

Multi User Manager V2.0

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1 Security

Use latest software

Before operating the device for the first time, make sure that you install the latest applicable release of your software version. For consistent functionality, compatibility, performance, and security, regularly update the software throughout the operational life of the device. Follow the instructions in the product documentation regarding software updates.

The following links provide more information:

- General information: <https://www.boschsecurity.com/xc/en/support/product-security/>
- Security advisories, that is a list of identified vulnerabilities and proposed solutions: <https://www.boschsecurity.com/xc/en/support/product-security/security-advisories.html>

Bosch assumes no liability whatsoever for any damage caused by operating its products with outdated software components.

2 Introduction

2.1 Applicable products

This document is applicable to these products:

- Multi User Manager by Bosch

2.2 About Multi User Manager

Multi User Manager is a browser-based application that operates in tandem with Bosch access control systems and Bosch intrusion panels. It provides management functionalities, including the administration of MAP 5000 and their users, such as:

- Creating, deleting and editing users; exporting and importing users in communication with the main access control system.
- Creating and importing MAP 5000 panels, organizing them according to a criterion.

For more information, refer to Multi User Manager datasheet.

The user interface is customizable, and any user may change its language on-the-fly without logging out. This version of the Multi User Manager interface is available in English, German, Dutch and Polish.

This version of the Multi User Manager is restricted to users of MAP 5000 panels.

2.3 Intended audiences

- Installers, intrusion panels integrators and Multi User Manager administrators.
- The main Multi User Manager user types.

2.4 Multi User Manager users and use cases overview

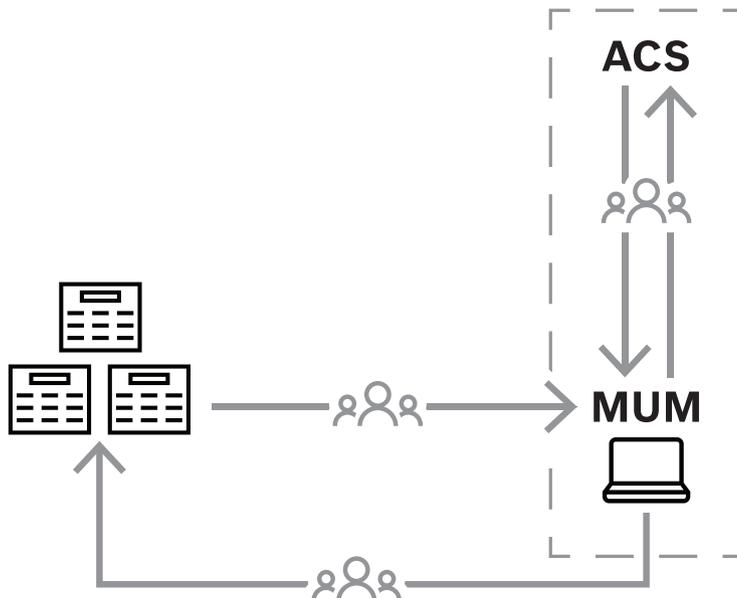
The primary users and their use cases are:

User type	Use cases
Administrator	Creating and deleting users Creating, deleting, and importing panels Importing panel as reference panel Making global settings (system configuration) Managing synchronization of panels Manage Backup and Restore configuration Initiate an On-Demand backup Restore from a backup file
Operator	Creating and deleting users Creating and deleting panels Managing synchronization of panels Managing panel groups
Control Room	Verifying synchronization status Managing synchronization of panels

3 System overview

Multi User Manager allows the communication of several components interacting with each other. To set up a complete system, the following components are required:

- Access Management System V5.5
- MAP 5000 intrusion panels with the latest firmware.



Communication between Multi User Manager, Access Control System and panel devices.

The following table describes the key concepts used in Multi User Manager

Reference panel	Panel which provides the existing MAP 5000 data. Responsible for importing into Multi User Manager the following data: <ul style="list-style-type: none"> - MAP 5000 Access Profiles and SmartKey Profiles. - Multi User ranges. - Multi Panel users (optional).
Local panel user	User ID is unique only in one panel.
Multi panel user	User ID is unique across multiple panels.
Panel group	Set of panels organized according to a criterion, for example, location.
MUM ranges	One or multiple intervals of IDs reserved for Multi Panel users. The smallest interval being comprised of only 1 ID, and the largest 993 IDs.

4 Installing and uninstalling

4.1 Software prerequisites

Multi User Manager should be installed on the same computer as the ACS. The access control system (ACS) should be the primary software, installed prior to Multi User Manager. Currently, this version of Multi User Manager is compatible to Access Management System 5.5

The Multi User Manager setup program has its own installation media, separate from the ACS. They are downloadable from Bosch online product catalogs.



Notice!

Necessity of a stable root certificate

Before proceeding with the installations below, make sure that the installation of the ACS is complete and licensed, according to its own installation guide. This includes a final decision on the root certificate of the ACS server (whether self-signed or CA-based) and its stable implementation. Post-hoc changes to the root certificate of the ACS server would require reconfiguration of certificates on all computers and mobile-access readers participating in its access control system.

