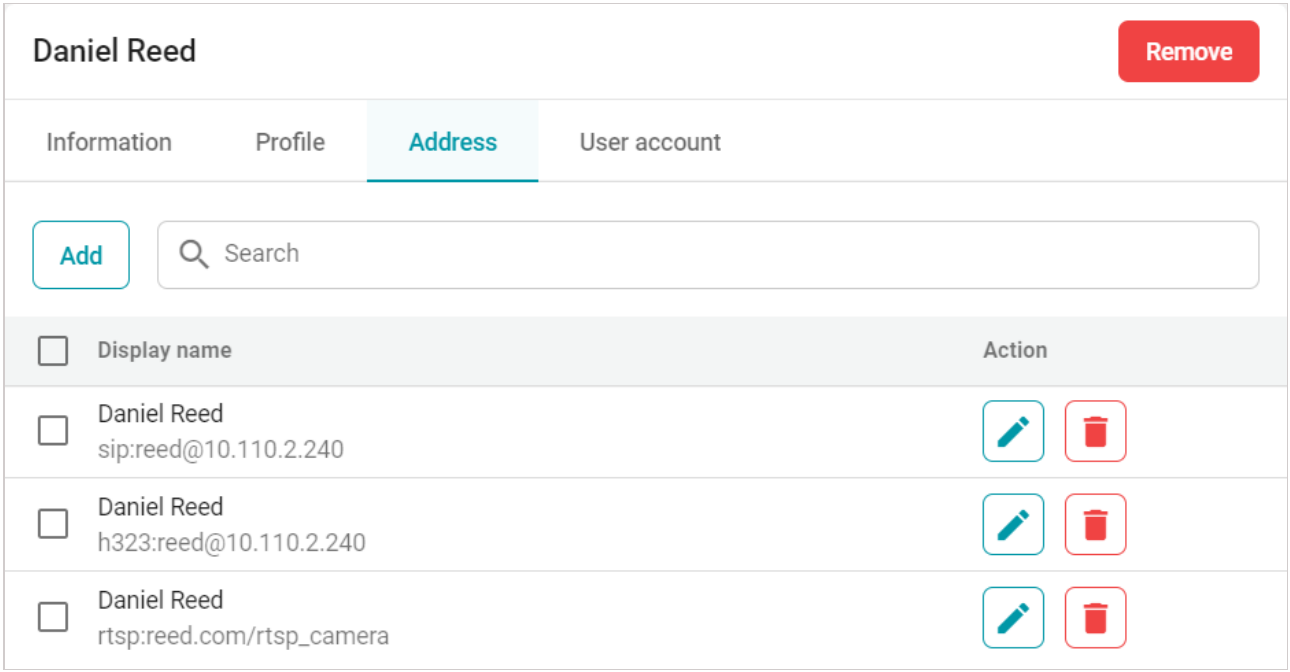


For participants with cascading enabled, their own video (self-view) will be automatically removed from the layout. This will be useful if the user is a conference on another instance of TrueConf MCU or on TrueConf Server

You can specify multiple addresses for one contact:



When several protocols are specified, TrueConf MCU will make calls in the order of priority specified in the server settings in the **Administration →Calls →Protocol priority** section.

To add a TrueConf video conference as a subscriber, use one of the SIP/H.323 protocols, but instead of a username, enter the string `00<Conference_ID>`, where `<Conference_ID>` is the conference ID.

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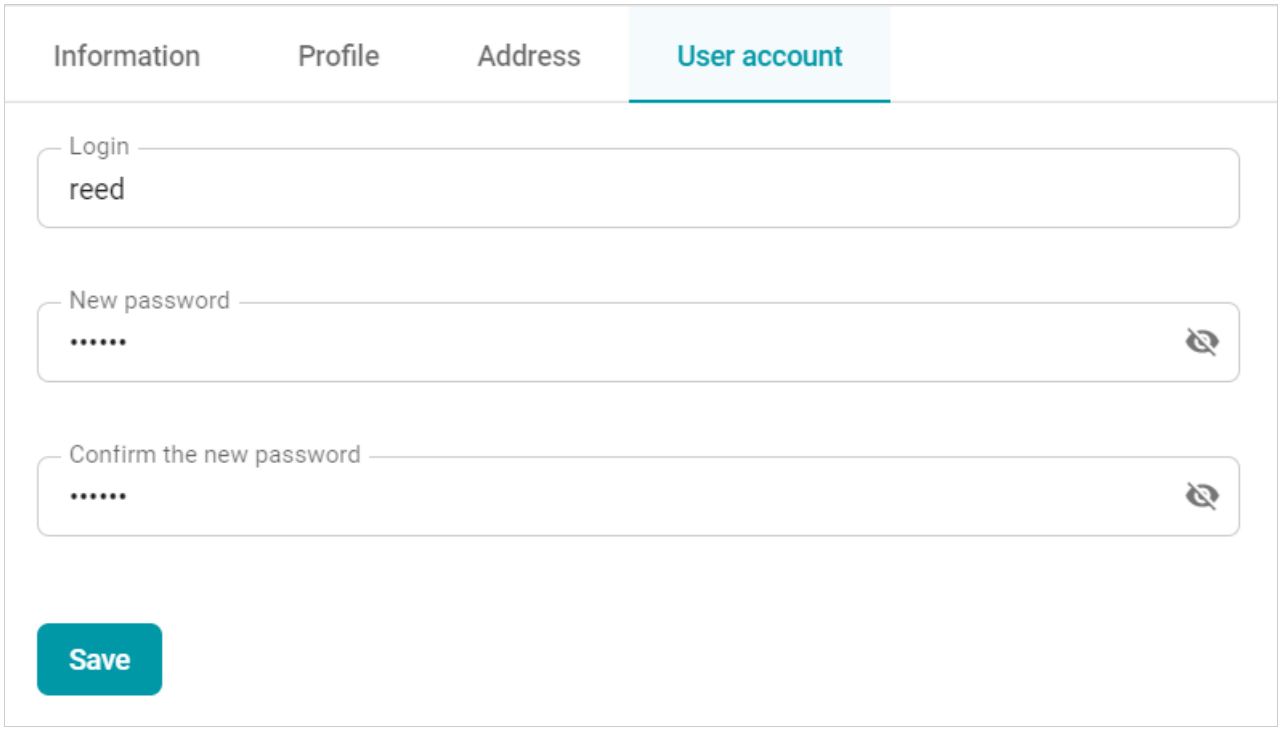
For example, `00639499375243@video.company.com`

6.2.4. Account

You can assign a **username** and **password** to a user for logging into the control panel to administer the server or conduct conferences. After saving the settings, the role of **Operator** will automatically be assigned to the contact.



* The authorization data can also be changed in this tab.

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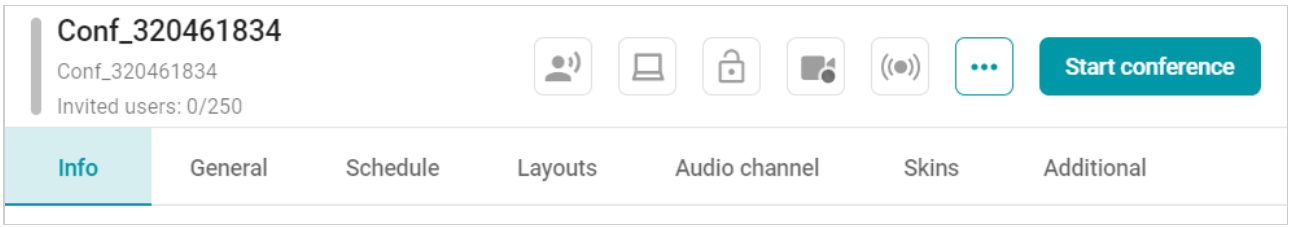
7. Creating a conference

To create a meeting, go to the **Conference** section and click the + button. This will open a window with a newly created meeting, for example, `Conf_397062486`, and settings conveniently divided into tabs. Each tab is described in more detail below.

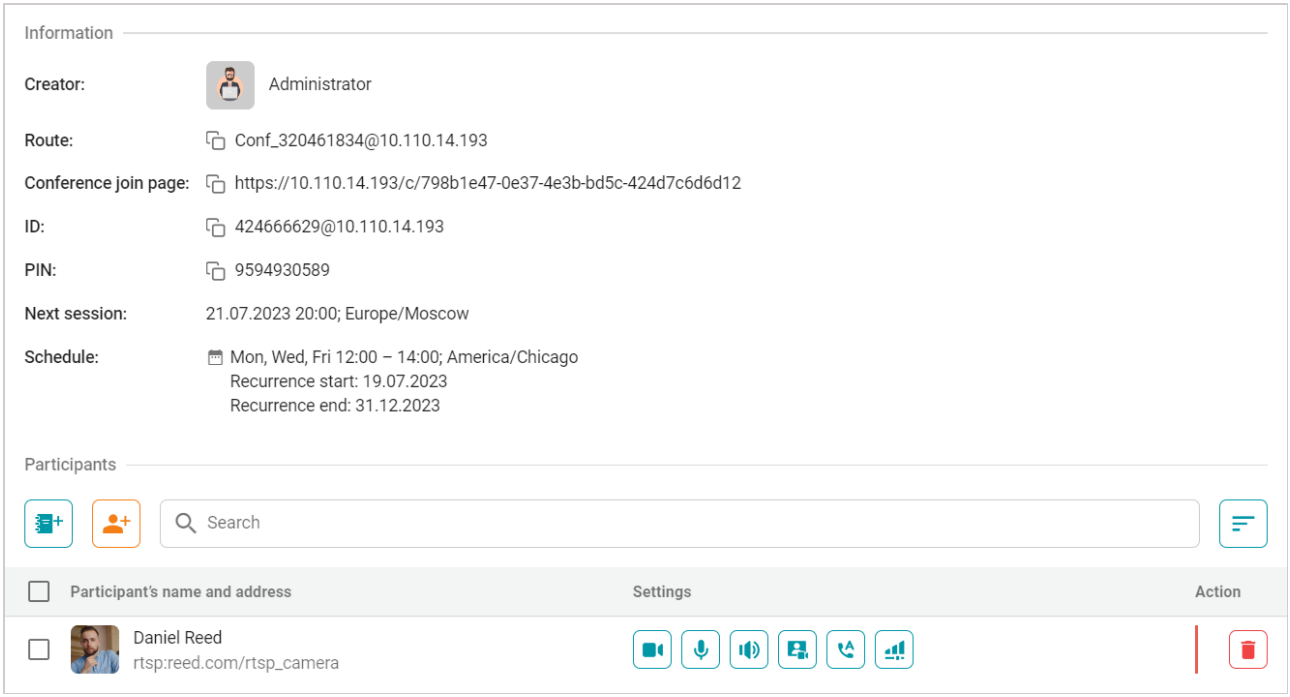


In the "header" of the settings, above the tabs, there are buttons, the functionality of which will only be available during a running conference.

To clone a conference with all its settings, press the ••• button and select the **Copy a conference** option.

7.1. Information

The **Info** tab contains the main parameters of the event and a list of its participants:



7.2. Participants

The list of participants is located at the bottom of the **Info** tab.

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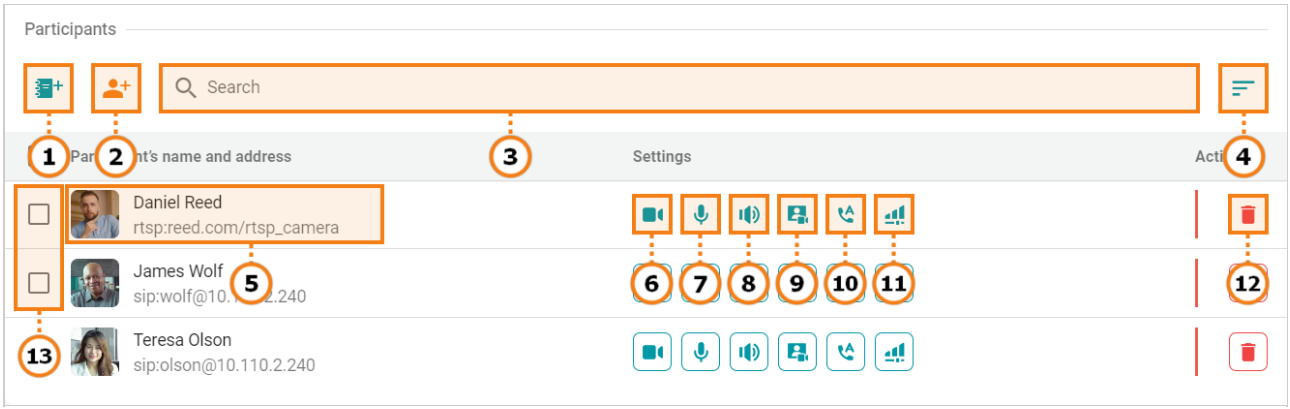

1. Adding a new participant.
2. Connecting a participant by address.
3. Search for the added participant by their name or address.
4. Sorting the list (from A to Z) or (from Z to A).
5. View information about an invited participant
6. Enable/disable a participant's camera
7. Mute/unmute the microphone
8. Enable/disable speakers
9. Mute conference audio for a selected user
10. Enabling/disabling the call to a participant at the start of the conference.
11. Control participants' AV devices (speaker volume, microphone sensitivity levels, echo cancellation and automatic gain control).
12. Remove a participant from the conference
13. Select multiple users to perform group operations.

7.3. Adding Participants

To add participants from the address book, press the button.

To connect a user by address, click the button. A window for setting data transmission protocol, address, participant's label, and equipment (including noise suppression and AGC) will open.

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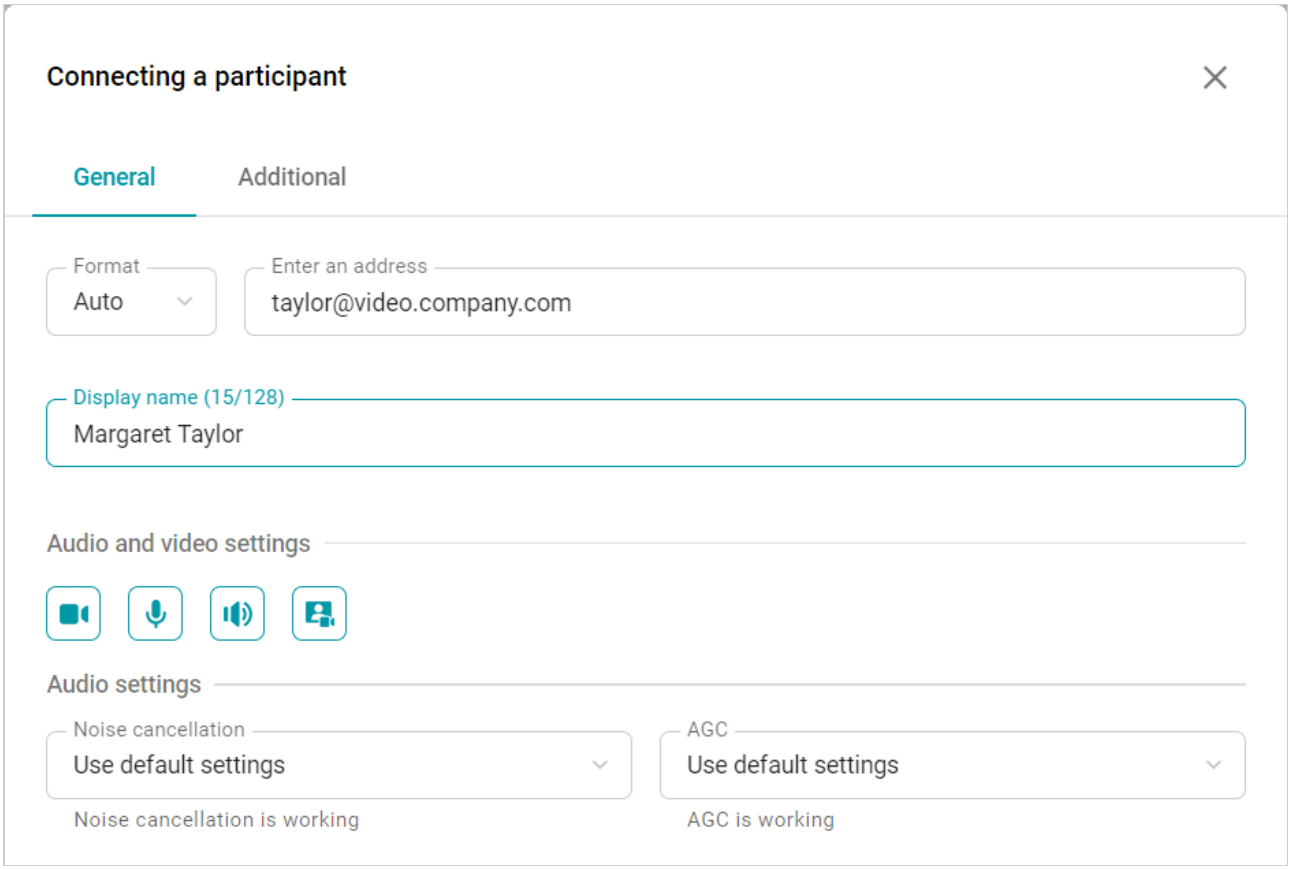
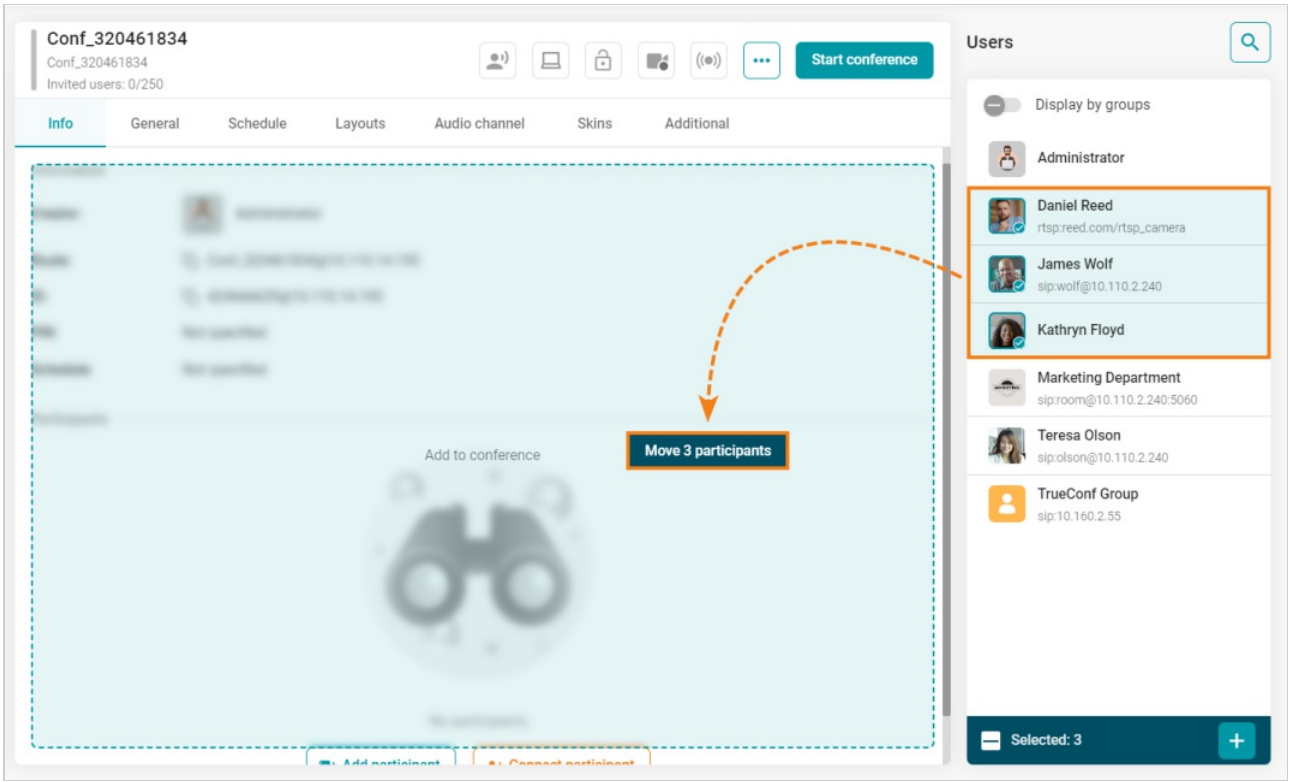


On the **Additional** tab, you can access the settings described here.

