DCN multimedia

Conference System

BOSCH

en Software Manual (PC configuration)

Table of contents

1 Safety

Prior to installing or operating products, always read the Important Safety Instructions which are available as a separate multilingual document: Important Safety Instructions (Safety_ML). These instructions are supplied together with all equipment that can be connected to the mains supply.

Safety precautions

Some products of the DCN multimedia product range are designed to be connected to the public mains network.

To avoid any risk of electric shock, all interventions must be carried out with disconnected mains supply.

Interventions with the equipment switched on are authorized only when it is impossible to switch the equipment off. The operation must only be performed by qualified personnel.

2   About this manual

The purpose of this manual is to provide information required for configuration of the DCN multimedia conference system. This manual describes no hardware installation and user operating instructions. If required, refer to the DCN multimedia hardware installation manual and DCN multimedia user operation manual.

This manual is available as a digital document in the Adobe Portable Document Format (PDF). Refer to the product related information on: www.boschsecurity.com.

2.1   Intended audience

This manual is intended for **technicians and system integrators** of a DCN multimedia conference system.

2.2   Copyright and disclaimer

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2.3   Document history

Release date	Documentation version	Reason
2013.08	V1.0	1st edition.

3   System Overview

The DCN multimedia system is an IP based conference system which runs on an OMNEO compatible Ethernet network. It is used for distributing and processing audio, video and data signals.
Refer to the latest "Release notes" for important information.

It is advisable to participate in the DCN multimedia conference system training before you install, prepare, configure and operate a DCN multimedia system.
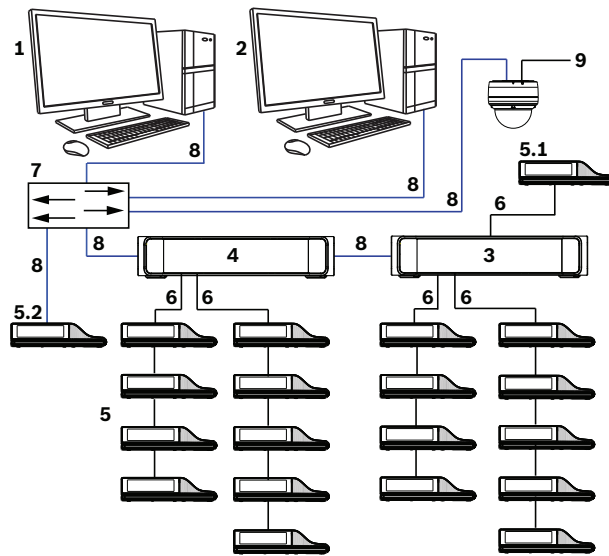

Figure 3.1: Typical DCN multimedia system overview

A typical DCN multimedia conference system consists of:
1.   System server controller (PC):
     –   The heart of the system. It licenses functionality, configures and controls the system.
2.   Client PC (optional):
     –   Can be used to: Manage meetings, prepare meetings and configure the system.
3.   Audio Powering Switch (DCNM-APS):
     –   Controls the system audio, routes audio from and to the system and supplies power to the devices.
4.   Powering Switch (DCNM-PS):
     –   Is used to increase the number of devices connected to the system.
5.   Conference multimedia devices (DCNM-MMD):
     –   Participants can use the multimedia device to make their contributions to a meeting.
     –   **5.1** is a DCNM-MMD used for "system power on/off". This DCNM-MMD is always connected to the powered socket of the DCNM-APS or DCNM-PS.
     –   **5.2** is a DCNM-MMD used via "Power over Ethernet" (PoE) Ethernet switch.
6.   System Network Cable (DCNM-CBxxx):
     –   Connects DCN multimedia devices, audio powering switch and powering switch with each other.
7.   Ethernet switch:
     –   Ethernet switch with PoE on some ports. Routes the system data via Ethernet.
8.   CAT-5e Ethernet cable (minimum requirement).
9.   Optional HD Conference Dome (VCD-811-IWT) + external power supply:

    –   Captures the image of a participant speaking.

DCN multimedia software suite

The DCN multimedia conference system software is used:
- To control and monitor a DCN multimedia conference system.
- To control a meeting, which is held in a room.

Each meeting consists of an agenda with several topics, and each topic has a discussion.

The DCN multimedia software suite consists of two major parts:
1. The **DCN multimedia software server.**
2. The **Meeting application**.