Server requirements

The server is the computer that runs the ACS and the Multi User Manager application.

Operating systems Installations on other operating systems may succeed, but are entirely without warranty.	<ul style="list-style-type: none"> – Windows 11 Professional and Enterprise 23H2 – Windows Server 2019 (Version 1809) (64bit, Standard, Datacenter); – Windows Server 2022 (64bit, Standard, Datacenter) – Windows 10 Professional and Enterprise 22H2 – Windows 10 21H2 LTSC – Ensure that the latest software updates are installed.
Database management systems	<ul style="list-style-type: none"> – SQL Server 2019 – Always use the same database instance as that of the ACS (the primary access control system)
Supported browsers	<ul style="list-style-type: none"> – Google Chrome, Mozilla Firefox, Microsoft Edge (Chromium based) – Use the most recent version of the browser for your Windows operating system.
Minimum monitor resolution (for using the application UI)	<ul style="list-style-type: none"> – Full HD 1920x1080
Minimum hardware requirements	<ul style="list-style-type: none"> – Intel i7 processor generation 10 – 16 GB RAM (32 GB recommended) – 250 GB of free hard disk space – Hard disk transfer rate 300 MB/s with < 10 ms average response time (SSD recommended) – Graphics adapter with <ul style="list-style-type: none"> – 256 MB RAM

- A resolution of 1280x1024 (Use the graphic resolution recommended for the client if you wish to run the Map View client on the AMS server).
- At least 32 k colors
- 1 Gbit/s Ethernet card
- A free USB port or network share for installation files

4.2 Hardware prerequisites

The full usage of the Multi User Manager requires as a prerequisite a configured panel, hereafter referred to as “reference panel”. For more information, refer to the *Configuration* chapter.

The following intrusion panels are supported:

- MAP 5000

4.3 Installing Multi User Manager

Introduction

Multi User Manager runs as a web application in tandem with a Bosch access control system (ACS). The following sections describe the installation of the of the service that powers this web application.

This version of Multi User Manager only supports local database.

Multi User Manager can be initiated by logging in with the **Administrator** profile created by default during AMS installation.

4.3.1 Installation procedure

Procedure

1. On the ACS server, run `Bosch.MultiUserManagement` as Administrator.
 - The installation program opens
2. On the **Core components** screen, select `Bosch Multi User Management.exe` and click **Next**
3. Read carefully and click **Accept** if you wish to accept the End User License Agreement (EULA). The installation can only proceed if you do this.
4. Browse and select a destination folder for the installation, or accept the default (recommended), click **Next**
5. On the **SQL Server** screen:
 - The setup program finds local database and preselects it using the same SQL instance as the primary access control system.
 - Enter SQL user name for an admin user (default is `sa`)
 - Enter SQL password for an admin user. The password should be the same previously used with the primary access control system setup (AMS).
 - Click **Test Connection**
 - Click **Next**
6. On the **Identity server configuration** screen
 - The default identity server (preselected) is the primary ACS server with port 44333
`https://<NameOfACSserver>:44333`
 - Click **Test Connection**
 - If the test fails, re-check the availability of the Identity server.
 - Click **Next**
 - On the **Core Components** screen, confirm that Bosch Multi User Manager is selected and click **Install**
 - After installation complete, click **Finish**

4.4 Uninstalling the software

To uninstall the software from the server:

1. With Windows administrator rights, start the Windows program **Add or remove programs**.

2. Select the program and click **Uninstall**.
3. Select whether you want to remove the Multi User Manager database as well as the program.
4. Select whether you want to remove the log files.
5. Complete the uninstallation in the usual way.
6. (Recommended) Reboot the computer to ensure complete modification of the Windows registry.

5 Preparations

5.1 Preparing the Reference panel

The **Reference panel** has three functions:

1. Import the **Access-Profiles** and **Smartkey-Profiles** into MUM. These profiles must be available (preconfigured) on all panels administrated by MUM. Note that only names of the profiles will be imported to MUM.



Notice!

It is not possible to add **Access-Profiles** and **Smart-Key Profiles** into MUM after the import of the **Reference panel**

2. Import the initial **User ranges** into MUM.
3. Import initial **Multi panel users** into MUM.

This function is optional. The users on the **Reference panel** where its IDs are within the configured **User range** will be imported to MUM as the first **Multi panel users**. These **Multi panel users** are assigned to the **Reference panel**.

Note:

- These ranges can be adjusted in MUM after the import of the **Reference panel**.
- After importing the panel as **Reference panel**, it has no special function anymore. From MUM perspective, it will behave as all other panels.

5.1.1 Configuring the user ranges

Use **RPS** to configure the ranges:

1. Connect to the panel.
2. Load the configuration into **RPS**.
3. Go to the **User Manager** section
4. Select **User Group** folder
5. Create new **User Group(s)**
6. **Send** the configuration back to the panel

Note: The range includes the start and the end number.