7.3.1. Quick addition of participants

If the user list panel is displayed on the right, you can quickly add participants by selecting them in the right side menu **Users**, and then dragging them to the conference settings area using the mouse:



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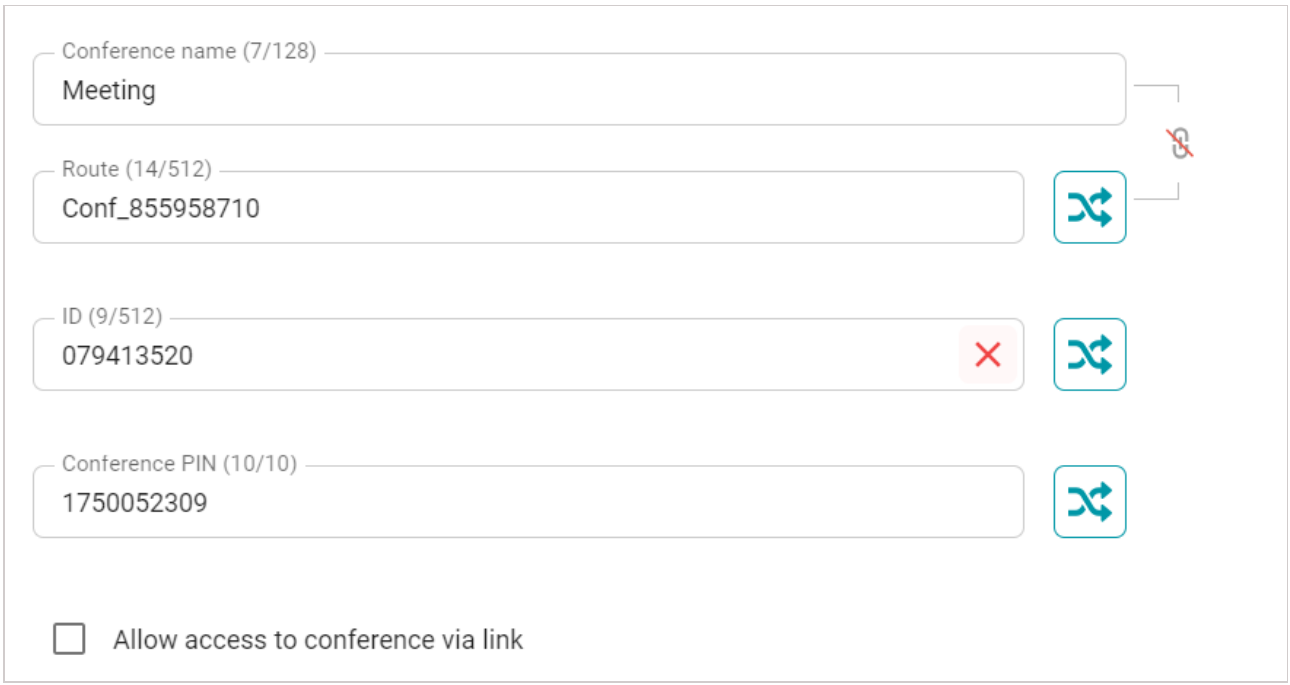
7.4. Main

This section is where you can manage the settings for the conference name, route, ID, and PIN.



7.4.1. Conference name

The title of the event, which is also used on the browser connection page (WebRTC). It can be changed on the fly during the conference, but will revert to its original value after the meeting ends.

7.4.2. Route

Route is a mandatory primary identifier used to access the conference. It can consist of numbers, Latin letters, a hyphen, and an underscore. With the button, you can avoid using the conference name as its route. For example, in the image above, the route would look like this - `Conf_855958710`. Press the button to generate a new value, or the button to clear the field.

7.4.3. ID

ID is an additional conference identifier that consists **only** of digits. It is used for alternative access to the conference and for connecting via DTMF. It is automatically generated when creating a conference, but it is optional. It can be deleted as described above.

7.4.4. PIN

An additional way to protect the conference from unwanted participants is to use a PIN. It consists of **numbers only**. It can be changed on the fly during the conference, but will be reset to the previous value after the conference ends.

7.4.5. Connection via browser

i Chromium-based PC browsers are supported.

To enable participants to join from a browser (using WebRTC protocol), check the **Allow access to conference via link** box.

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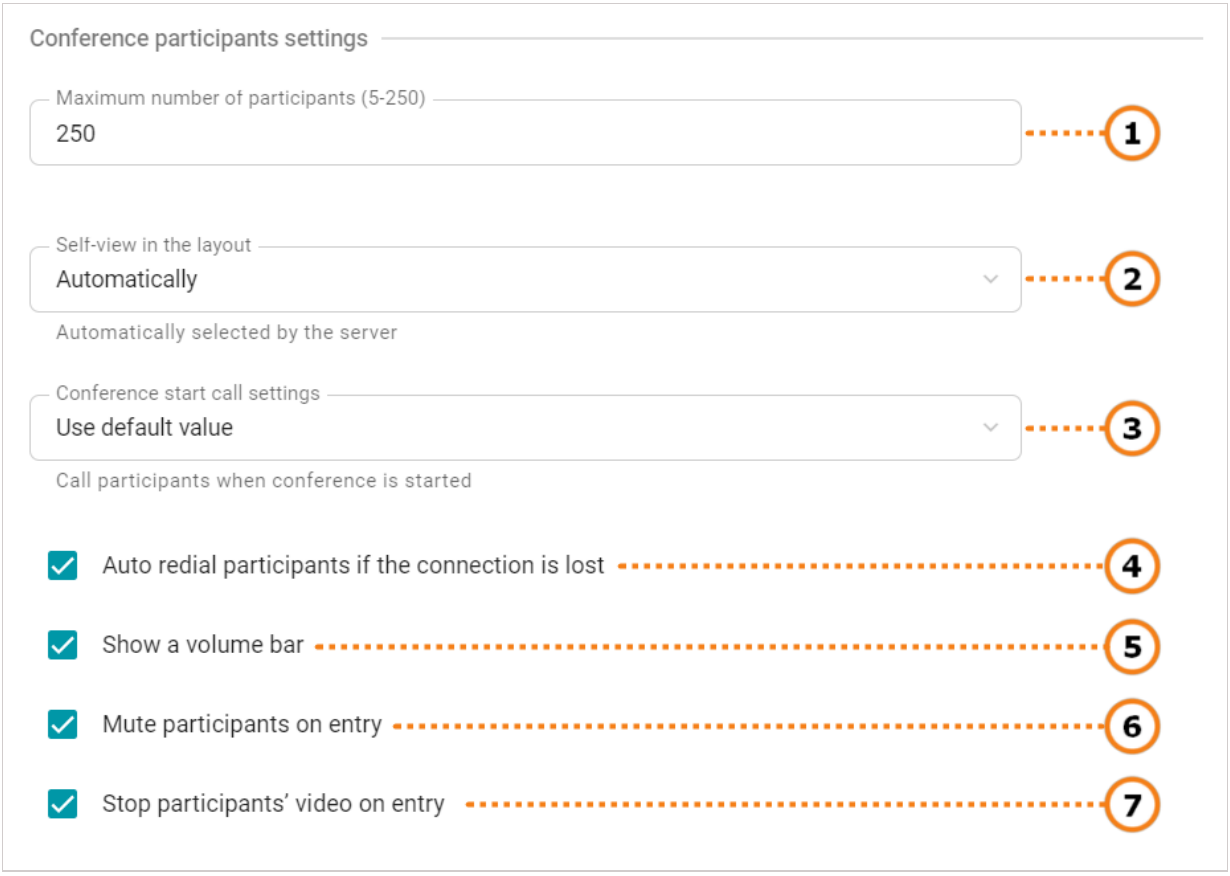
7.4.6. Setting up conference participants

In this block, you specify the settings related to the users added to the conference.



1. Select the maximum number of participants.
2. Select the display settings for participants' own video window in the layout:
   - **Automatically**
   - **Display**
   - **Don't display for active speaker**;
   - **Don't display for all**.

3. Configure the participants' call when the conference starts:

- **Call participants when conference is started**;
- **Don't call participants when conference is started**;
- **Use default value**.

4. Check this box to make sure that participants can be re-invited to the conference if the connection is lost. If the operator of a video conferencing server disconnects a participant on purpose (via web interface), auto dialing will be disabled for this conference session.

5. Display volume level in the video windows.

6. Check the box to automatically mute meeting participants upon entry.

7. Check the box to stop participants' video upon entry.

7.5. Schedule

To set the conference duration, select the required value from the drop-down list **Duration**.

> *i* If no schedule is set for the conference, it defaults to the virtual room mode.

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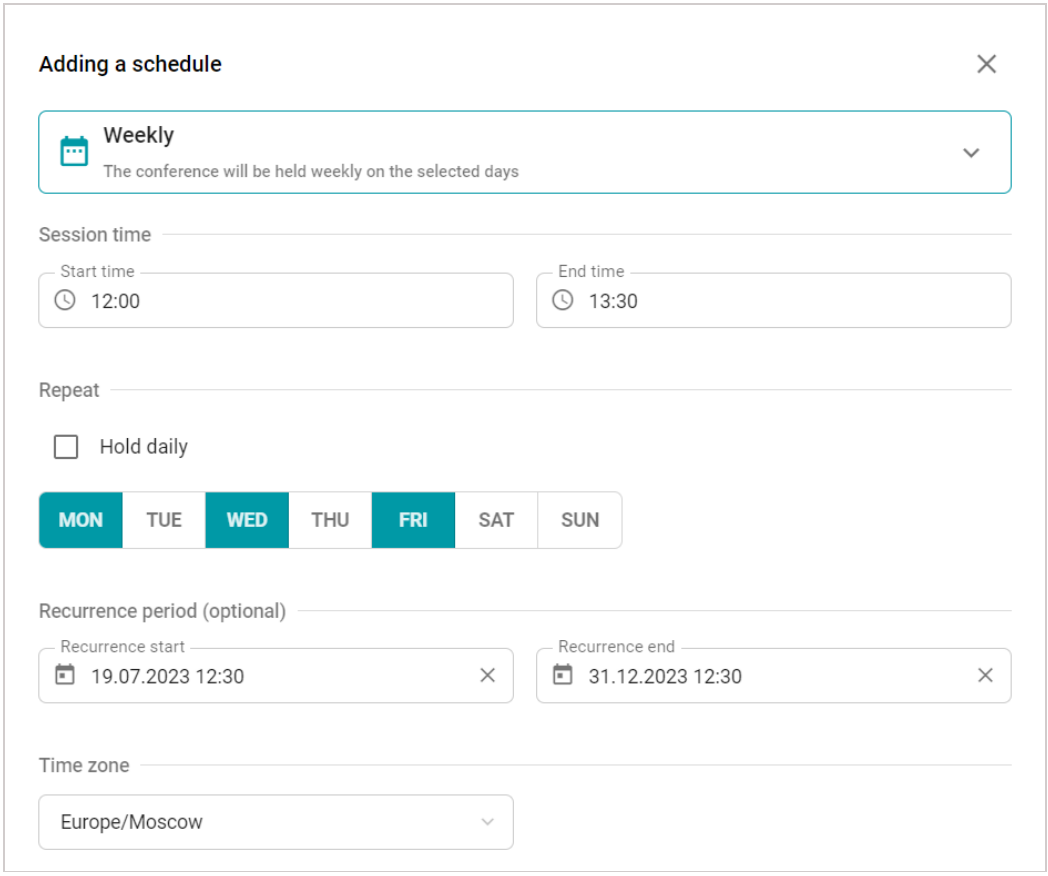
Click the **Add** button to make the conference recurrent (repeating).

In the opened window, set the repeat mode. Depending on the selected mode, different repeat settings will be available to you:

- **Do not repeat** – set scheduled date and time.
- **Weekly** - specifying the time and day (days) of the week to repeat the conference;
- **Monthly** - with repetitions specified on certain dates of the month.

Below is an example of a weekly conference that repeats on certain days, with a specified duration, and a schedule validity period.



7.6. Layouts

> *i* Layout settings are only available for SIP and H.323 connections.

Layouts can be set both when creating a conference and during the event itself. By default, the **For all participants** layout is created. It is received by all participants who do not have their own individual layouts. For example, a subscriber who joined the conference by ID will receive the global layout.

To edit the layout **For all participants**, click the button next to it in the list.

You can create a custom video layout for one or more users. To do this:

1. Press the **Add** button.
2. A window with a list of conference participants will open for you.

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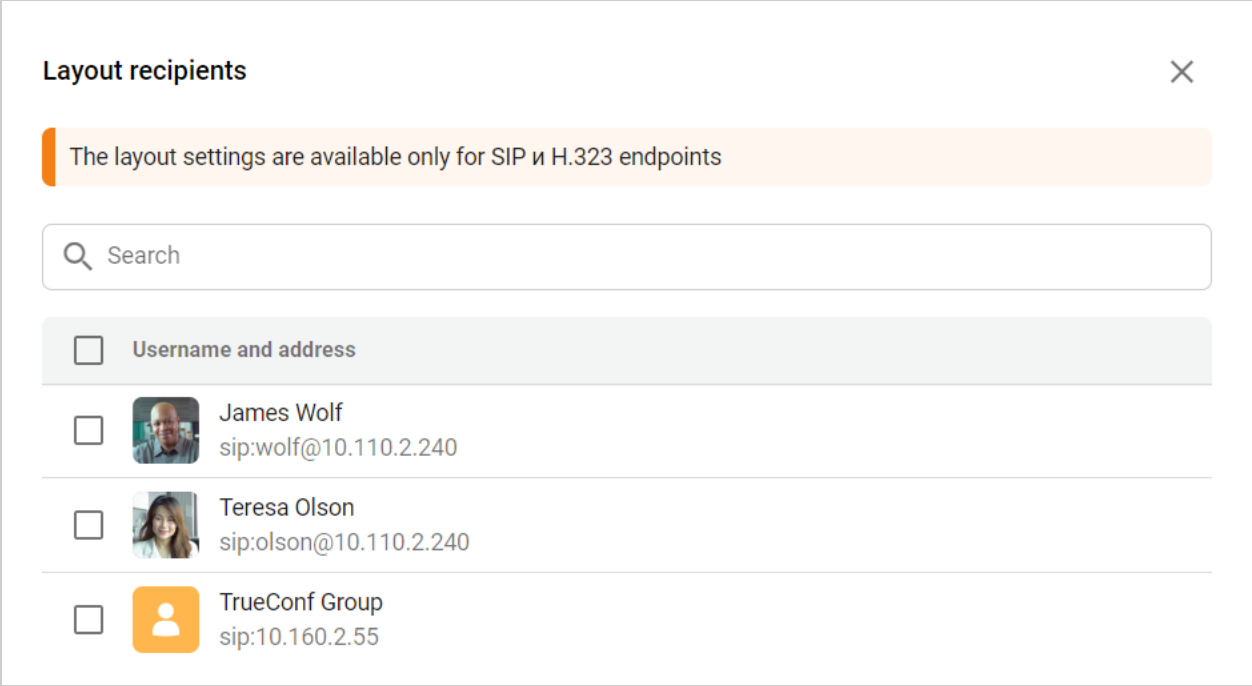
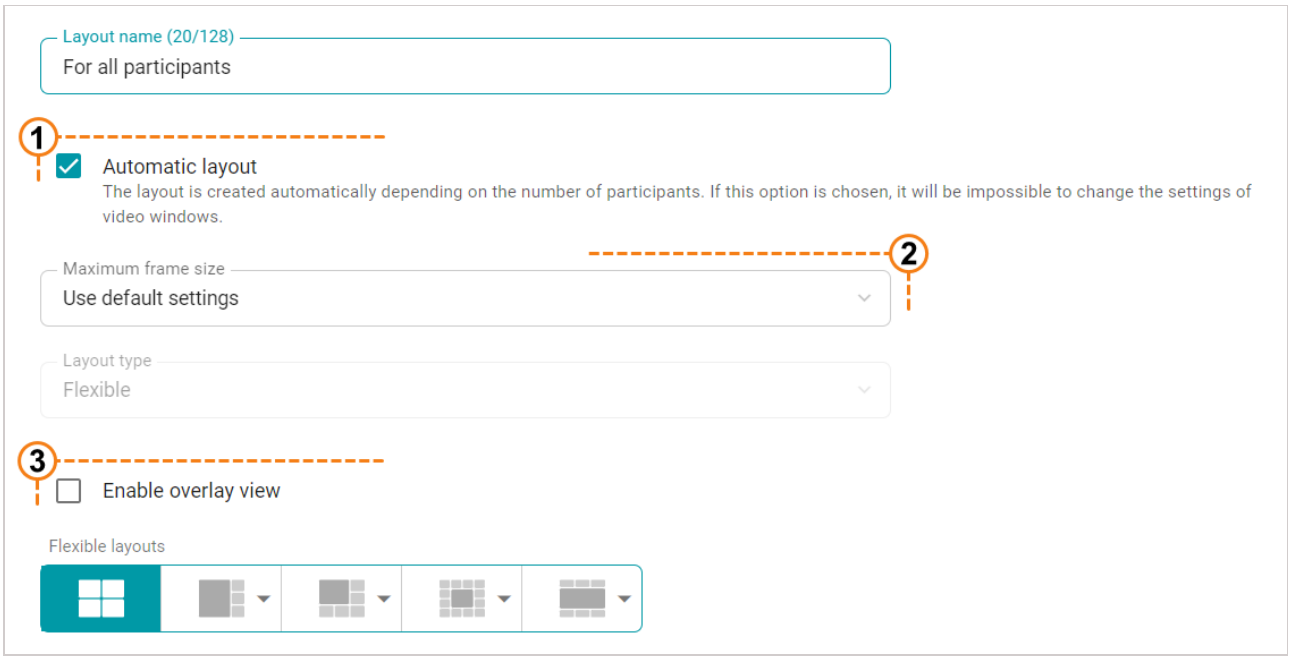


3. Select the users for whom you are setting up the video layout and press the **Next** button.
4. You will enter the layout editing mode.