DCN multimedia software server

The DCN multimedia software server is a set of windows services. The services do not have a user interface and are run in the background to control and monitor all of the DCN multimedia devices and client PCs running the Meeting application. The software server also includes a license activation module. This module is required for activating the license of the complete DCN multimedia conference system.

DCN multimedia Meeting application

The DCN multimedia Meeting application acts as a PC user interface for configuring the system and preparing and managing meetings.

The PC running the services acts as a server for controlling the system and requires no user interaction in an operational DCN multimedia conference system. Basic functions for managing a meeting are available in the DCN multimedia device. Optionally, the Meeting application can be installed on the server PC to control and monitor the meeting. If required, the Meeting application can be installed on a client PC instead. This means that the server PC can be installed in a 19" rack instead, which is normally located in a technical room. It is possible to have multi PCs running the Meeting application simultaneously.

The system audio is controlled by the DCN multimedia Audio Powering Switch (DCNM-APS). This means that the system will not have audio when a DCNM-APS is not present.

3.1   Hardware requirements

DCN multimedia requires:

Single PC system running server software and meeting application:	– Windows 7 home premium 64 bits: – Processor 4 cores 2.4 GHZ. – 8 GByte RAM. – 500 GB free disk space. – 1 GB Ethernet card.
PC running the server software in a multi-PC system:	– Windows 7 professional 64 bits: – Processor 4 cores, 2.4 GHZ. – 8 GByte RAM. – 500 GB free disk space. – 1 GB Ethernet card.
PC running the meeting application only:	– Windows 7 home premium 64 bits: – Processor 4 cores, 2.4 GHZ. – 8 GByte RAM. – 500 GB free disk space. – 1 GB Ethernet card.

Switches

The following minimal requirements apply to switches:

– 1 Gbit or higher with hardware switching capabilities.
– Quality of Service through differentiated services with 4 or more output queues and strict priority packet scheduling.
– (Optional) IGMPv3 or IGMPv2 snooping. To optimize bandwidth usage, IGMP snooping can be used. This is useful in systems with >10 multicast channels, although not absolutely required. Sufficient performance for handling a large number of IGMP query responses, depending on the number of (directly or indirectly) connected devices to that switch. Hardware support for IGMP is strongly recommended.
– (Optional) (Rapid) Spanning Tree support in case redundant networks are used.
– (Optional) SNMPv3 support for switch supervision purposes.

The following table shows recommended switches to use with OMNEO. These managed switches may offer support for the optional requirements as stated above.

Managed switches	IGMP Snooping	RSTP (Y/N)	SNMPv3 (Y/N)
HP Networking E2520 series	v1, v2, v3	Y	Y
HP Networking V1900 series	Y[2]	Y	Y
HP Networking V1910 series	Y3	Y	Y
Netgear GS108T / Netgear GS108Tv2	v1, v2	Y	Y
Cisco SG 300 series	v1, v2, v3	Y	Y

Managed switches	IGMP Snooping	RSTP (Y/N)	SNMPv3 (Y/N)
Cisco SG 200 series	v1, v2	Y	N
Cisco ESW 500 series	v1, v2	Y	Y
Cisco SLM2000 series	v1, v2	N	N
D-Link DGS 1210 series	v1, v2	Y	Y

The price range for these switches varies depending on the number of ports the switch may have. More expensive switches are also available, but have not been taken into consideration.

Routers
The following minimal requirements apply to routers:
– 1 Gbit or higher Ethernet ports.
– Supports PIM-DM or Bidirectional PIM.
– Performs IP routing in hardware (i.e. a 'layer 3 switch') to minimize the routing delay.
– Packet forwarding rate > 1,000,000 packets per second per port (e.g. 8 Mpps for an 8-port router).
– Non-blocking backplane per switching port, i.e. 2 Gbit per port (e.g. 16 Gbps for an 8-port router).
– MAC address table of at least 1000 addresses per directly connected subnet.

The following table contains routers or router families (all of which are actually 'layer 3 switches') that are recommended to be used in OMNEO systems:

Layer 3 switches (or switch series)	Remarks
Cisco 3560-X series	Requires IP services feature set
HP 3500 yl series	Requires Premium License
HP 3800 series	-
HP 4800 series	-
HP 5500-EI series	-
Netgear GSM7328S-200	-
Netgear GSM7352S-200	-

3.2   Network requirements

If the DCN multimedia conference system is being used as a standalone system, it uses the so-called dynamic link-local addresses. This means that the TCP/IPv4 setting of the server PC and client PCs needs to be set to "Obtain an IP address automatically". Normally, these settings are default and therefore do not require PC network configuration settings.