7.6.1. Editing the video layout

In edit mode, you can find the main layout settings on the **General** tab. Here you can:

1. Enable/disable the automatic video layout that is configured by TrueConf MCU based on the current number of connected conference participants.
2. Specify the maximum frame size for this layout.
3. Use the overlay layout mode. In this type of video layout, one of the video windows expands to fill the entire conference screen, while the slots of other participants are placed on top of it.



When automatic video layout is disabled, you will have the option to select the type of layouts, the number of displayed video windows, as well as the layout constructor, which is discussed below.

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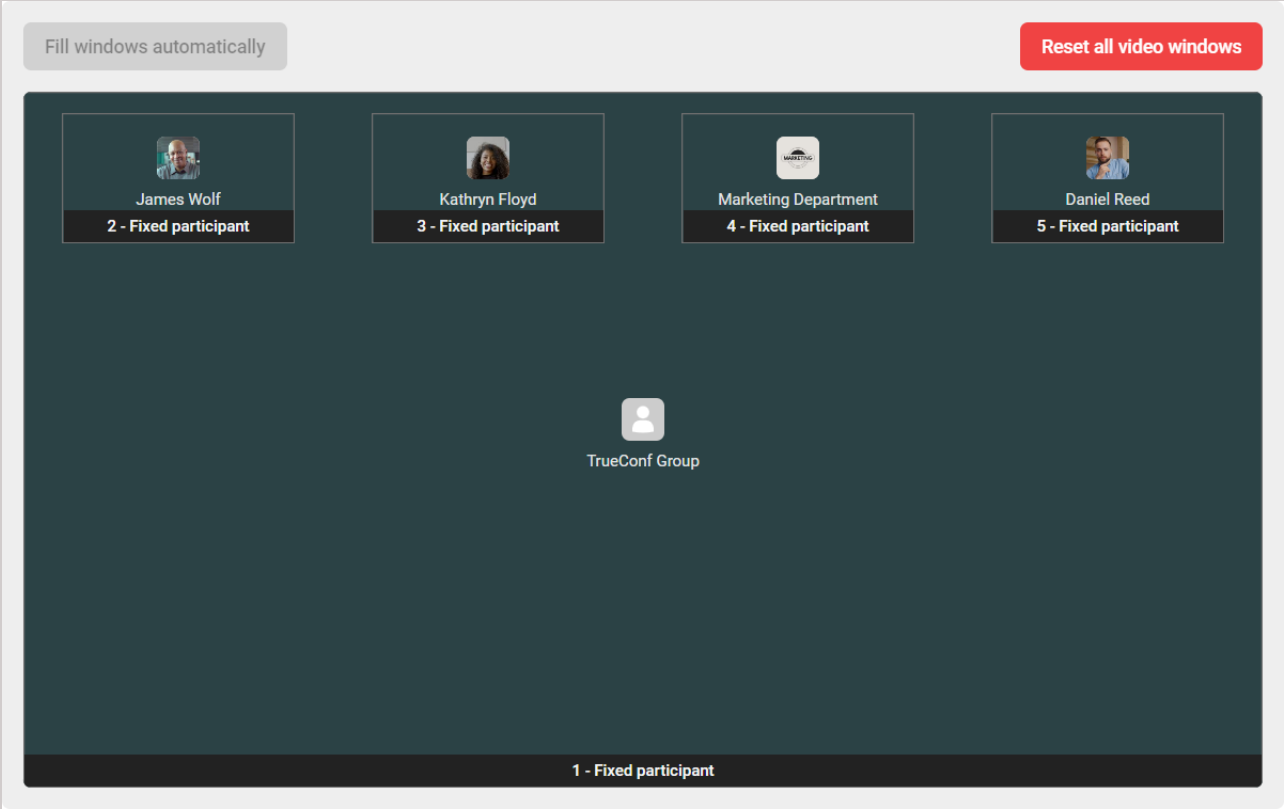
7.6.2. Layout Constructor

To use the builder:

1. Disable the automatic video layout.
2. Select the type of layout:
   - **Flexible** - works with any number of video windows in the layout.
   - **Predefined** - works with a pre-defined number of video windows, which cannot be altered (indicated near the thumbnail).

3. Choose a video layout, specify the number of video windows, and optionally activate the overlay mode.

4. Click on **Fill windows automatically** or adjust the video windows as shown below.



7.6.2.1. Manual Configuration

Select the desired video window in the builder window. A settings window will appear to your right. From the **Video window type** drop-down list, select the required item (depending on the selected item, different settings will be available to you):

- **Empty** — an empty video window, for instance, for an invitee during the conference;
- **Fixed participant**: one of the participants will be permanently displayed in the selected window
- **Active speaker in "Smart meeting" mode** - display of the currently speaking participant;

> *i* The active speaker will only be displayed in the video window when the smart meeting is enabled.

- **Autofill** - automatic display of one of the participants. To automatically rotate participants in this video window, activate the **Shuffle participants** checkbox.
- **Content**: the window will be used for displaying the content shared by participants, e.g., desktop or

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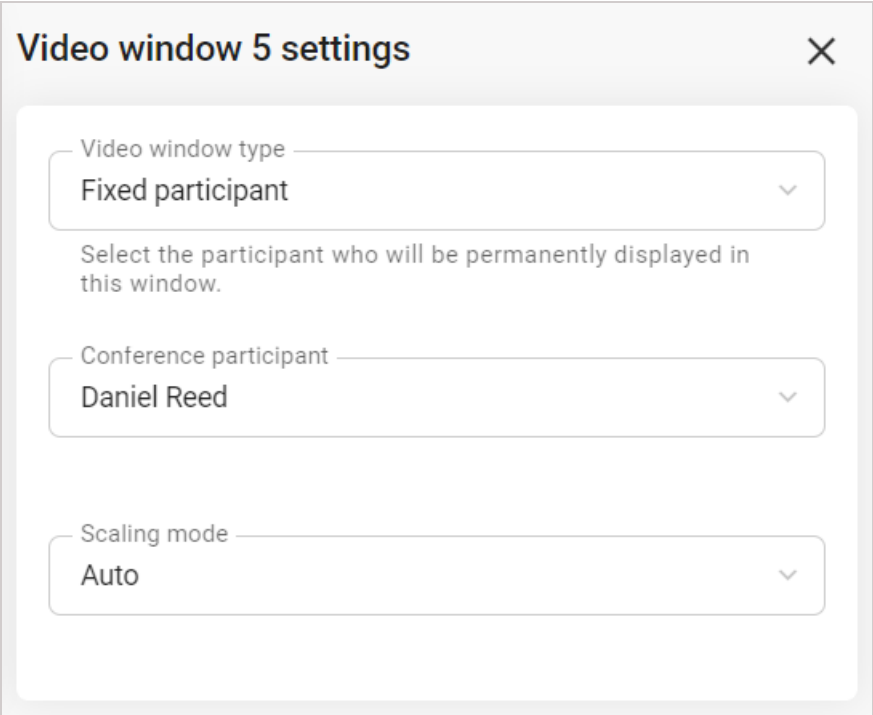
slides.

> *i* Only one video window can be set to display content.



For a video window with a mode different from **Empty** or **Content**, you can set the scaling in the layout:

- **Crop video** — this mode is intended for displaying the maximum number of windows in the layout.
- **Don't crop video** — in this mode, a participant's video is scaled to fit the layout windows. In this mode, the video is not cropped which helps to improve MCU performance when rendering the layout.
- **Auto**: TrueConf MCU determines the best video scaling mode depending on the current resource usage.

Below is an example of a universal video layout with overlays, consisting of six video windows, using all types:

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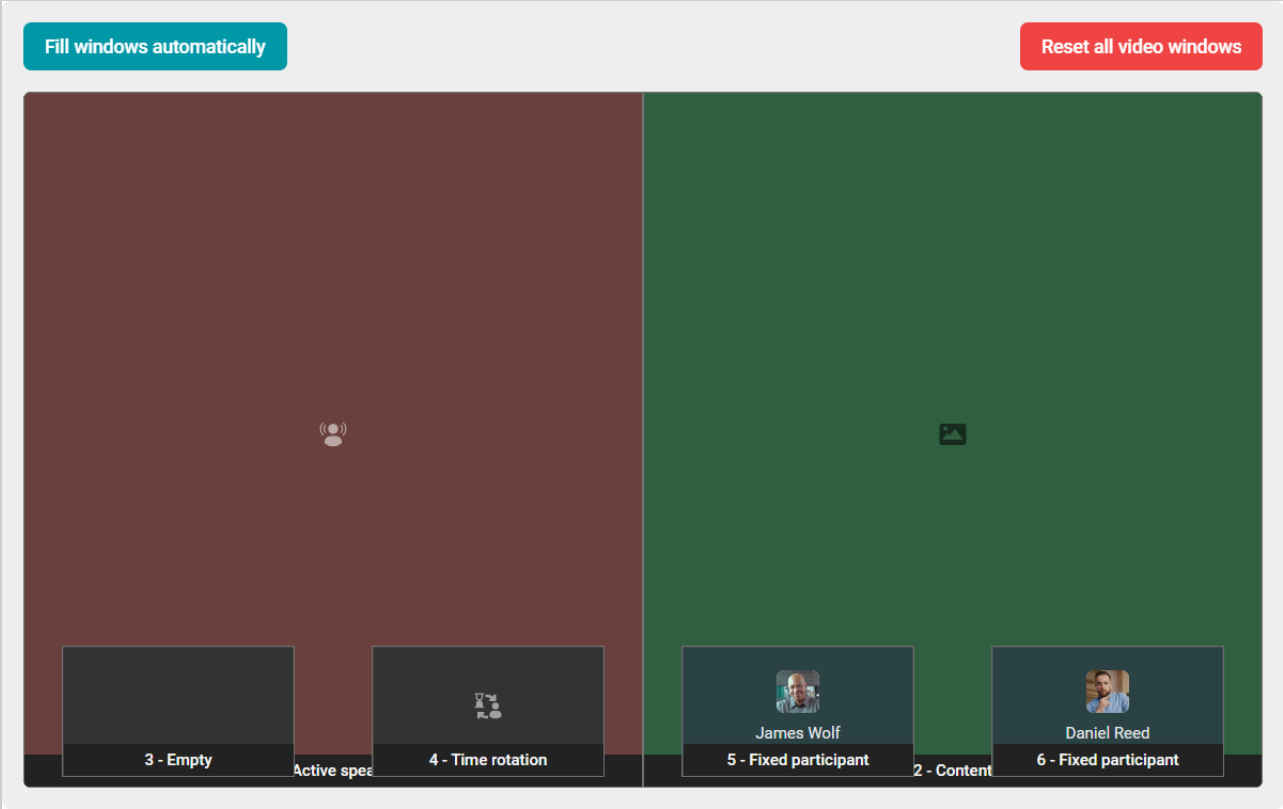

After setting up the video layout, press the **Save** button to exit editing mode.

7.6.2.2. Quick Layout Change

If you need to quickly change the current video layout, for example, to change the order of windows, you can do so by simply dragging the video window in the constructor:

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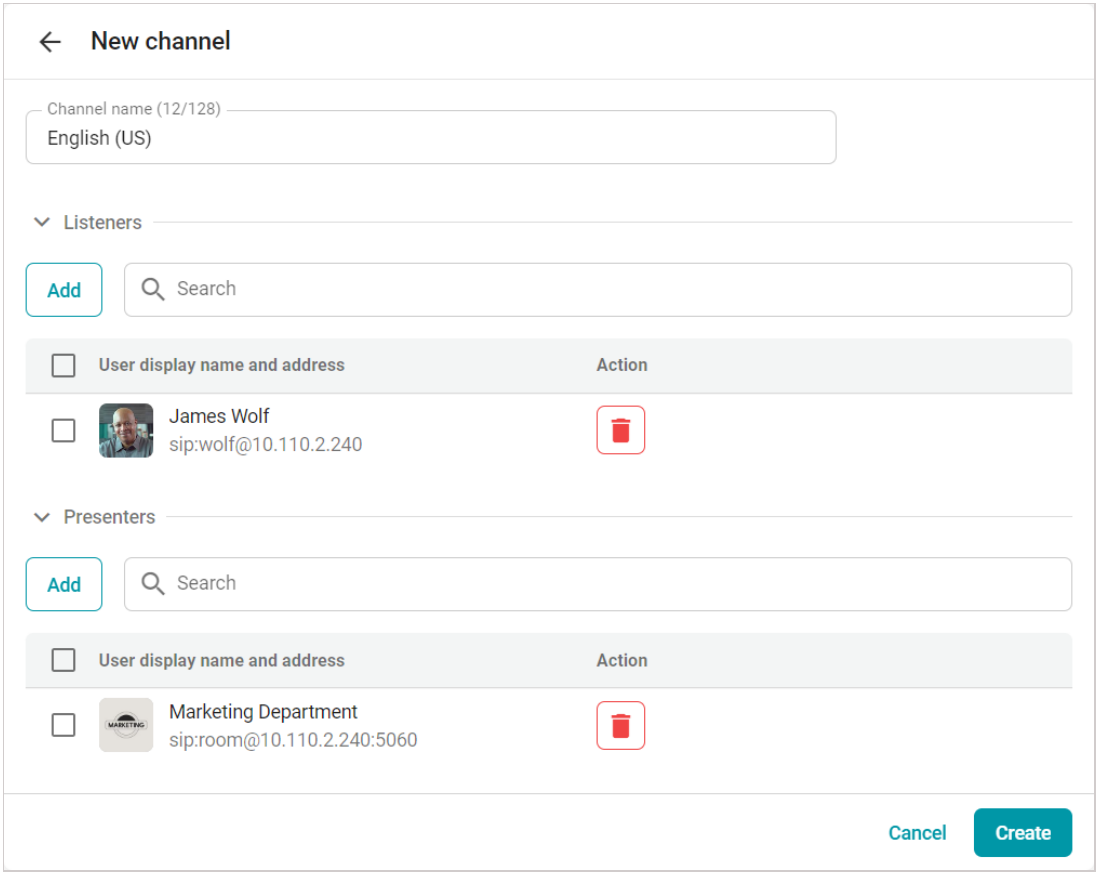
7.7. Audio channels

In TrueConf MCU, you can split video conference participants into audio streams, each of which can be assigned a speaker or listener role. This option significantly simplifies the organization of events where simultaneous translation into several languages is required.

To create a new channel, press the **Add** button. In the window that appears:

1. Enter the channel name.
2. Add listeners and presenters.
3. Press the **Create** button.



7.8. Design

By default, all conferences use the layout defined in **Administration →Skin styles**. To apply a different design to all layouts of this conference, activate the **Enable custom settings** checkbox and configure it to your liking. You can read more about style settings in the **Personalization** section.

7.9. Additional

Here you can configure video and audio transmission parameters exclusively for the current conference:

- enable/disable the use of noise suppression and AGC;
- select the audio and video codecs in use;
- to configure resolution and bitrate, as well as scaling mode;
- configure the use of participant avatars in the layout.

By default, the values from the global call and video settings are used.

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Disabling some codecs can solve compatibility issues with some SIP endpoints. To learn more about this question, please contact our technical support team.

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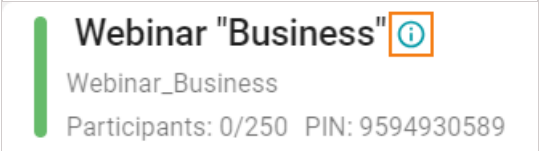
8. Joining a conference

You can connect to a conference taking place on the TrueConf MCU using SIP, H.323 protocols, or through a browser (via WebRTC). In the latter case, the SIP protocol is used, so if it is disabled in the settings, joining the event through a browser will be unavailable.

You can view the event connection links by clicking the ⓘ button on the active conference page.

* More about the route, ID and PIN of the conference is described here.



8.1. For TrueConf users

TrueConf users can connect to conferences running on TrueConf MCU using a call string in the following format:

1. By SIP protocol (if its usage is allowed in the settings):
   - `#sip:<id>:<pin>@<server_name>`, where:

     ```
     - `<server_name>` - is the domain name of the PC where <const name="product-mcu"/>
     - `<id>` – route or conference ID;
     - `<pin>` – conference PIN (if available).
     ```

   - `#sip:@<server_name>,<id>#`, where:

     ```
     - `<server_name>` - is the domain name of the PC where <const name="product-mcu"/>
     - `<id>` – the path or ID of the conference.
     ```

   - `#sip:@<server_name>`, where:

     ```
     - `<server_name>` - domain name of the PC where <const name="product-mcu"/> is ins
     ```

2. Via the H.323 Protocol (if its use is allowed in the settings):

- `#h323:<id>:<pin>@<server_name>`, where:
  - `<server_name>` - is the domain name of the PC where TrueConf MCU is installed, or its IPv4 address;
  - `<id>` — route or conference ID;
  - `<pin>` — conference PIN (if available).

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- `#h323:@<server_name>,<id>#`, where:
  - `<server_name>` - is the domain name of the PC where TrueConf MCU is installed, or its IPv4 address;
  - `<ID>` — is the route or conference ID.
- `#h323:@<server_name>`, where:
  - `<server_name>` - domain name of the PC where TrueConf MCU is installed, or its IPv4 address. In this case, the user will enter the waiting room, and to connect to the conference, they will need to dial the ID using the dialer.

8.2. For SIP/H.323 endpoints

To call into a conference on TrueConf MCU using SIP or H.323 protocol from a software or hardware terminal, use one of the following formats:

- `<id>:<pin>@<server_name>`, where:
  - `<server_name>` - is the domain name of the PC where TrueConf MCU is installed, or its IPv4 address;
  - `<id>` — route (for terminals that support letter entry) or conference ID;
  - `<pin>` — conference PIN (if available).
- `<server_name>`, where:
  - `<server_name>` - domain name of the PC where TrueConf MCU is installed, or its IPv4 address. In this case, the user will enter the waiting room, and to connect to the conference, they will need to dial the ID using the dialer.

* Additional stream optimization is used when joining a meeting from TrueConf Group endpoints.