In case more functionally is required, for example internet access, the dynamic link-local addresses cannot be used. In this case the DCN multimedia devices and PCs need to be connected to a DHCP server and gateway to provide internet access. Please consult your local IT department for how to set up the network, in case the DCN multimedia system will become part of a locally present network.

i	**Notice!** How to set up an Ethernet network is not described in this manual.

3.3   Software requirements

DCN multimedia requires Windows 7 Home Premium 64 bit or better with the latest service packs and updates installed.

3.4   License requirements

Before the DCN multimedia software can be used, it needs to be purchased. Please consult the DCN multimedia datasheets on www.boschsecurity.com for the available software modules.

i	**Notice!** DCN multimedia System Server Software (DCNM-LSYS) is always required.

4   Software installation and device download

Before the DCN multimedia conference system can be used, it needs to be configured. Configuration of the system is done in the following order:

- **Network installation:**
  - This is not part of one of our Bosch Security Systems B.V. manuals, and needs to be defined together with your local IT department. Refer to *Hardware requirements, page 8* and *Network requirements, page 10*.
- **Installation of hardware devices:**
  - This is not part of this manual. Refer to the DCN multimedia hardware installation manual. Refer to the product related information on www.boschsecurity.com.
- **Installation of software:** *Installing the DCN multimedia software suite, page 11*.
- **Activate the system and application software by registering the software:** *Activation tool, page 12*.
- **Update device (firmware) software:** *Download software to the devices, page 11*.
- **Configuration of system and application software:** *Meeting application, page 13*.

4.1   Installing the DCN multimedia software suite

Follow the installation instructions on the DVD (supplied with the DCNM-APS), or the instructions in the downloaded files from the internet www.boschsecurity.com.

> **i**
>
> **Notice!**
> Before installing, make sure the PC has only one enabled network interface (Blue Tooth is also considered to be a network interface).

Refer to the product related information on: www.boschsecurity.com.

4.2   Download software to the devices

All devices are delivered with diagnostics software and need to be downloaded before they can be used.
Be sure that all devices are correctly connected to the network and fully started:

1. From the **Windows start menu**, start the **firmware upload tool** in the **Programs** > **Bosch** > **OMNEO** > **firmware upload tool** folder.
2. Consult the **online help**, of the **firmware upload tool**, for more information.

5   Software server

5.1   Activation tool

Before the system software can run it needs to be activated. To activate software you need to have an activation ID which was send by e-mail after purchasing the software.
Activation requires an USB key and any PC connected to the internet.

To start the Activation tool:
1. From the **Windows Start menu** select: **Programs** > **Bosch** > **DCN multimedia** > **Activation tool**.
2. Click the **Add fulfillment** button.
3. Enter all required information including the activation ID and click **Activate**.
   – A **save as** dialog is shown. Save the **Request file** to the **USB-stick**.
4. Go to the website https://license.boschsecurity.com, take the USB stick and upload the **Request file**. After uploading the **Request file**, save the **Response file** to the USB stick.
5. Take the USB to the DCN multimedia activation tool and click **Process response message**.
6. Upload the **Response file**.
   – Now the system is activated.

5.2   Server console

To see the status of the DCN multimedia server a console application is present. The **DCN multimedia Server console** is located in the notify area of the server PC.
– To **stop** and **start** the services, right mouse click the **DCN multimedia Server console**.

DCN multimedia Server console state

State	Description
⊕	Running.
⊕	Stopped.
⊕	Warning.

6   Meeting application

The meeting application is used to manage meetings, prepare meetings and configure the DCN multimedia system.

To start the Meeting application:
From the **Windows Start menu**, select: **Programs** > **Bosch > DCN multimedia** > **Meeting application**.
When the application starts, a Login dialog is shown. This dialog is used to login to the applications by using a **User name** and **Password**. The user can also select the preferred application **language**.
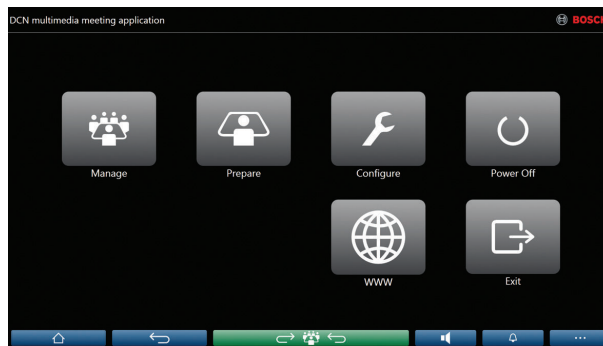
Figure 6.1: Meeting application main screen

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i	**Notice!** The default **User name** is "**admin**" and the **password** is empty. The default **language** is the language of the operating system; if the default language is not available, English is automatically selected.

The meeting application consists of three major parts (only available with the correct license):
1. *Manage, page 15*: To manage the meeting.
2. *Prepare, page 18*: To prepare the meeting.
3. *Configure, page 21*: To configure the system.

6.1 User rights and meeting rights

To use functions, certain rights are needed. DCN multimedia knows two types of rights:

1. **User rights**
   – User rights are defined in *User groups, page 21*.
2. **Meeting rights**
   – Meeting rights are defined **per seat** and **per participant** in a meeting.
   – Refer to *Seat assignment, page 22*.
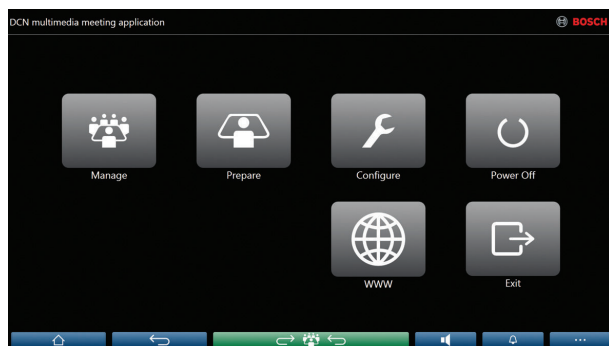   – Refer to *Participants, page 19*.

Figure 6.2: Meeting application main screen

(Touch) button	Description	User rights	Meeting rights
Manage	To manage meetings.		Manage meeting.
Prepare	To prepare meetings.	Prepare meeting and agenda.	
Configure	Configure the system.	Configure system.	
Power	Sets the system to standby or wakes-up the system.		Device right: Power off.
WWW	Opens a web browser.		
Exit	Exits the application.		
Home	Returns to the home screen of the meeting application.		
Back	Goes one page back from the navigation history.		
Back to active	Brings you to the active part of the meeting.		
Volume	Opens the master volume control slider.		Device right: volume control.
Summon	Activates a chime to summon the participants.		Manage meeting.
Menu (...)	Opens a menu for additional functionality.		Manage meeting.

See also
– *Manage, page 15*
– *Prepare, page 18*
– *Configure, page 21*

6.2   Manage

Manage is used to manage a meeting.

To start manage on the main screen, click **Manage.** This opens the **Manage** screen.

Initially the manage screen shows the prepared meetings. When there are no meetings prepared, the list is empty. This means that the default meeting is active and a default discussion is open. To access this default discussion, click the green **back to active** button. Refer to *Discussion, page 16* on how to manage a discussion.

Manage meeting means:
– **Activate** a meeting. The meeting status becomes "active".
– **Open** a meeting. The meeting starts.
– **Manage** the meeting agenda.
– **Manage** the discussion.
– **Manage** the menu.

Preconditions
– The seat to which the PC running the meeting application must have the meeting right: **Manage meeting**.

6.2.1   Meeting

Only a prepared meeting can be managed. To manage a meeting, click the **Manage** button from the main screen: A list of all prepared meetings is shown. The icon in the list, which is placed before the meeting name, shows the meeting status:
– **Green**: The meeting is activated.
– **Red**: The meeting is opened.
– **Gray**: The meeting is deactivated.

Activate the meeting

To activate the meeting, press the **Activate** button next to the meeting that needs to be activated; to show the meeting content without activating or deactivating the meeting, click the triangle.

When the meeting is activated, all prepared data of the meeting is sent throughout the system. The data contains names and meeting rights of the participants and the assigned seats. The name of the activated meeting is shown in the header of the meeting application.

When the **Activate** button is not shown:
– The seat to which the PC is assigned to, does not have manage meeting rights or,
– The user name used to logon to the meeting application is not assigned to the meeting and/or, does not have the "**manage meeting**" right.