8.3. From a browser

To join the meeting from a browser, a participant should have a conference join link. You can check this link by clicking on the ⓘ button.

* You should initially create a conference with the activated **Allow access to conference via link** option.

If the meeting has already been started, a participant will access the web page that will include the conference tittle and the buttons for joining the meeting from TrueConf client application and from the browser. If it is a scheduled conference, there will be a countdown timer and the **Check equipment** button for testing audio and video devices.

To connect via WebRTC (through the browser), the user needs to follow these instructions:

1. Follow the link to the conference page.
2. If PIN protection has been enabled for the conference, enter it in the pop-up window.
3. Press the **Browser** button:

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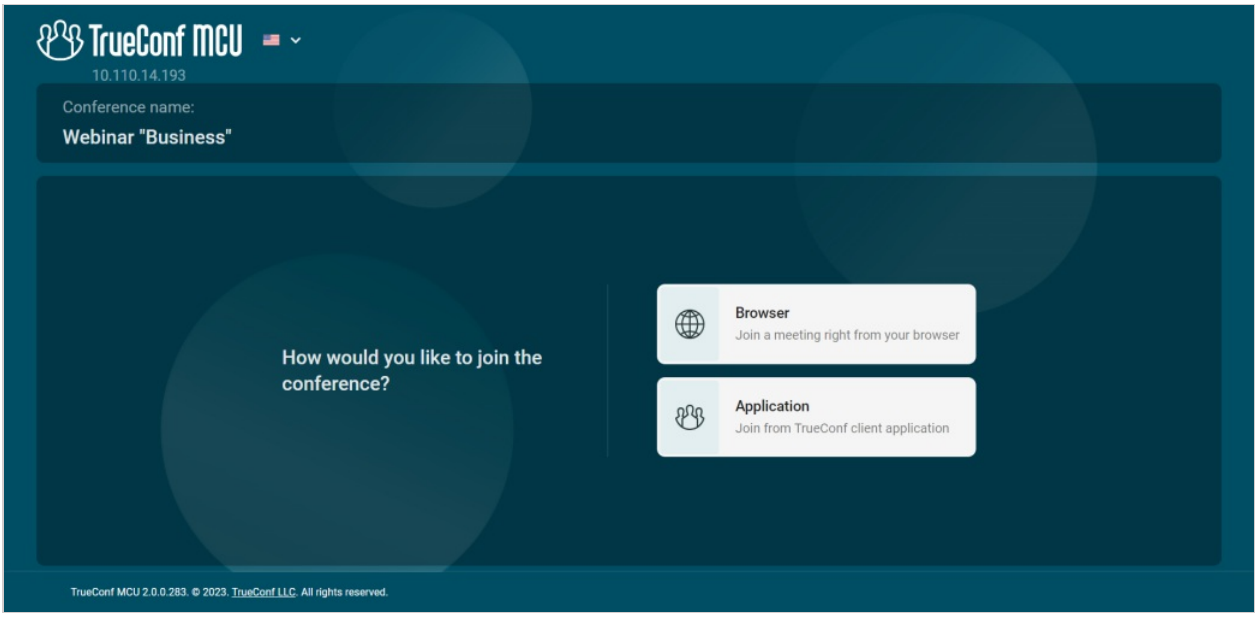
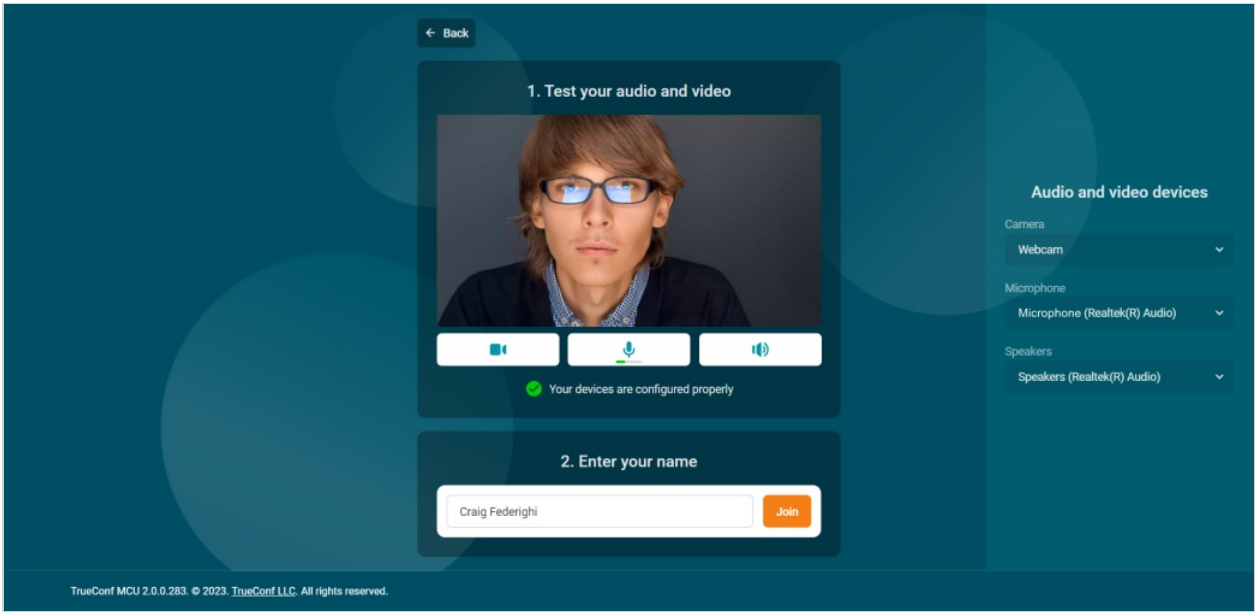


4. Enter the name that will be displayed in the layout and select audio/video devices (you will need to give the browser permission to access audio/devices):



5. To join the meeting with AV devices (e.g., camera) turned off, click the corresponding device icon:

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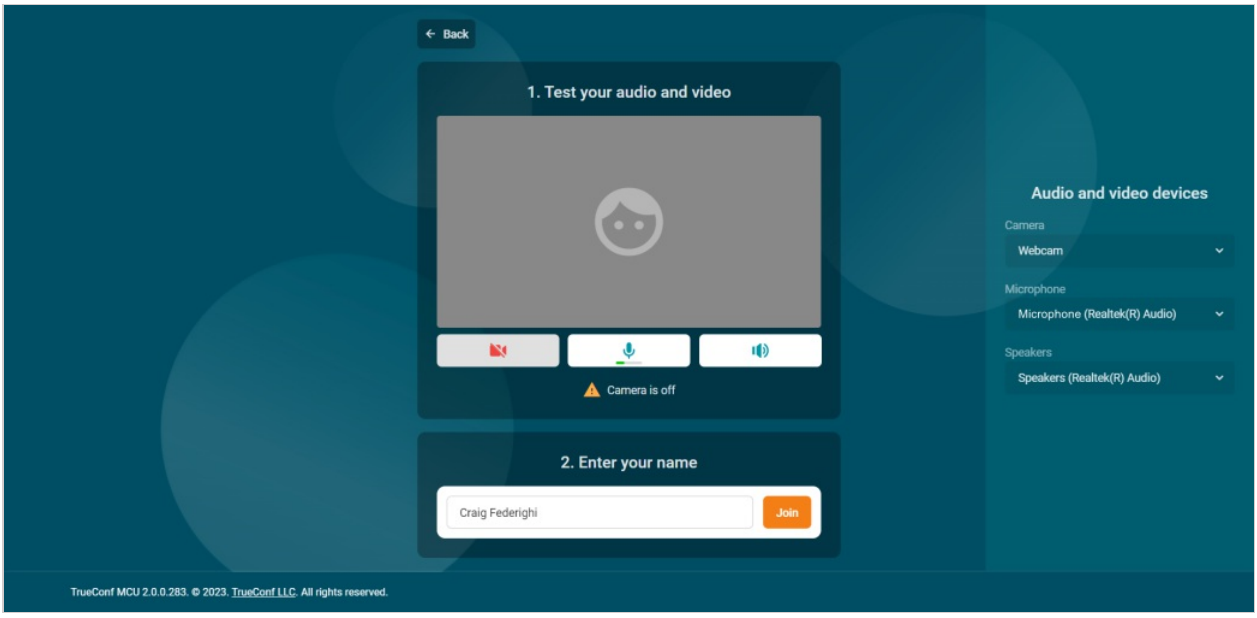
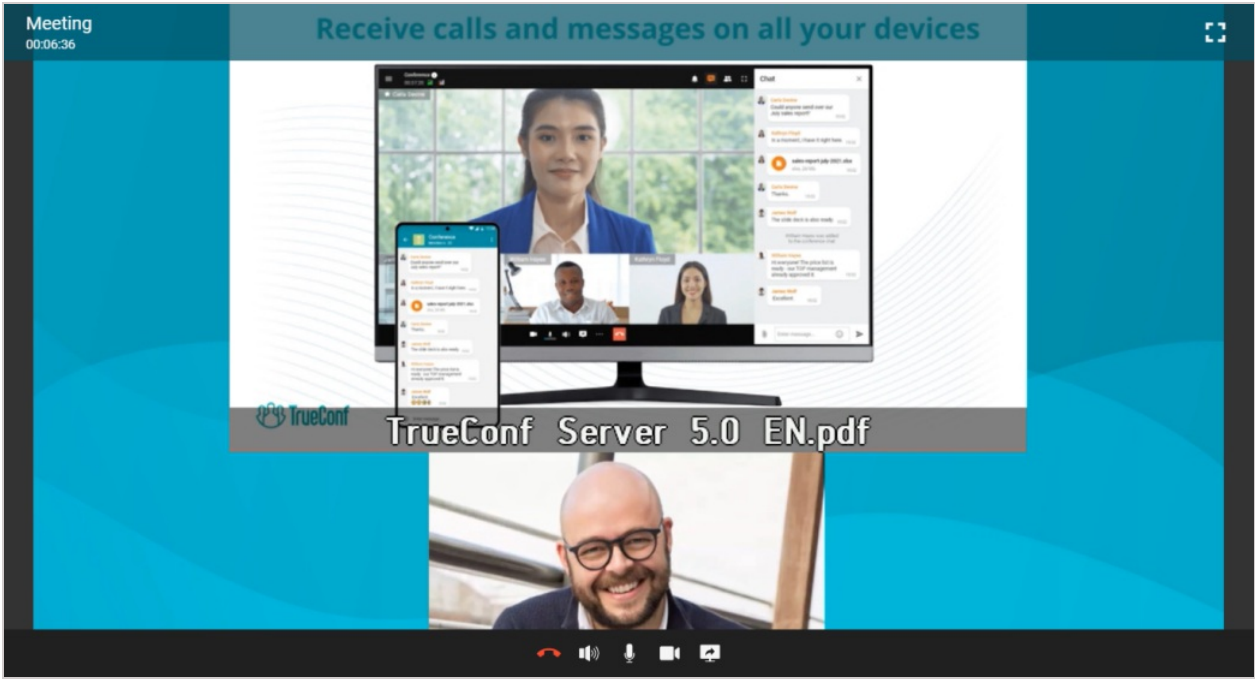


6. Press the **Join** button to join the conference:



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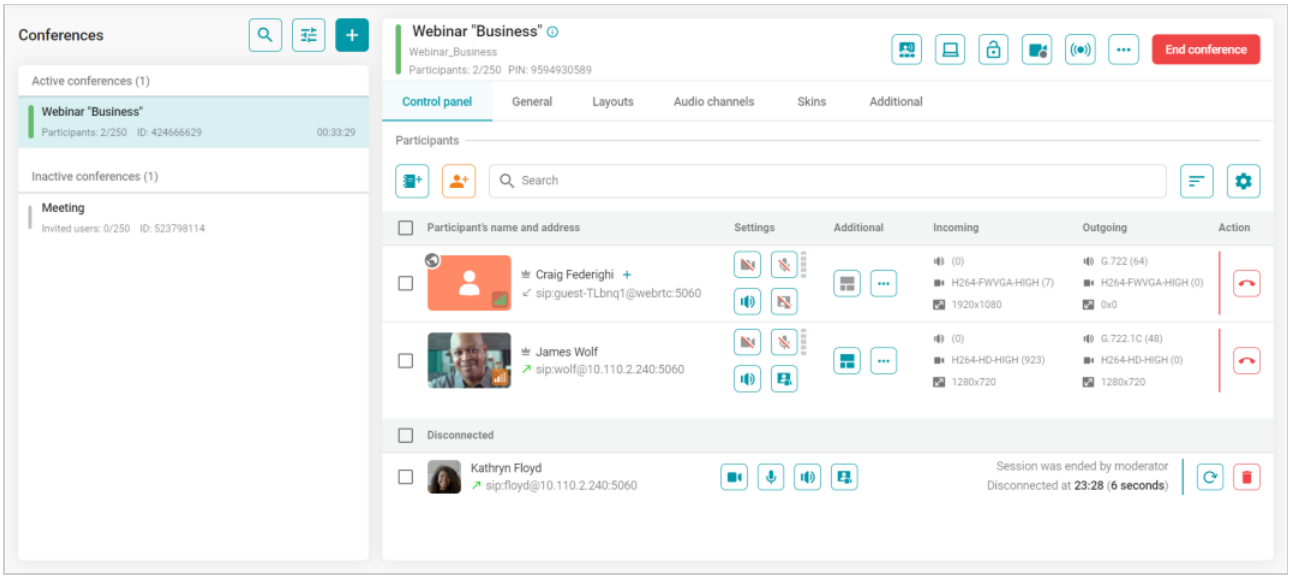
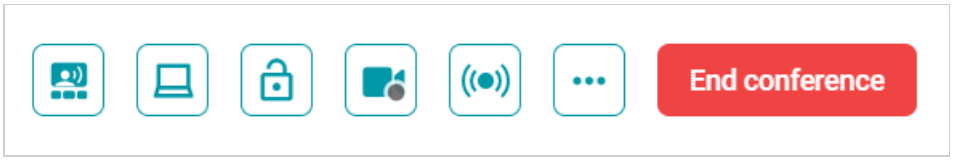
9. Managing Active Conference

In the **Conferences** section, a list of active events is displayed on the left side of the window. When you select one of the ongoing conferences, a control panel appears for it.



The appearance and functionality of the active conference page almost do not differ from the settings when creating it, with the exception of some of the capabilities listed below.

When a running conference is selected in the settings header, the following buttons become active above the tabs:



— this is the voice activity detection mode (smart meeting);

— content sharing;

— deny/allow connection to the conference. The administrator can manually add new participants to it;

— start of conference recording;

— start conference broadcasting.

9.1. Control panel

Monitoring and managing an active conference is done on the **Control panel** tab.

9.1.1. Participants

The functionality of this block is described in detail in the **Creating a conference** section. Here we will focus on the functions that are only available during a live conference.

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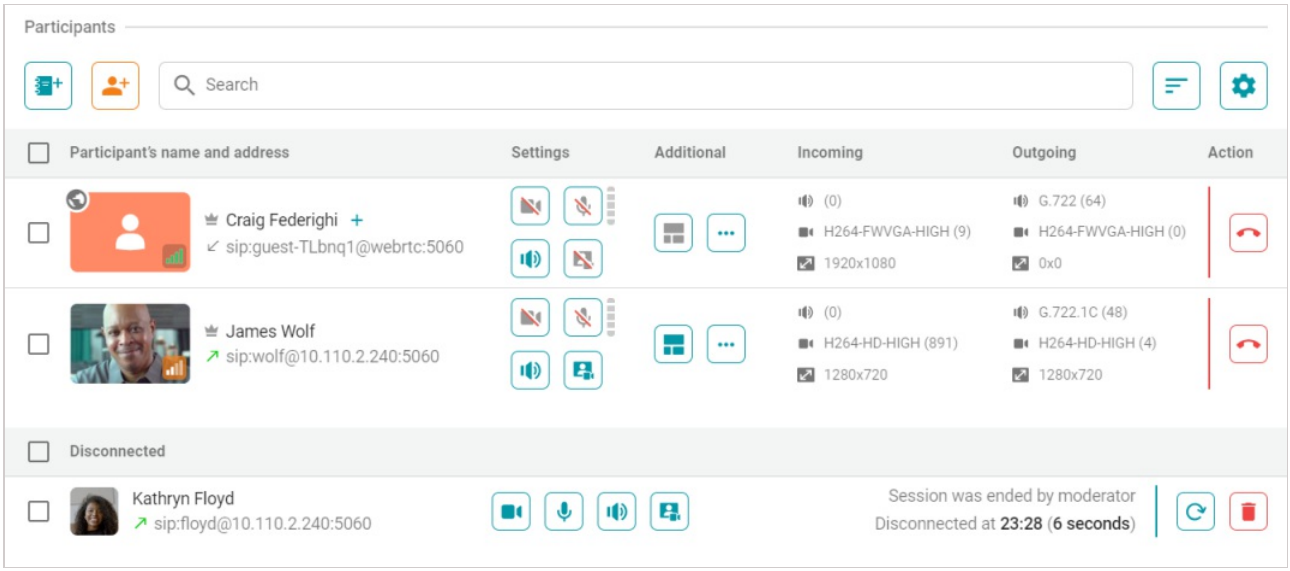

The participants list consists of two parts: active conference users and those who have not connected. By clicking on the name of an active participant, you will open information about their connection. Using the buttons, you can perform some actions on the conference participants:

— switch the video layout to highlight the main video window and display the selected participant in this window. When this mode is activated, the user's video stream preview window will be outlined with a gold frame, and a crown icon will be displayed next to the name.

— set up individual layout for this participant;

— re-invite user to the conference;

— Configure the display of additional information on the active conference screen:

- Audio and video codecs
- Video stream bitrate
- Users' avatars and their video previews

- additional features:

- **Move participant** helps move a user to another active conference. Besides, you can move users manually by dragging and dropping them with the mouse.