When the meeting is activated, the meeting details screen is opened. On the left, the agenda and the assigned participants are shown. On the right, the meeting details and the agenda are shown. If the **Auto Open** function is enabled, the meeting is automatically opened.

Open the meeting

Click the open button to start the meeting. If the **Auto Start** option is enabled, the first agenda topic is automatically opened.

Close the meeting
To close the meeting, select the meeting on the left, and then click **close** on the right. The meeting is closed and the meeting list is shown where the meeting can be deactivated.

6.2.2 Agenda

Only a prepared agenda can be managed. To manage an agenda:
– **Open the meeting first:**
    – When the meeting is open, the required agenda topic can be selected from the left or from the right.
    – When the agenda topic is opened, the prepared discussion settings and prepared speaker list are sent throughout the system and are activated.
    – The open agenda is shown in the header of the meeting application.
– **To continue with the next agenda topic**: Close the current topic and open the next one, or directly open the next one, the current topic will be closed automatically.

6.2.3 Discussion

To manage the discussion, click the **back to active** button.
The list on the left shows the discussion list. This list contains **speaking** and **waiting** participants.
– A **red** icon means: The participant is speaking.
– A **grey** icon means: The participant's microphone is muted.
– A **green** icon means: The participant is waiting to speak.
Use the shift button, show on the bottom of the discussion list, to shift participants from **waiting** to **speaking**. If the speaker list is full the longest speaking participant is removed from the speaker list.

Context menu
The discussion list has a context menu to manage the discussion. Right mouse click the discussion list shows the context menu.

The context menu contains the following options:
– When not clicked on an **item**:
    – **Cancel all**: Stops all speakers and removes all waiting participants from the list.
    – **Cancel all request**: Removes all waiting participants from the list.
    – **Add**: Opens a menu to add a participant to the list, as a speaker or as a waiting participant. Right mouse click the required participant, to add the participant and select **grant the floor** or **add to waiting list**. Depending on the **number of open microphones** and **microphone mode** setting, it can happen that a participant added to the waiting list is immediately shifted to the speaker list.
– When click on a **speaking participant** gives an additional option:
    – **Stop speaking**: Stops the selected participant to speak. Depending on the number of open microphones and microphone mode setting is can happen that the first waiting participant is immediately shifted to the speaker list.
– When click on a **waiting participant** gives additional options:
    – **Shift**: Shifts the selected participant from waiting to speaking.
    – **Remove**: Removes the selected waiting participant from the list.

6.2.4   Menu

For more managing options, click the menu (**...**) button. If the menu button is not shown, manage meeting right is missing.

The menu contains the following options:
– **Presentation**: Click the presentation icon, and then slide to "on" to enable the presentation mode. Slide to "off" to disable the presentation mode.
  – The system license must contain DCNM-LMS. Please consult the addendum section on the DVD, which comes with the DCNM-APS, how to configure the **Presentation** function.
– **Discussion settings**: Click the discussion settings icon, to "open" the discussion setting of the current activated discussion.
  – Changed settings will not be stored in the prepared discussion settings of the agenda.
  – The system license must contain DCNM-LMPM.
– **Pan and tilt camera control**: Click the pan and tilt camera control icon, and then slide to "on" to show the Pan and tilt camera control. Slide to "off" to hide.
  – The icon is only visible during an active meeting.
  – The system license must contain DCNM-LCC.

6.3 Prepare

The meeting administrator should use a PC to prepare a meeting. To prepare a meeting, click **Prepare**. This opens the **Prepare** screen.

Prepare meeting means:
– **Administrate Persons**.
– **Add meetings**.
– **Add Persons** to the meeting.

Preconditions
– The logged on user must have user right: **Prepare meeting and agenda**.

6.3.1 Persons

To add **Persons**, which can be assigned to a meeting later, click **Persons** in the tree (here the **Persons** are listed).
To add or remove **Persons**, use the **edit icons**.
For each **Person**, **General** and **Security** fields can be entered: **General** fields are for example: name, title country. **Security** fields are used for enabling logon in the **Meeting application**.

6.3.2 Discussion templates

The Discussion templates are used to define the discussion settings. These templates are used during the preparation of the agenda topics.
Use the **edit icons** to add or remove discussion templates.