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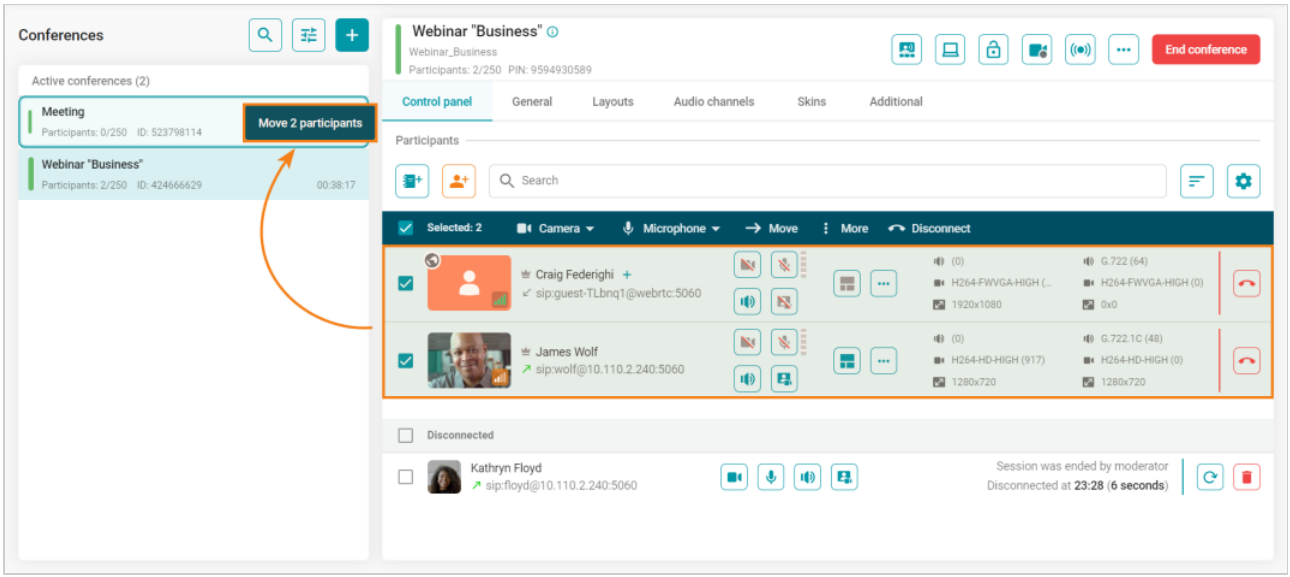
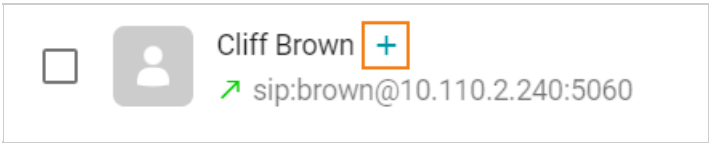
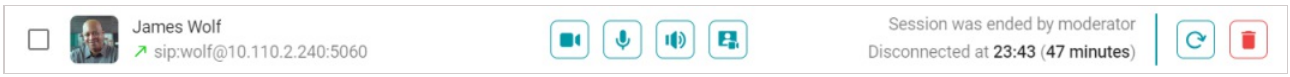


- **Volume control** (sound volume and microphone sensitivity)
- **Tone dialing (DTMF)** — sending DTMF commands to a participant's endpoint. In this pop-up, you can also preview video from a participant's camera.
- **Call details** (data about incoming and outgoing video streams).

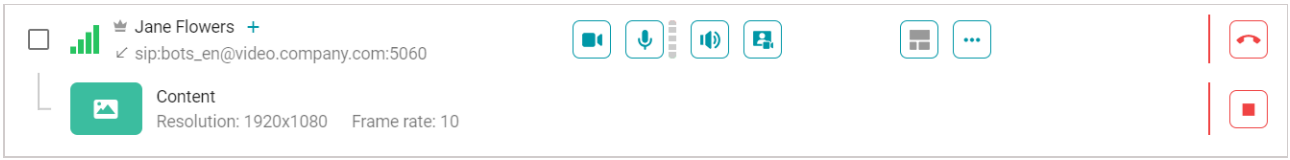
If a participant added to the conference is not in the address book, you can add them by clicking the + button next to the participant's name.



When participants either leave the meeting or are removed by the administrator, a corresponding status will be displayed next to their name:



If a conference participant shares content, you will see the video stream info and the forced stop presentation icon under the participant's name.



9.1.2. Redialing a participant with different parameters

You can re-dial a participant, selectively setting other parameters for them: protocol, address, audio/video settings, codec list, cascade activation, etc.

To do this, simply click on the username in the list of disconnected participants, modify the required parameters in the pop-up window, and press the **Connect** button.

9.2. Connection info

When selecting any participant connected to an active conference, you will see the connection info.

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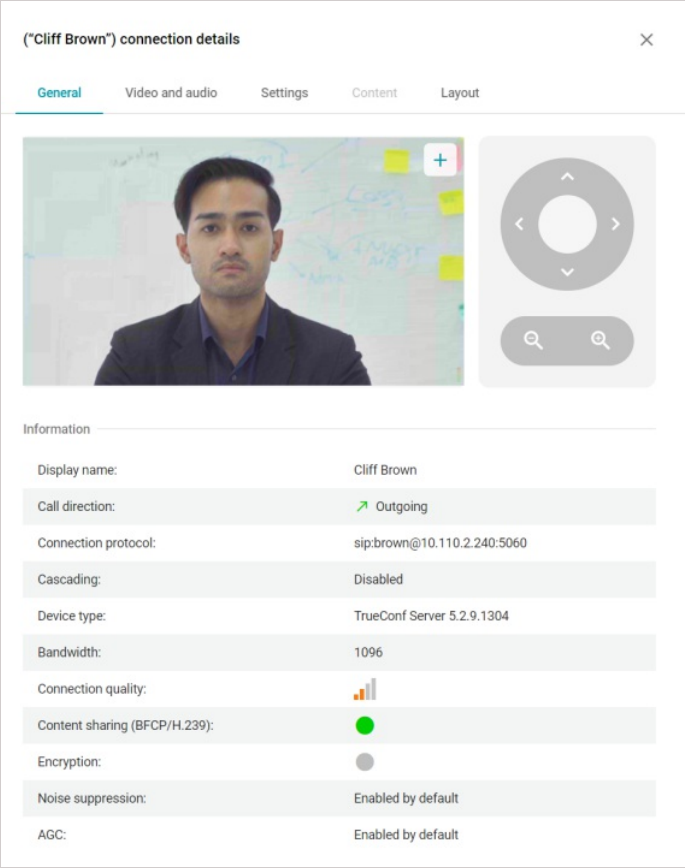

In the **General** section, you can see:

- participant's video stream preview
- remote camera control tools (available for compatible PTZ cameras)
- device information

In the **Video and audio** tab you can view information about the audio and video codecs in use.

The **Settings** tab enables the conference operator to:

- Change participant's display name
- Enable/disable the speakers and microphone and adjust their volume and sensitivity
- Enable/disable automatic gain control (AGC).

Content tab is used for preview the content shared by a participant.

The **Layout** tab offers a video layout preview window of a conference participant.

9.3. Displaying Content

During the conference, you can broadcast media content into the conference:

- images - **.bmp**, **.png**, .**jpg**, **.jpeg**, **.tif**, **.tiff**;
- documents — **.pdf**;
- video files — **.mkv**, **.mp4**.

During the image broadcast, you can go to the information window for scaling and moving the picture. For **.pdf** files, you can also scroll pages up and down using the arrows. If the demonstrated video file contains an audio track, you can control its volume in the file information window on the **Settings** tab.

By default, the video is set to loop for demonstration purposes. You can disable looping using the button next to the file name in the content selection window.

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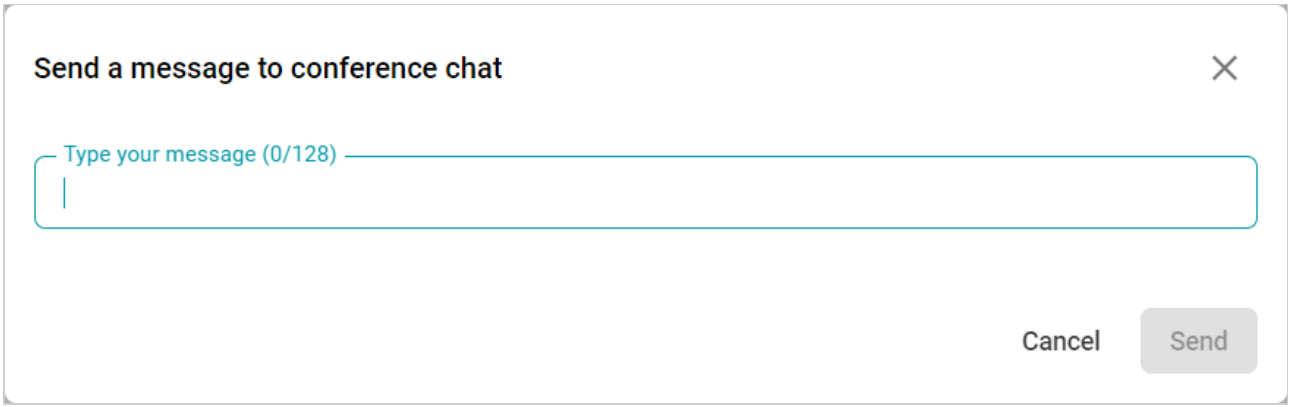
9.4. Sending a Message

Both Administrator and Operator can send a message to the active conference. To do this, click the ••• button and select **Send a message to conference chat**. A window for entering the message will appear:



Enter a message and press the **Send** button.

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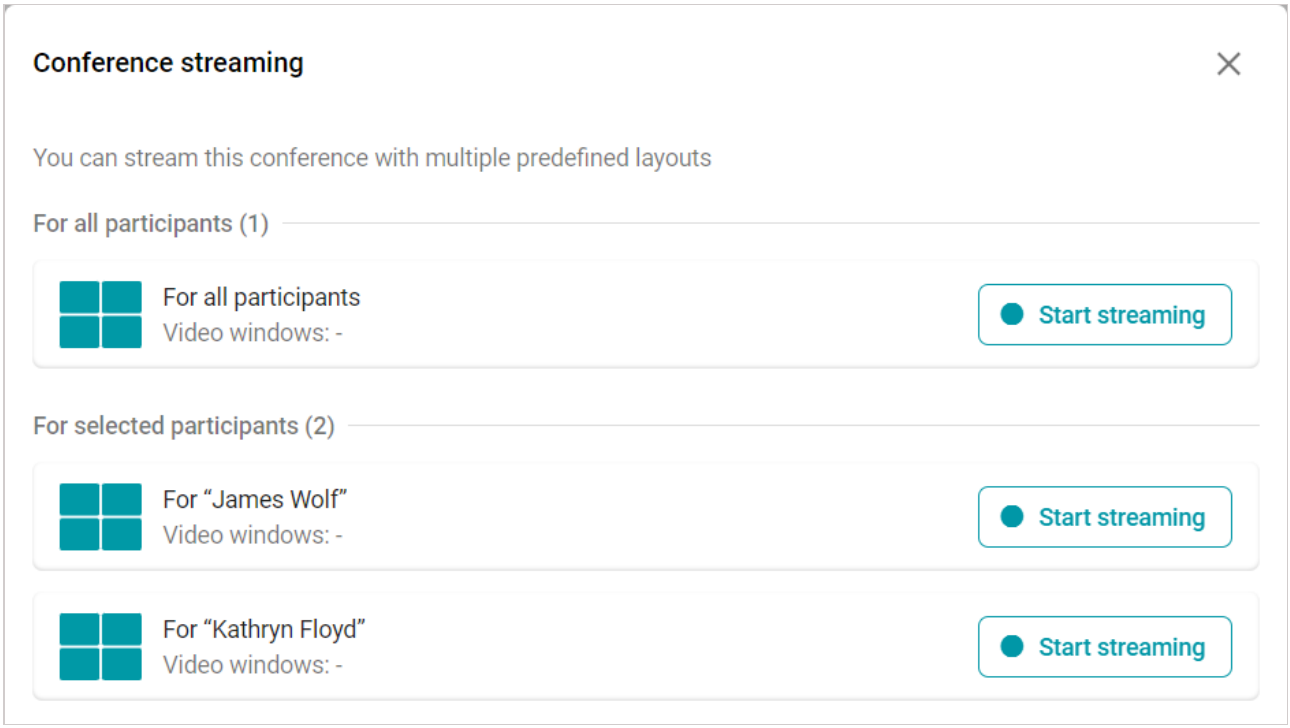
10. Conference Broadcasting

TrueConf MCU allows you to broadcast multiple video layouts simultaneously to popular services: Wowza, YouTube, CDNvideo.



To do this, you will need to set up a separate broadcast for each video layout. Below is how to set up a live broadcast.

10.1. Setting up broadcasting on the service

TrueConf MCU does not have built-in integration with broadcasting services. The general algorithm for all services is as follows:

1. Registration on the service's website.
2. Creating a broadcast.
3. Setting up the broadcast (if necessary).
4. Copying data for streaming to TrueConf MCU. This is typically the server address and the stream key.

10.1.1. Wowza Streaming Cloud

1. Create a broadcast as shown on the official website (Steps 1-2).
2. On the **Overview** tab, copy the information from the **Source Connection Information** section:
   - **Primary Server** - server address;
   - **Stream Name** - stream key.
3. Insert this data into the corresponding fields in the TrueConf MCU streaming settings.
4. Start broadcasting on Wowza (Step 4).
5. Start broadcasting the active conference on TrueConf MCU.

10.1.2. YouTube

1. Create and set up a broadcast. You can read about how to do this in our article.
2. Copy:

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- **Broadcast URL** — server address;
- **broadcast key**.

3. Insert this data into the appropriate fields of the streaming settings and start it in TrueConf MCU.

10.1.3. CDNvideo

1. Create a broadcast as shown on the official site .
2. Copy the data from the fields:
   - **URL primary** - server address;
   - **Streams** - stream key.
3. Insert this data into the appropriate fields of the streaming settings and start it in TrueConf MCU.

10.2. Setting up the broadcast on the MCU side

1. In the conference settings, go to **Layouts**.
2. Click on the to enter edit mode.
3. Open the **Streaming** tab.
4. List sequentially (if necessary):
   - broadcast quality (up to 4K) and its bitrate (up to 8192 Kbps);
   - video encoder settings;
   - streaming server address
   - application name
   - stream name/key
   - Username
   - password.

10.3. Launching a stream on the MCU side

In the list of active conferences, select the required one and start broadcasting using the button. If the broadcast starts successfully, the status **Streaming** will be displayed.

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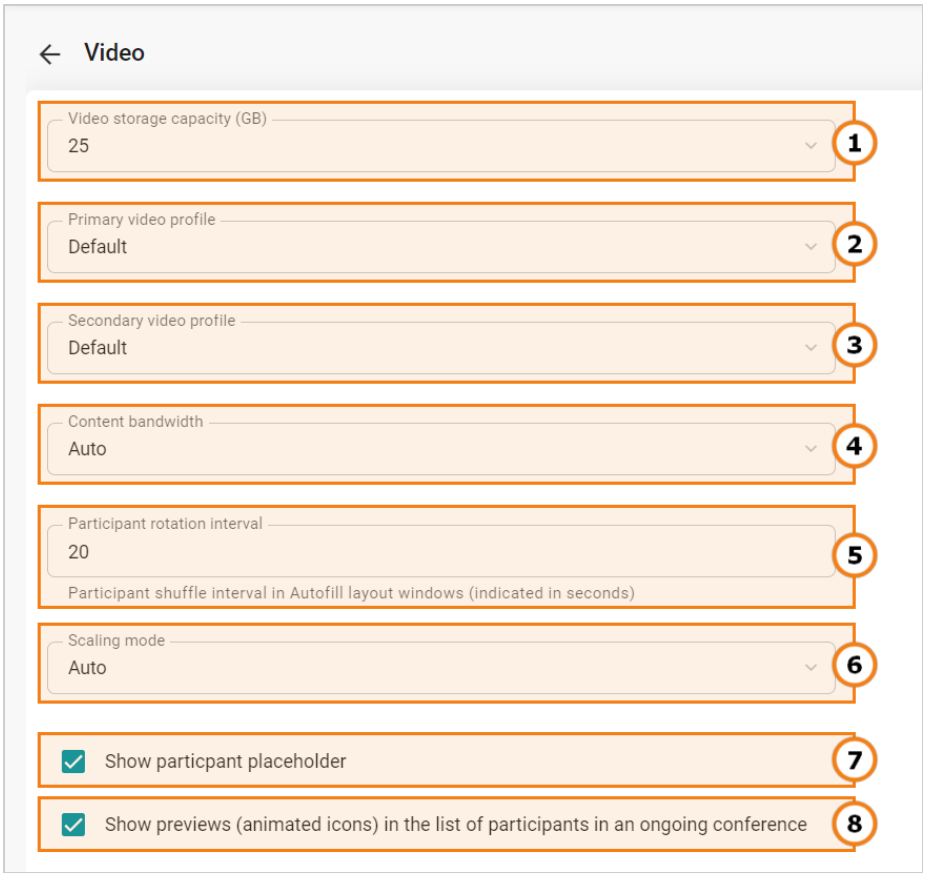
11. General conference parameters

11.1. Video

To configure the video stream encoding and saving parameters, go to **Administration →Video**:



1. Set the maximum size of media file storage
2. Select an encoding profile for the primary video stream
3. Select an encoding profile for the secondary video stream
4. Set the bandwidth for the secondary video stream (will be calculated as the percent of the total bandwidth allocated for both primary and secondary streams)
5. Set the time interval for shuffling or alternating participants in the video window (available only when selecting a layout supporting shuffling).
6. Select a video scaling mode for layout windows
7. Enable/disable avatar display in the fixed layout window (will be displayed if a participant has not yet joined the conference or has turned off the camera)
8. Enable/disable camera video preview of the participants in an active conference

11.2. Personalization

You can use different color schemes for decorating the layout. To do this, go to **Administration →Skin styles**:

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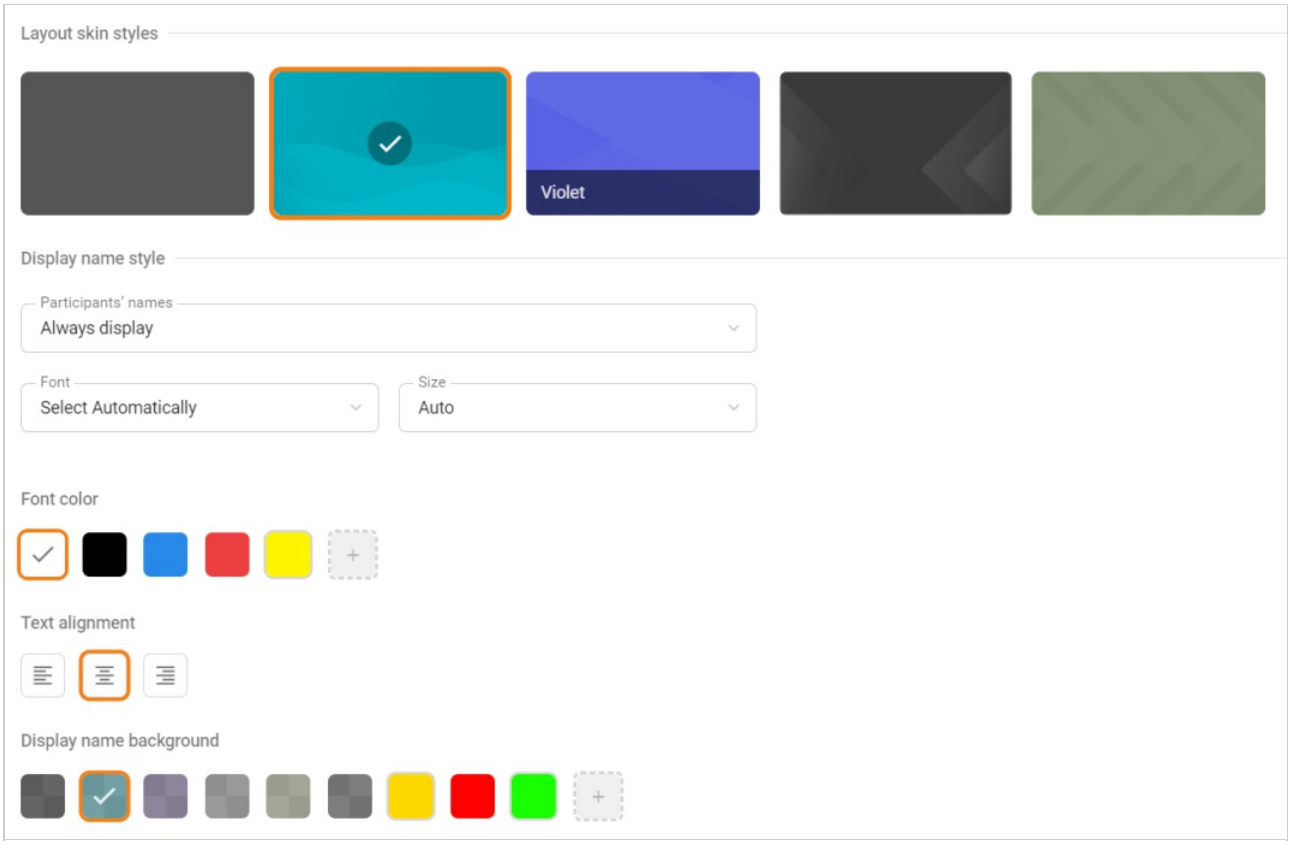
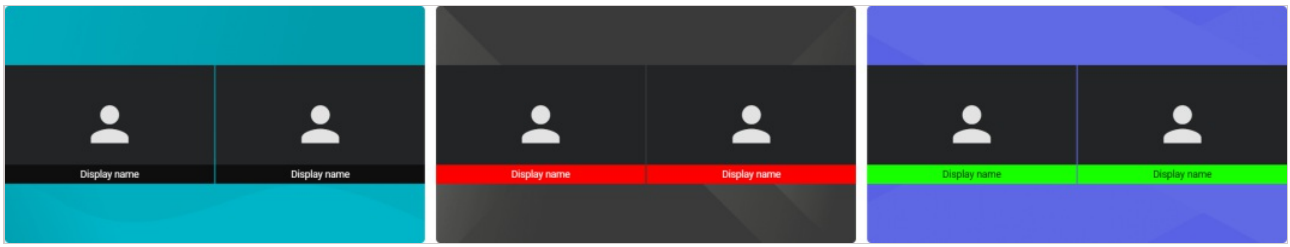


It is also possible to customize a participants' display name in the video layout. For example, you can edit:

- Font type, its size, and color
- Text alignment
- Background color
- Display name position in the video window.

All the changes will be displayed in the preview window.



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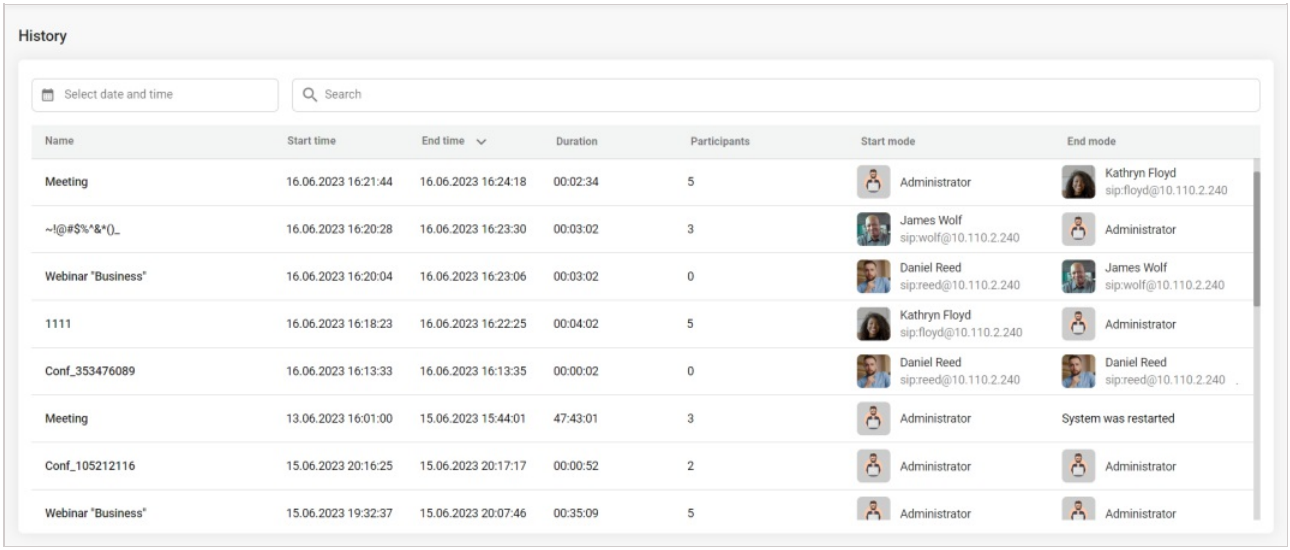
12. History

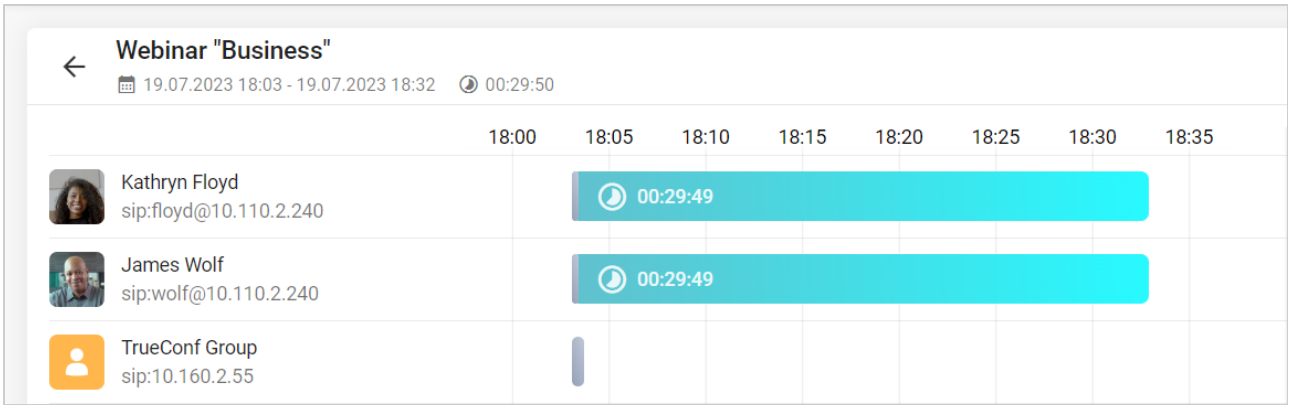
This section stores the entire history of conferences ever held on the server. You can:

- select the date and time of the event;
- use search by title;
- sort conferences by end time;
- see who started and stopped the conference.

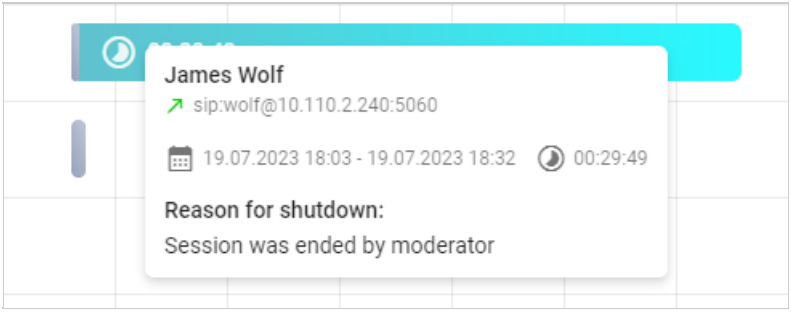


12.1. Conference Details

In the history list, select the conference whose details you want to review. A window will open with a list of participants and a connection schedule for the event.



You can click on a specific participant's chart to view detailed information: duration of participation, connection time, and the reason for disconnection, for example, a participant-initiated disconnection.



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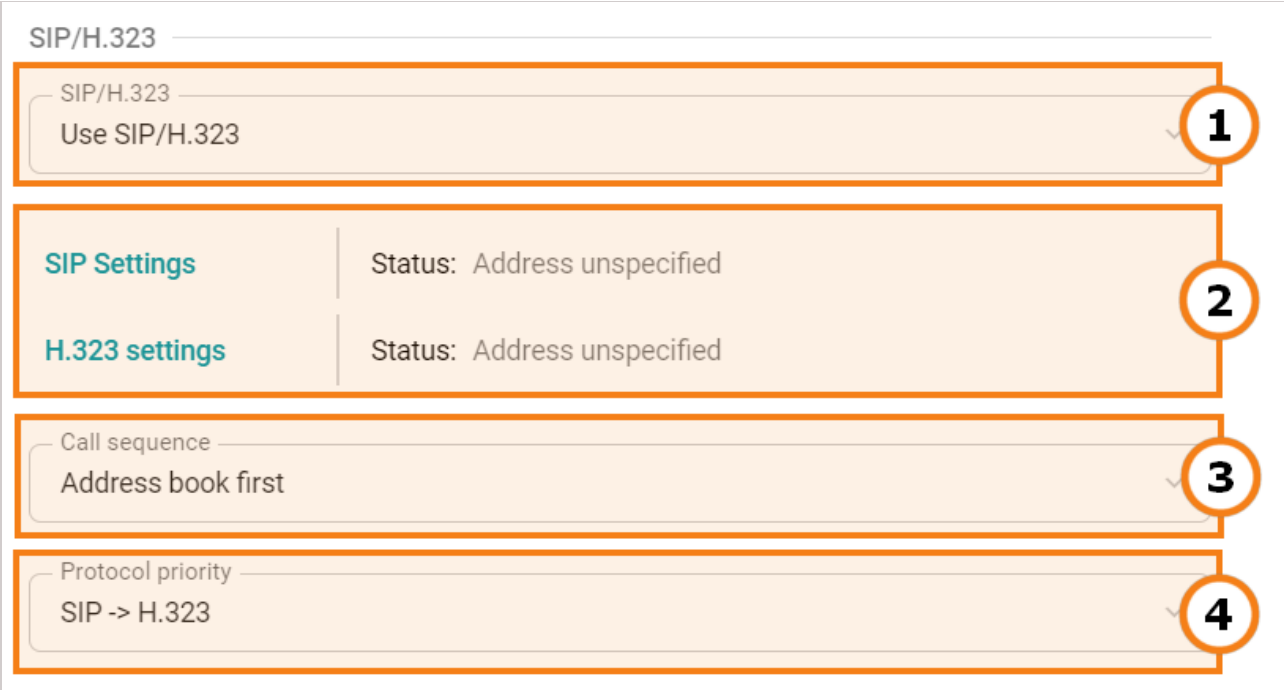
13. Call settings

To configure call parameters, go to **Administration** →**Calls**.

13.1. SIP/H.323



1. You can select the protocol used to make calls to the video conferencing server: SIP/H.323, SIP only, or H.323 only.

> *i* To connect to a conference in the browser (via WebRTC), the SIP protocol is used. Therefore, if you select **Use H.323** this method of joining will not be available.

2. Set parameters and check the protocol operation status.
3. Specify the call priority:

- **Address book first**
- **Gatekeeper first**

4. Set up the order of using SIP/H.323 protocols when you call users (if you specified both protocols in the address book).

13.1.1. SIP gateway settings

To set up a SIP gateway, please complete the following steps:

1. Click on **SIP Settings** in **Administration** →**Calls**.
2. Check the **Registration** box in a pop-up window.
3. To make sure that SIP calls are always routed through the registration server, check the corresponding box.
4. If the **Block spam calls** box is checked, incoming SIP calls will be analyzed. TrueConf MCU will automatically decline calls in case of incorrect connection requests.
5. Select one of the following options in the **SIP encryption** list needed for configuring stream encryption via SRTP:
   - **No encryption** – encryption is not used.

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- **Encrypt when possible** – encryption is preferred, but not required. If encryption is not used on the client side, the participant will still be able to join the conference.
- **Encrypt all** – TrueConf MCU will not establish connection with the endpoints that do not support SRTP.

6. Specify the IP address of the gateway in the **Server address** field.
7. Enter the authorization data into the **Username** and **Password** fields.
8. Select **Transport protocol** and **Transport protocol**.
9. Close the window and save the changes.

If the registration is successful, **Registered** status will be displayed in the **State:** field.

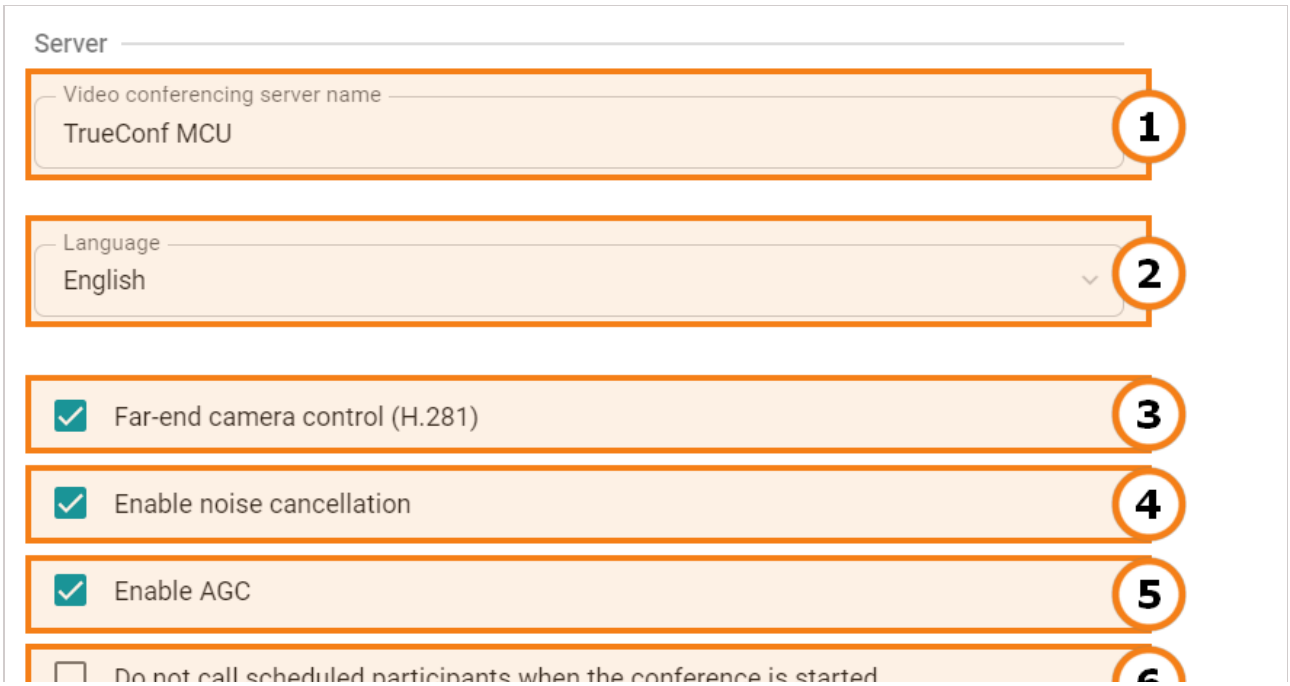
13.1.2. H.323 gateway settings

To set up an H.323 gateway, complete the following steps:

1. In **Administration →Calls**, click on **H.323 settings**.
2. Check the **Use gatekeeper** box in a pop-up window.
3. To make sure that H.323 calls are always routed through the gatekeeper, check the corresponding box.
4. Select **H.235 encryption**:
   - **No encryption** – encryption is not used.
   - **Encrypt when possible** – encryption is preferred, but not required. If encryption is not used on the client side, the participant will still be able to join the conference.
   - **Encrypt all** – TrueConf MCU will not establish connection with the endpoints that do not support H.235.
5. Enter the **H.323 Alias** and **H.323 Extension** into the corresponding fields.
6. Specify the **Gatekeeper address**.
7. Close the window and save the changes.

If the registration is successful, **Registered** status will be displayed in the **State:** field.

13.2. Server



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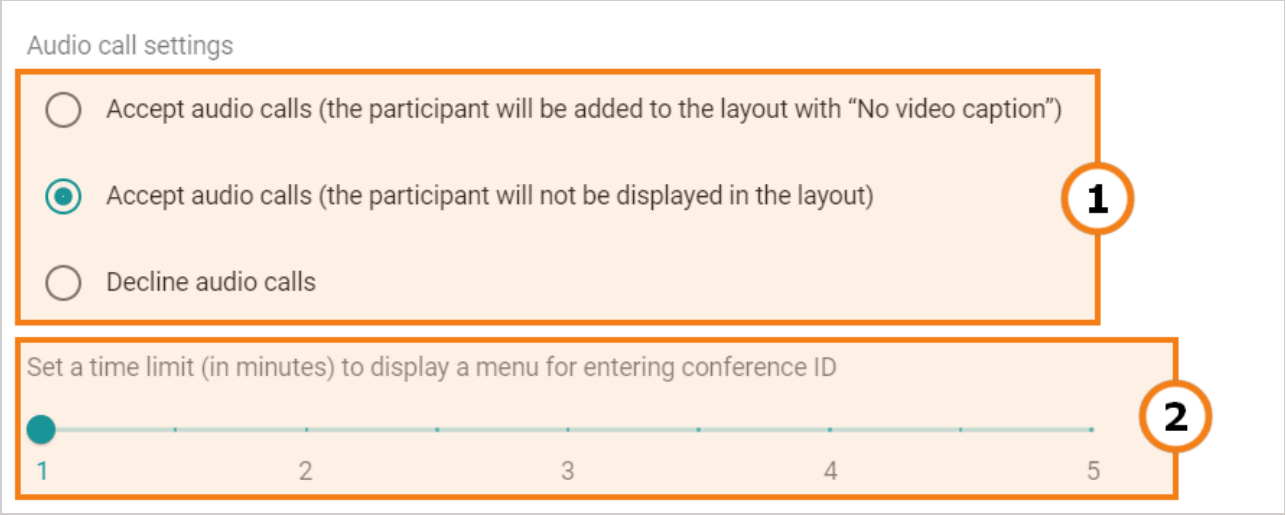
1. Specify a name for the video conferencing server to be displayed on the conference participants' screens
2. Select the UI language of the dialogue window where a participant will enter meeting ID. This window will be displayed when a user calls TrueConf MCU by the server's IP or DNS name. This setting does not affect the UI language of the control panel.
3. Enable remote camera control of conference participants (if it is supported by participants' hardware)
4. Enable noise cancellation
5. Enable automatic gain control (AGC)
6. Activate the **Do not call scheduled participants when the conference is started** option.