The following can be set:
– **Template Name**: The name of the template.
– **Mode**:
  – **Open**: When selected, participants can control their own microphone. If the speakers list is full, a microphone request is queued in the request list. **Auto Shift**: When selected, queues in the request list are automatically shifted to the speaker list.
  – **Override**: When selected, participants can control their own microphone. If the speakers list is full, a microphone request overrides the longest speaker.
– **Microphone Options**:
  – **Auto microphone off after inactivity of 30 sec**.: This function can be used when participants forget to switch-off the microphone manually.
  – **Allow microphone off**: When selected, participants are allowed to switch off their microphone.
  – **Maximum number of open microphones**: The maximum number of open microphones in the speakers list can be pre-selected (max. 25).
– **Priority:**
  – **Priority tone**: When selected, a priority tone is audible when priority is used.
  – **Mute all speakers**: When selected, it mutes all speakers temporarily when priority is used.
  – **Cancel all speakers and waiters**: When selected, it cancels all speakers and requests when the priority is used.
– **Request to Speak Options:**
  – **Show first in request to speak list on seat**.
  – **Show waiting in request to speak list on seat.**
– **Request List:**

- **Maximum number of requests**: The maximum number of requests in the request list.
- **Allow request to speak**: When selected, request-to-speak is allowed.
- **Allow cancel request**: When selected, participants are allowed to cancel their request-to-speak.
- **Speaker viewing options**:
  - **Show speaker**: When selected, the camera image of the participant is shown.
  - **Show latest speaker**: When selected, the camera image of the latest speaker is shown.

6.3.3 Meetings

To prepare a meeting:

1. To add or remove a meeting, use the **edit icons**.
   When a new meeting is added, the **Meeting details** can be entered.
2. To prepare **Participants** and **Agenda**, select the new meeting in the tree:
   Meeting details, page 19
   Participants, page 19
   Agenda, page 20

6.3.4 Meeting details

- **Title**: Type the name of the meeting.
- **Description**: Enter a suitable description.
- **Start/End Date and Time**: Select the required meeting date and time.
- **URL**: Is used to define a website hyperlink, which can be used from the Multimedia device.
- **Auto Open**: When selected, automatically opens the meeting once the meeting is activated.
- **Auto Start**: When selected, automatically starts the agenda when the meeting is opened.
- **Free seat**: When checked, automatically activates the discussion for unoccupied seats.

6.3.5 Participants

Persons, page 18 can be assigned to a Meeting. As soon as a Person is assigned to the Meeting the Person becomes a **Participant**.

The following rights can be assigned to the **Participants**:

- **Discuss**: The Participant is allowed to discuss.
- **Manage meeting**: The Participant is allowed to manage the meeting.
- **Priority**: The Participant is able to use the priority button.
- **Vip type**: The Participant has additional microphone authorizations, independent of the microphone mode and numbers of open microphones.
  - **Button Operated**: Pressing the buttons once activates the microphone. This is the default setting for a chairperson.
  - **Ptt Operated**: Push-to-talk. Press and hold to activate the microphone. This setting is default used as an interruption microphone.
- **Seat name:** Select the seat name to which the participant is assigned to.
- **Screen Line:** Displays the text/name which will be visible.

Button	Description
Add	Used to add Persons.
Remove	Removes the selected participant from the list.

Table 6.1: Button fuction

6.3.6   Agenda

An agenda, which is part of every meeting, can have several topics or more.

1.   To add or remove a topic, use the **edit icons.**
     Use the **arrow buttons** to change the order of the topics.
2.   To prepare a topic, select the new topic in the tree, and enter the required information:
     Topic details, page 20
     Participant List, page 20
     Speaker waiting list, page 20

See also
–   *Discussion templates, page 18*

6.3.7   Topic details

The following information can be defined for the agenda topic:
–   **Subject**: Free description.
–   **Description**: Free description.
–   **URL**: Is used to define a website hyperlink, which can be used from the Multimedia device.
–   **Discussion settings**:
    –   Select the required template from the dropdown list.
    –   Click the text in the dropdown list. The discussion setting of the agenda topic will open. Make your settings, and optionally save them as a new template.
    –   See also: *Discussion templates, page 18*.

> **i**   **Notice!**
> As the discussion settings are defined in a template, a local copy of the discussion settings are made and stored in the agenda topic. This means, that after a template has been selected in an agenda topic, the discussion settings of an agenda topic are not updated when a template is changed.