13.3. Managing audio calls and conference ID input time



1. In TrueConf MCU, you can manage audio calls. For example, you can accept them without displaying the participant in the video layout, or reject them altogether.
2. Indicating the time to display the screen for entering the conference ID, after which the connection with an endpoint will reset

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14. Network Configuration

In the **Administration** →**Network** section you can:

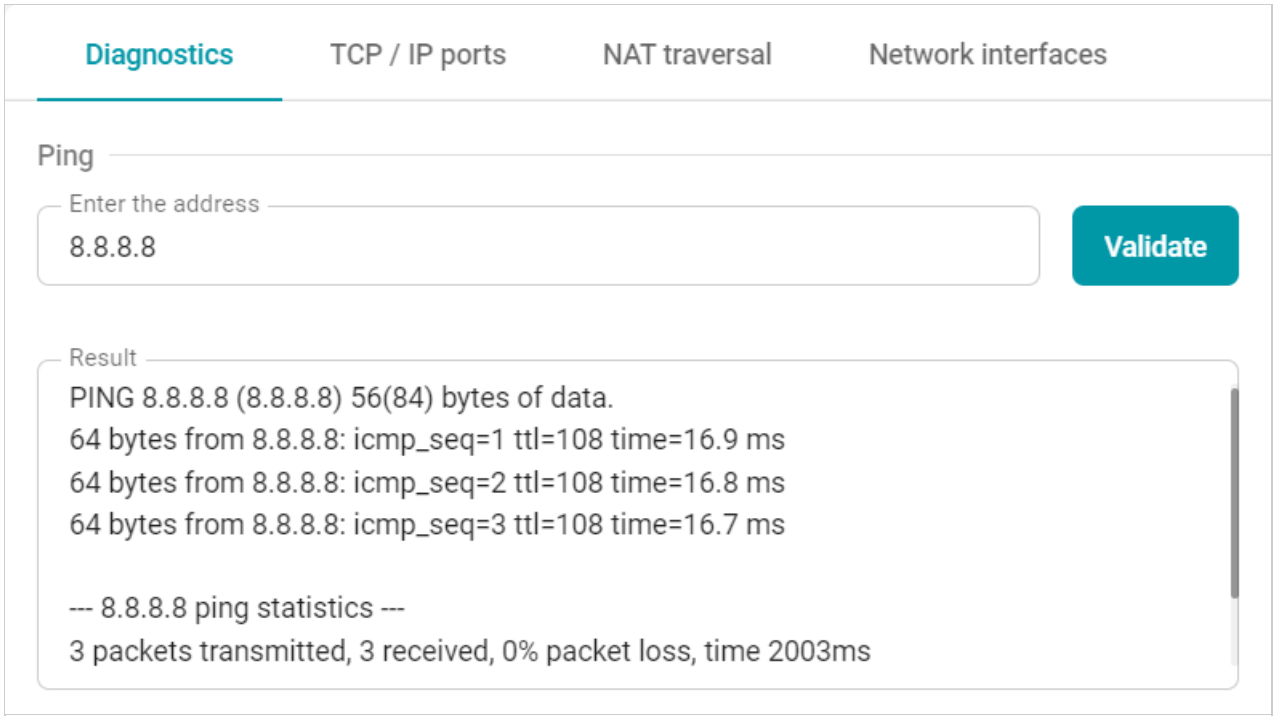
1. Conduct network diagnostics.
2. Perform traffic recording.
3. Configure the range of TCP/IP ports in use
4. Set the RTP packet size and QoS parameters.
5. Configure NAT traversal.
6. Configure network interfaces.

14.1. Network Diagnostics

TrueConf MCU is capable of performing network diagnostics using these commands: **ping** and **traceroute**. To do this, go to **Administration** →**Network** →**Diagnostics**.

14.1.1. Using ping

You can check the availability of network resources using the **ping** command. To do this, enter the IP address or DNS - the name of the resource in the field with a text hint and press **Validate**. The check result will be displayed in the output field without the possibility of changing it.



i If you enter an incorrect address in the input field, the output field will display an error from the server.

14.1.2. Using traceroute

To determine the route of data packets in TCP/IP networks and the length of the path, you can use the **traceroute** command. To do this, follow the steps described in the previous section.

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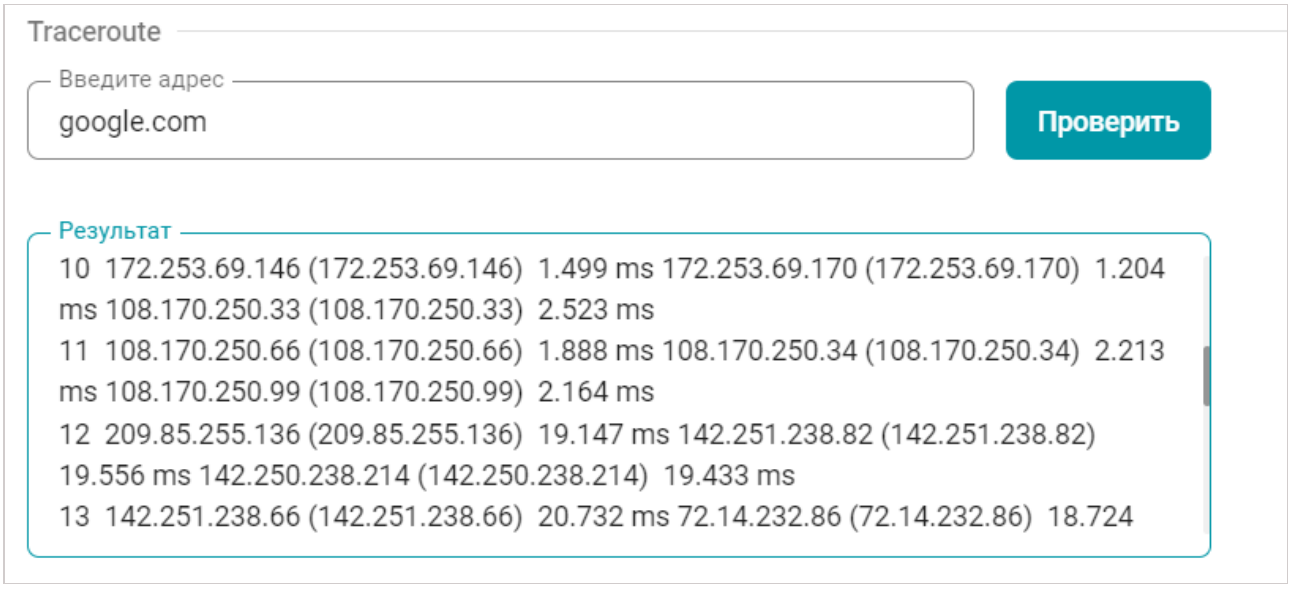
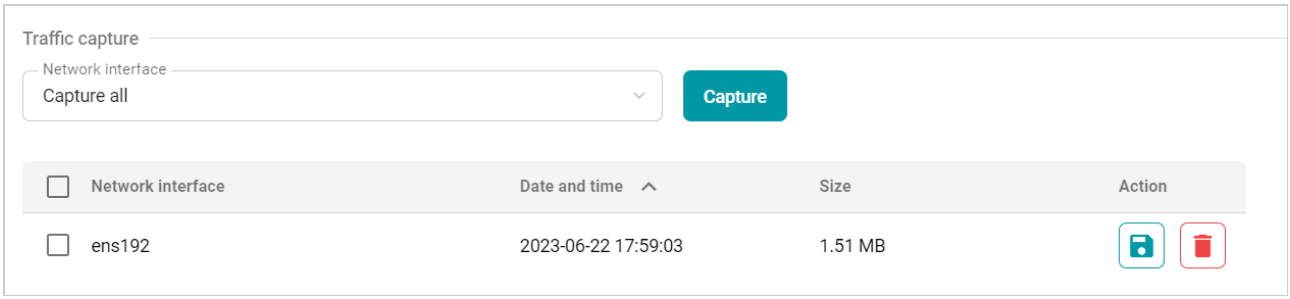


14.1.3. Traffic capture

TrueConf MCU is also equipped with a network analysis tool. It allows recording all incoming and outgoing data packets and saving the data in the **.pcap** format for further analysis. To start data collection, select the required network interface from the drop-down list and press the **Capture** button. To "capture" traffic from all interfaces, select the **Capture all** option. During traffic recording, a table will appear below displaying a list of files, collection time, and their size.



Click the button to save the file to your device, or the button to delete it from the server.

14.2. TCP/IP ports

14.2.1. Port Range Configuration

To set up the parameters for transmitting audio and video streams, go to **Administration →Network → TCP/IP ports**. You can configure the port ranges for the following protocols:

- BFCP
- H.245
- RTP.

14.2.2. MTU and QoS

Here, you can also specify the size of RTP packets, or configure priorities for data stream transmission according to the DSCP protocol:

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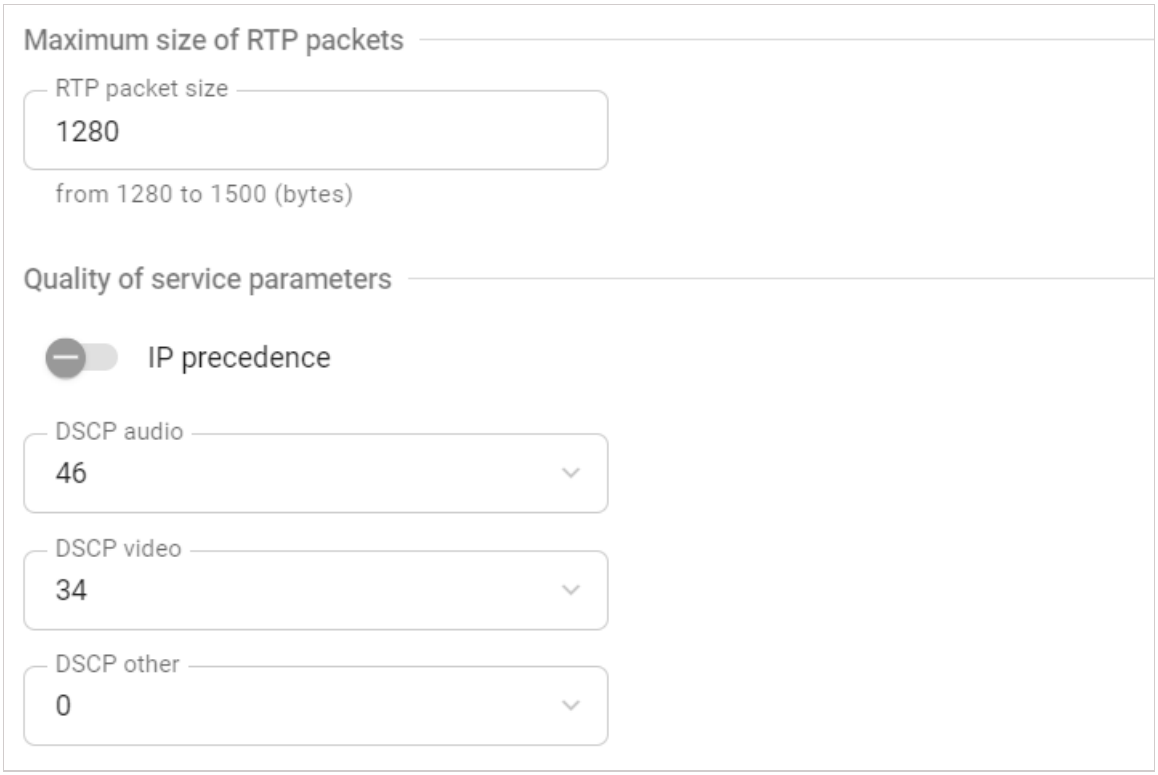

- **DSCP audio** is for audio traffic
- **DSCP video** is for video traffic
- **DSCP other** is for other traffic, e.g. remote PTZ camera control.

i The higher the number, the higher the priority of the selected type of transmitted packets.

14.3. NAT Traversal

To configure NAT, navigate to **Administration →Network →NAT traversal**.

14.3.1. Public IP address

If your server is behind NAT, you can define the public IPv4 address (WAN) here to be able to connect to the control panel from outside.

14.3.2. Using ICE

When SIP clients are behind NAT or a firewall, problems usually arise when setting up direct connections for audio and video transmission. ICE solves this problem, enabling clients to discover available communication paths and choose the most efficient ones for setting up a connection.

To enable this protocol, activate the **Use ICE** switch.

14.3.3. Using H.460.1

H.460.1 is a standard that enables the transfer of data (audio, video, etc.), providing a solution for establishing a direct connection between H.323 clients located behind NAT or a firewall.

H.460.18 defines the protocols and mechanisms for establishing direct media sessions through NAT devices, such as RTP and RTCP, allowing clients to exchange media data.

H.460.19 uses protocols such as HTTP and HTTPS to transfer data between clients, bypassing firewall restrictions. This allows clients to exchange information and establish connections, ensuring reliable and secure communication.

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To use these features, activate the **H.460.18** and **H.460.19** checkboxes in **Administration →Network → NAT traversal**.

> *i* To use H.460.1, you need to enable gatekeeper registration in the server settings.

14.3.4. TURN Settings

A TURN server performs the function of traffic relay between devices when a direct connection cannot be established due to NAT or other network restrictions. To pass through NAT using a TURN server, you need to specify: the hostname, login, and password.

14.4. Network interfaces

Go to **Administration →Network →Network interfaces** to view the system name, MAC address of the network card (interface), or to set the IP addressing mode (static or DHCP). If static mode is selected, you also need to set:

- IP address
- Subnet mask
- Gateway
- Primary DNS server
- Secondary DNS server.

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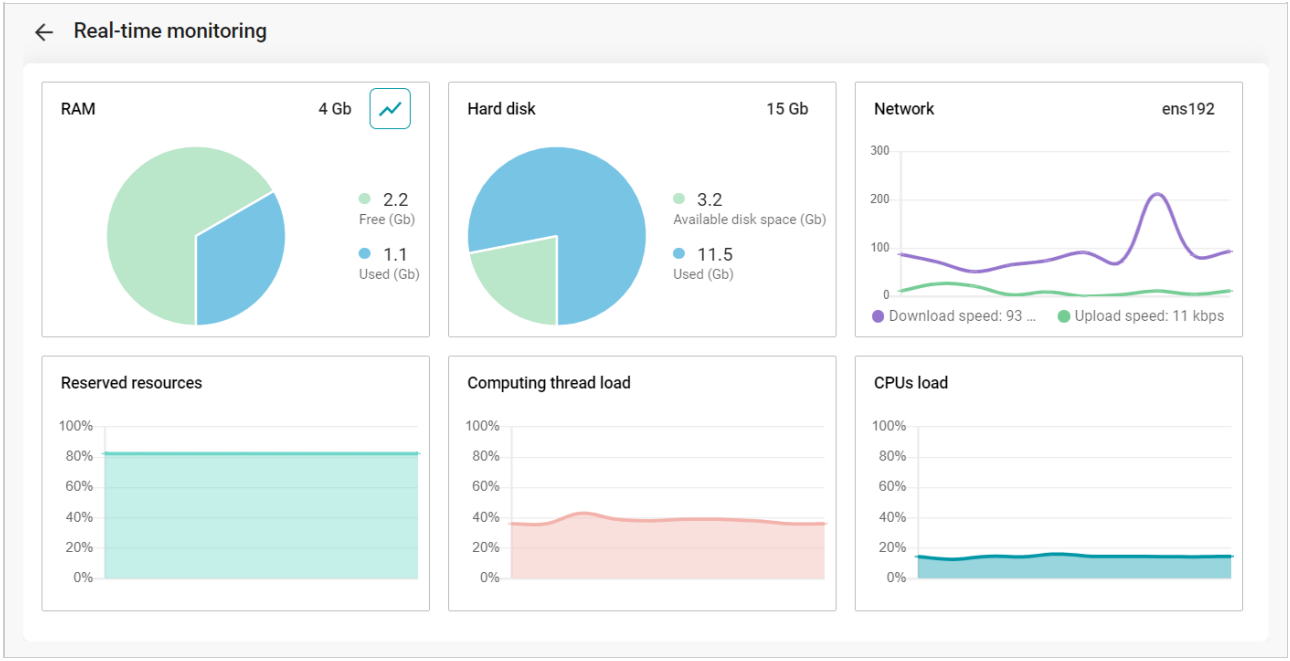
15. Administration

This section allows you to configure the TrueConf MCU settings, create users, set access rights, and view the server statistics.

15.1. Real-time monitoring

To view data about server resource usage and check system info, go to the **Real-time monitoring** section:



The **Reserved resources** chart shows total machine resource usage considering memory operation and multiprocessor interaction. The number of reserved resources is a dynamically changing parameter that accounts for all currently performed tasks: transcoding, mixing, recording, broadcasting, layouts etc. Learn more in the relevant section. Chart information display is available after calibration.

15.2. Media files

15.2.1. Uploaded files

This menu stores images, videos, and PDF files uploaded to the server, for example, to prepare content for a demonstration during a conference in advance.

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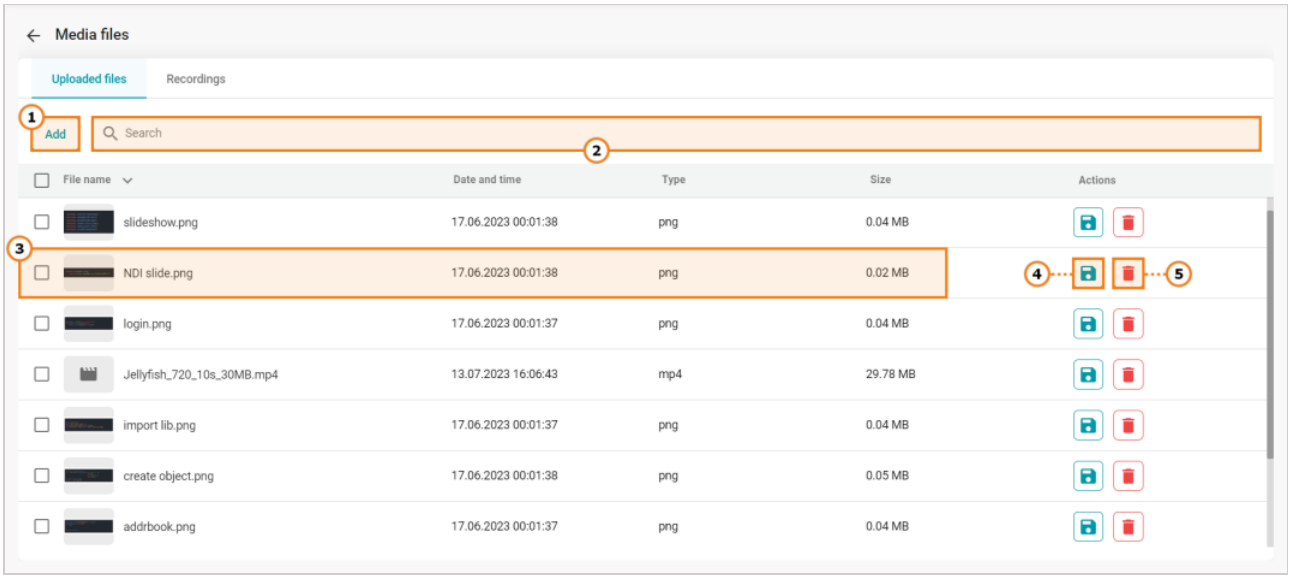
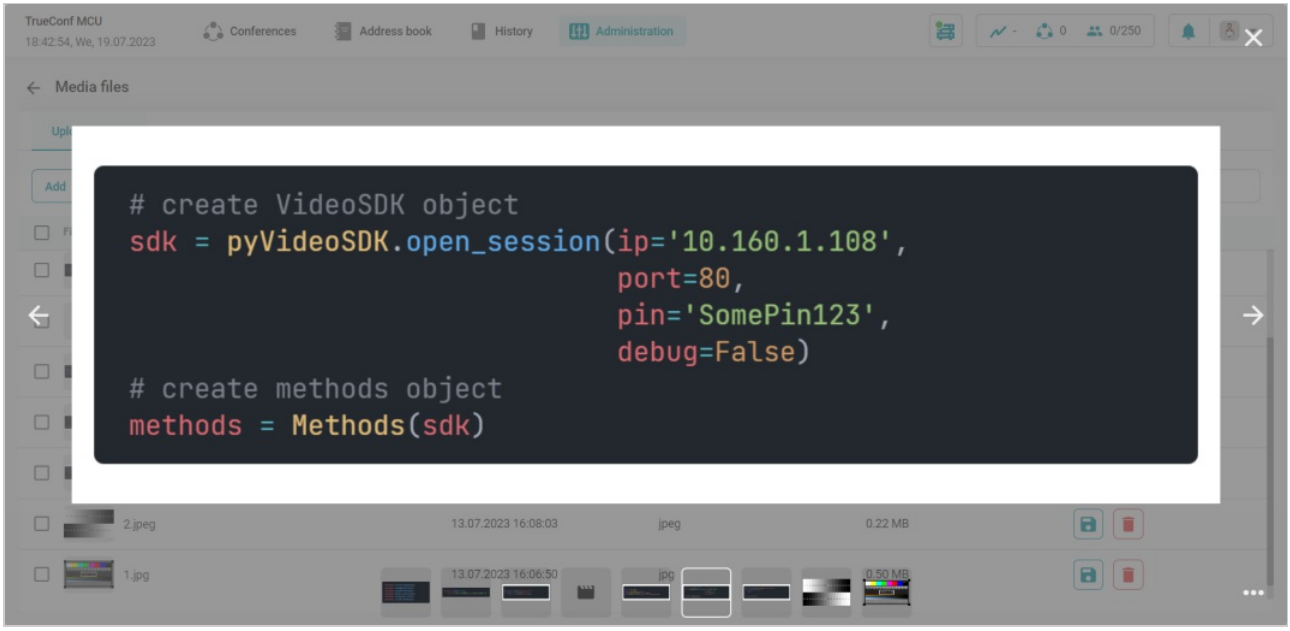


1. Upload a new file
2. Search by uploaded files
3. Check file info: title, upload date, format, and size
4. Download a file
5. Delete file

Uploaded files can be previewed in the pop-up window:



15.2.2. Recordings

All conference recordings are saved in the **.mp4** format.

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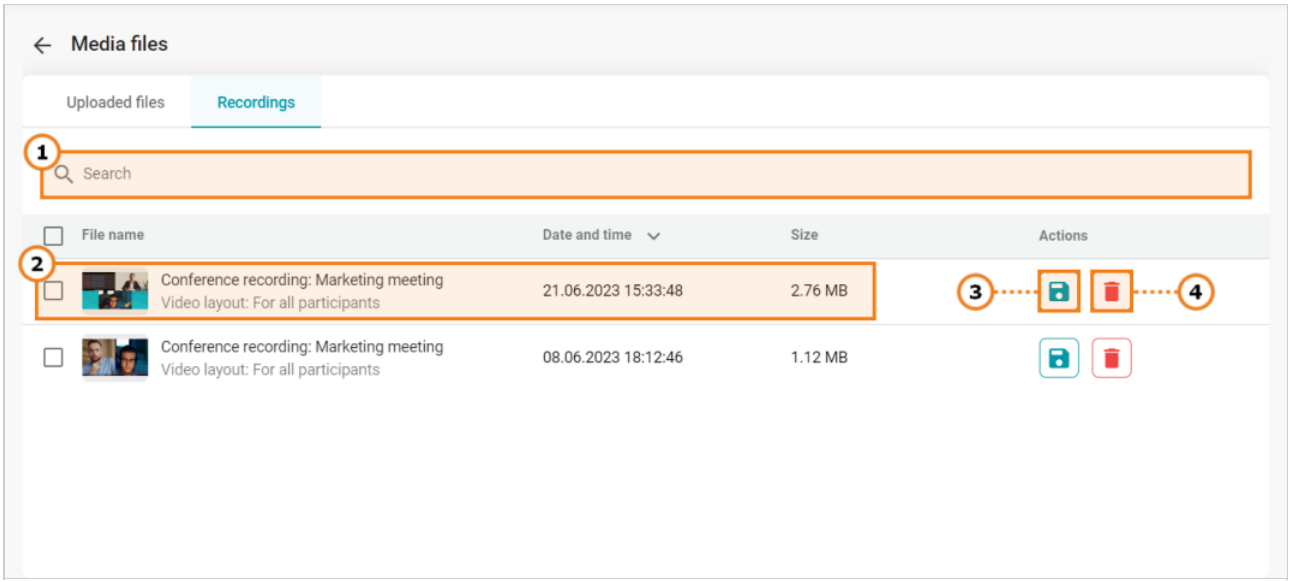

1. Search for recorded conferences
2. Check file info: title, upload date, format, and size
3. Download a recording
4. Delete a recording

* When you click on a recording, a preview window will open (as in the case with uploaded media files .

15.3. Power

On the Power tab, you can restart the TrueConf MCU, reload the operating system, or turn off the hardware server.

15.4. Import/Export

For creating, restoring a backup of data or saving logs go to **Administration →Import/Export**.

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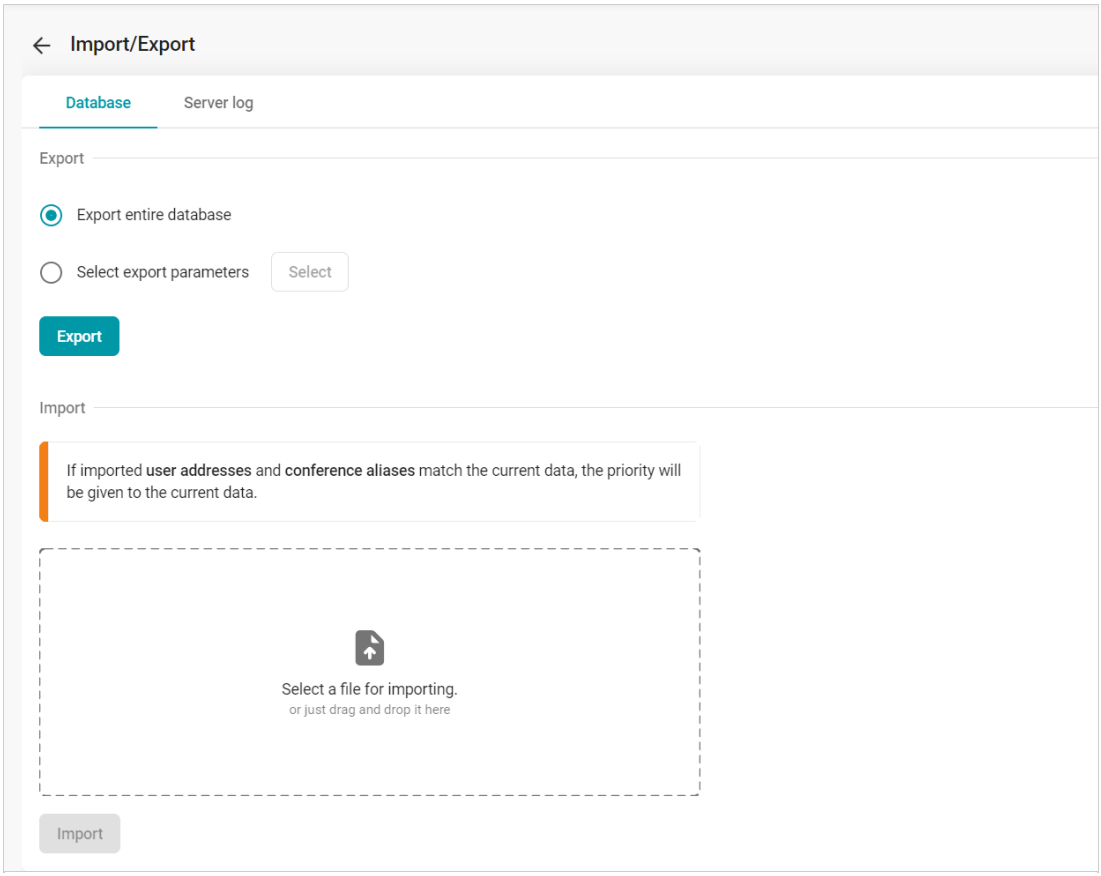

15.4.1. Database

15.4.1.1. Export

To unload all data, check **Export entire database** and press the **Export** button.

If you only need to export part of the data, check the **Select export parameters** box, select the necessary data in the window that appears, click the **Save** button, and then click the **Export** button to confirm.

15.4.1.2. Import

i During import, if there's a match between user addresses and conference aliases with the current data, priority will be given to the current data.

To restore data from a backup in **.7z** format, select a file to import and press the **Import** button.

15.4.2. Server Logs

Here you can export logs for submission to the technical support service.

15.5. Reset to Factory Settings

To delete all data, go to the **Administration** →**Data deletion** menu and click **Set to default**.

! Resetting to factory settings will result in complete loss of all data, conferences, users, and information on the server, all ongoing conferences will be terminated.

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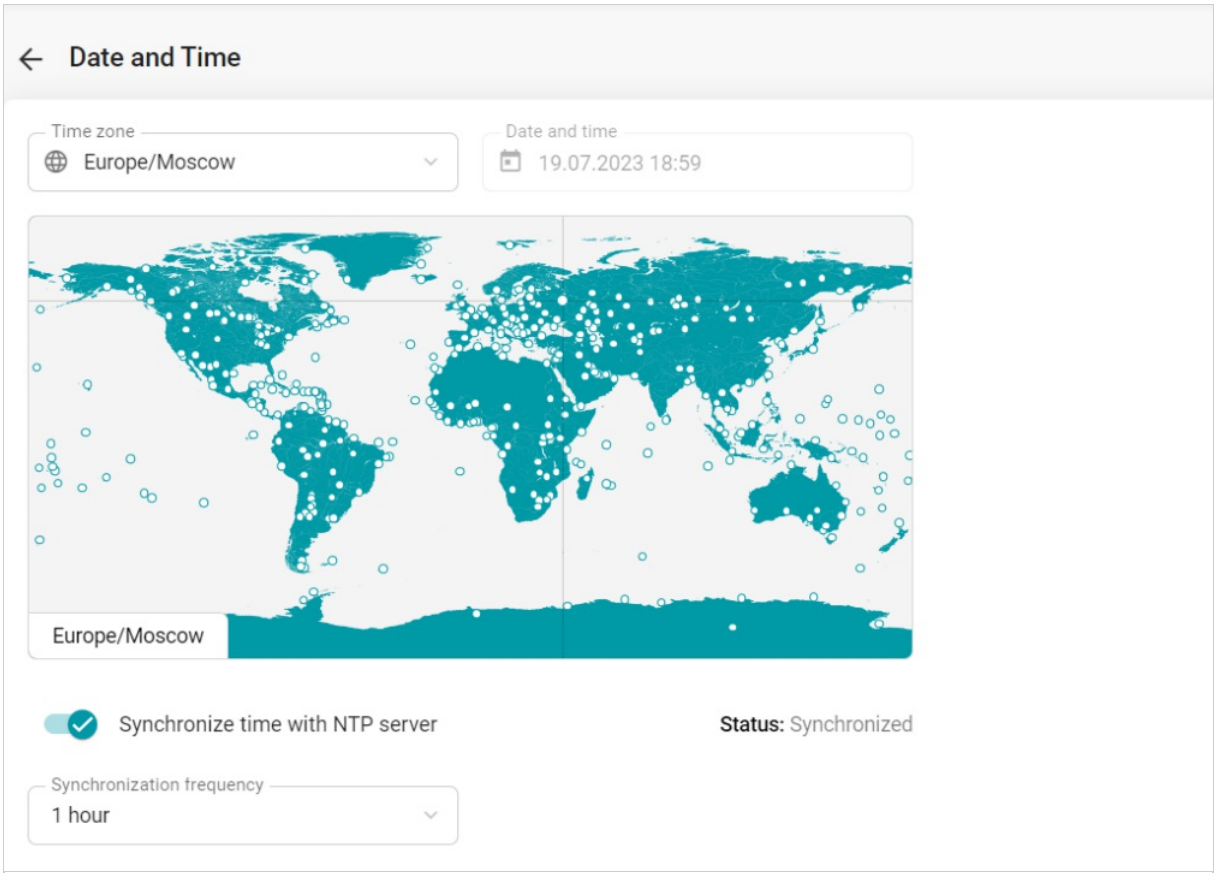
15.6. Date and Time

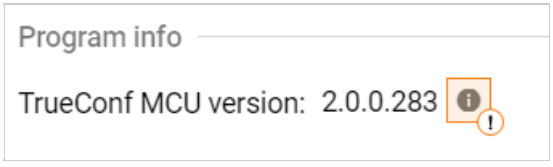
To configure the time, go to **Administration →Date and Time**. Here you can:

- manually set the date and time;
- select a time zone from the list or on the map;
- synchronize time with an NTP server: set the frequency and several NTP servers for synchronization.



15.7. About the program

You can check the installed version of the TrueConf MCU server in the **About** menu. For detailed information about the versions of installed components, click the ⓘ button next to the TrueConf MCU version line:



The following window with detailed information will open for you:

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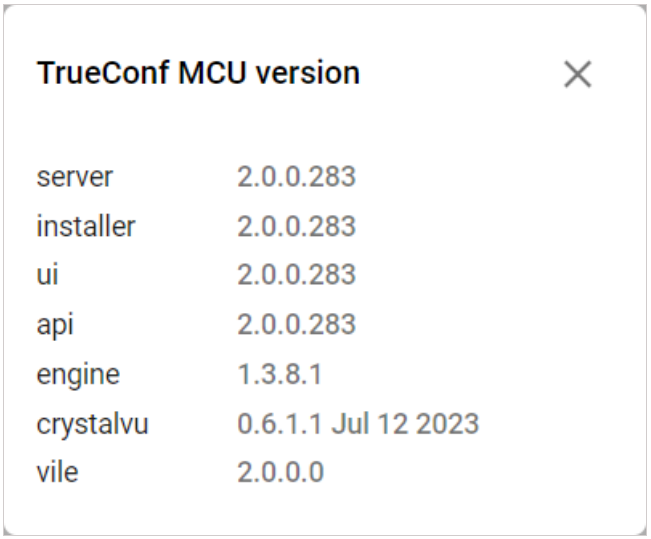

Here you can perform an update of the TrueConf MCU, which is described in detail in the relevant section.

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16. Access Control

Initially, there is only one account on the server - this is the **admin**, who has the **Administrator** role. You can change its login and password in the directory. Deleting this account is prohibited.

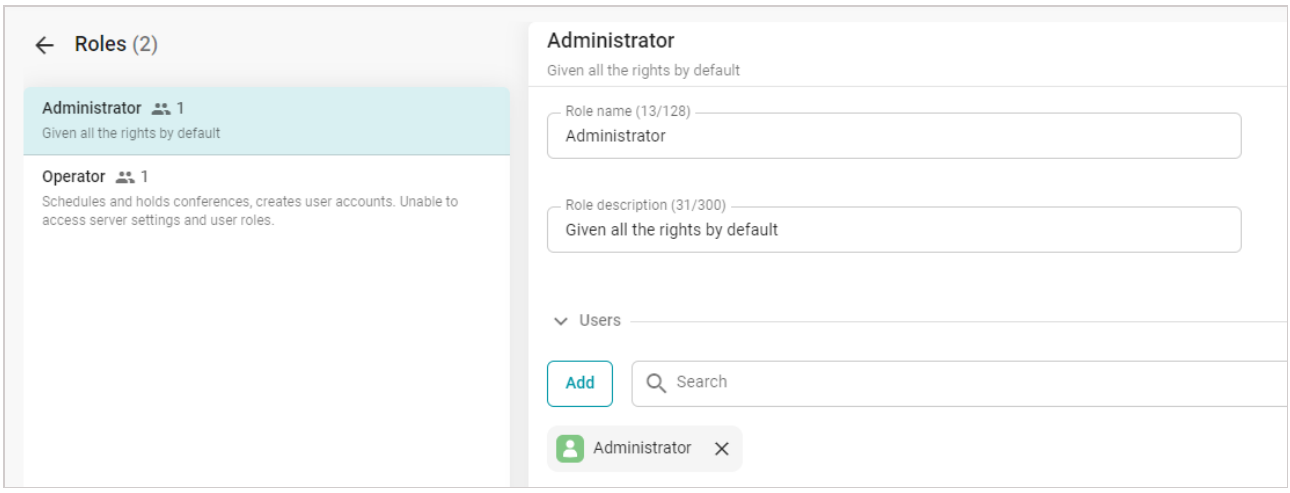
16.1. Roles

The TrueConf MCU implements a multi-user administration system:

- **administrator** - by default, has all rights to manage the server;
- **operator** — plans and conducts conferences, creates user accounts. Does not have access to server settings and user roles.

To configure roles, go to **Administration** →**Roles**. When you select a role, you will see a card with basic information about it:

- role name;
- role description;
- the list of users assigned to it.



16.1.1. Adding a new user

> *i* To assign a user to a role, first add them to the directory.

To add a user:

1. Select a role.
2. Press the **Add** button.
3. In the list, select users and press the **Add** button.

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