6.3.8   Participant List

All Participants that are assigned to the meeting can be selected and added to the **Speaker waiting list**.
–   Use the **Add** or **Remove** button to add or remove selected **Participants**.
–   The **Filter by** text box can be used to narrow the search, for example **Participant** names.

6.3.9   Speaker waiting list

The **Speaker waiting list** is used to set up the sequence of the **Participants** who are planned to speak during the agenda topic.
–   Use the **arrow buttons** to change the order.

6.4   Configure

Configure is used to set up and configure the system.

To start configuration on the main screen, click **Configure**. This opens the **Configure** screen.

Configure means:
–   Add **User groups**.
–   Add/modify/delete **Users** information.
–   Define **Rooms**.

Preconditions
–   The user logged on needs to have the user right: **Configure system**.

6.4.1   User groups

User groups can only be defined by an administrator. Different type of **User groups** can be created by defining privileges for each user group. Examples of **User groups** might be; secretary, operators, etc.

–   To add, remove or copy **User groups**, use the **edit icons**.

6.4.2   Users

To add **Users** that should logon to the system, click **Users** in the tree.

Here the **Users** are listed. To add or remove **Users**, use the edit icons.

For each **User**: **General** and **Security** fields can be entered:
–   **General** fields are for example, name, title, country.
–   **Security** fields are used to be able to logon in the Meeting application.

6.4.3   Rooms

Room contains all settings related to the room.

To change the room details, user right: **Configure system**, is needed.

Room details
–   **Automatic seat assignment**: When selected, a new device connected to the system will automatically be assigned to a seat.
–   **Default participants device GUI language**: Selects the required GUI language of all Multimedia devices.
–   **Definition**: Here the screen line is defined.
–   **HTTP Proxy devices**:
     –   **Proxy address**: Address (IP address or host name) of the host running the proxy server.
     –   **Proxy port**: Port number of the host running the proxy server. This is the port at which the proxy server will listen to clients.
     –   **Exclusion list**: List of hosts which should not be connected through the proxy servers (hosts on the local network). This list can contain multiple entries separated with ";".

Audio Settings
– **Audio tones**: Here custom chimes can be uploaded to the system. Audio file specification:
  – PCM format.
  – 16 bits per sample.
  – 48 k sample rate.
  – Mono.
  – Max 700 kb file size.
– **System**
  – **Master volume**: Master volume to control the devices loudspeakers and the sound reinforcement output.
  – **LSP**: Sets the volume for the device loudspeakers.
  – **SR**: Sets the volume for the sound reinforcement output.
  – **Change EQ**: Sets the equalizer for both the devices loudspeaker and the sound reinforcement output.
– **Line Input / Output:** Sets the sensitivity of the analogue audio input and audio outputs.
– **I/O 2 Mode**: Defines the mode of input / output 2.
– **Acoustic Feedback Suppression**: Enables the AFS, when selected.
– **Test Tone**: To test the audio in the system.

Camera Settings (Only if DCNM-LCC is installed.)
– **Overview**: Defines the camera used as the overview camera.
– **Prepositions**: Defines the pre-position used for the overview. This field is hidden, when the "camera selected for overview" does not support pre-positions.

Notice!

Ensure that the Bosch Onvif Camera has firmware 5.80 or higher, with the flowing settings:

- H.264.

- 720p25 or 720p30.

- Target bit-rate 2Mbit/s.

- Maximum bit-rate 2.5Mbit/s.

- GOP length 15 (also known as I-Frame distance).

- No B-frames, I and P frames only.

Devices
This displays an overview of the connected devices:
– **Has Power Off** check-box: Allows the device to power off the system.
– **Has Volume Control** check-box: Allows the device to control the master volume.

Seat assignment
Here devices can be assigned to seats:
– **Configure mode** (select on device): When selected, a device can be located by selecting the select check box in either list. When the configure mode is active, devices cannot be used.
  – Rights can be set for seats; priority, manage, and discuss.
  – If DCNM-LCC is available, then the camera and pre-position of this camera can be assigned to the seats.

7   Troubleshooting

For troubleshooting, see the DCN multimedia hardware installation manual, section
"Installation Test".
Refer to the product related information on: www.boschsecurity.com.

7.1   Customer service

If a fault cannot be resolved, please contact your supplier or system integrator, or go directly
to your Bosch representative.