5.1.2 Checking the profiles

Use **RPS** to check the profiles:

1. Connect to the panel.
2. Load the configuration to **RPS**.
3. Go to the **User Manager** section.
4. Select the **Access-Profiles** folder. In this folder, check the profiles: These profiles must also be available on all other panels that will be administrated later.
5. Select the **Smartkey-Profiles** folder. In this folder, check the profiles: These profiles must also be available on all other panels, which will be administrated later.

Note: The names of the profiles are important and should be chosen carefully as MUM will store the profiles naming but not the content.



Notice!

Adding profiles in the Reference panel

Do not forget to add a profile in the **Reference panel**, as it may not be corrected after the import

5.1.3 Checking the users

Use **RPS** to check the users

1. Connect to the panel.
2. Load the configuration to **RPS**.
3. Go to the **User Manager** section.
4. Select the Users folder. In this folder, check the **users**:
 - All users with ID within the configured **User range** will be imported as initial **Multi panel user**.
 - All users with ID out of the configured **User range** will be imported as initial **Local panel user**.

This function is optional since it is possible to import a **Reference panel** without initial users.

Note: At least one user must be defined as OII user. This credentials (OII User Name and OII Password) are needed to connect to MUM.

To create an OII user, proceed with the following:

Use **RPS** to configure an OII user:

1. Connect to the panel.
2. Load the configuration to **RPS**.
3. Go to the **User Manager** section.
4. Select the **Users** folder.
5. Create/select a **user**.
6. Activate the property **Enable as Open Interface User**.
7. Define values for **OII User Name** and **OII Password**.
8. **Send** the configuration back to the panel.

5.2 Preparing the panels

The preparation of the panels which will be added and administrated in MUM, is described in this section.

Note: It is not necessary to configure **User ranges** on these panels.

5.2.1 Checking the profiles

As previously done for the **Reference panel**, the profiles must be checked for the other panels as well. Refer to *Checking the profiles*, page 11.

Note: The profiles must be the same as configured in the **Reference panel**.

5.2.2 Checking the users

As previously done for the **Reference panel**, the users must be checked for the other panels. Note that at least one user must be defined as OII user. Refer to *Checking the users*, page 12.

Note:

- The users out of the **User range** will be imported to MUM as **Local panel users** when this panel is added to MUM.
- The users within the User range will be deleted when this panel is added to MUM.

Hint: When defining the **User ranges** on the **Reference panel**, select ranges which are not occupied by users on all panels.

5.2.3 Checking configuration

To allow the synchronization between MUM and panel when the panel is armed, proceed the following configuration:

Use **RPS** to check the configuration.

1. Connect to the panel
2. Load the configuration to **RPS**.
3. Go to the **Hardware Manager** section.
4. Select the **Behavior** section.
5. Activate the option **Allow sending user database if Armed**.
6. Send the configuration back to the panel.

5.3 Preparing AMS

5.3.1 Preparing profiles in the main access control system

Creating Persons in the main access control system

Every user of Multi User Manager must have a set of permissions that are configured by creating an account with specific rights in the main access control system. For more information, refer to Software manual of Access Management System.



Notice!

Choose profile names that clearly and accurately describe the profile's capabilities and limitations.

User profiles should be carefully configured, depending on the person's experience, security clearance and responsibilities.

The following procedures are done in the main access control system - Access Management System, and should be done previously to the operation of the Multi User Manager.

1. Log onto the main access control system with administrator privileges.
2. Create one or more persons for Multi User Manager

Dialog path:

- **Personnel data > Persons**

3. Click  to create a new person
4. Enter a name in the **Last Name** and **First Name** fields - mandatory
5. Choose a **Person class** (person type) - mandatory

6. Click  or **Apply** to save your changes

Creating User profile for Multi User Manager

Dialog path:

- **Configuration > Operators and Workstations > User profiles**

1. Click  to add the **Profile name**
2. Enter a profile description in the **Description** field (optional but recommended)
3. In the list pane, select the functions (first column) and the capabilities within that function (**Execute, Change, Add, Delete**) that are to be accessible to this profile. Double-click them to toggle their settings to **Yes**.
 - For creating an **Administrator**: Maps multi user management > Administrator > Yes
 - For creating an **Operator**: Maps multi user management > Operator > Yes

- For creating a **Control Room**: Maps multi user management > Control Room > Yes
- 4. Likewise ensure that all the functions that are not to be accessible are set to No.
- 5. Click  or **Apply** to save your changes

Assigning rights for User profile

Dialog path:

- **Configuration > Operators and workstations > User rights**
- 1. Write * in the **Last name** and click 
- 2. Search for the intended user into the dialog.
- 3. In the **User account** pane:
 - Write the **User name**
 - Create a password in **Change password > Ok**.
- 4. In the **User Profiles** pane:
 - The **Assigned Profiles** list contains all user profiles that have been assigned to this user.
 - The **Available Profiles** field contains all profiles that are available for assignment.
- 5. Click the arrow buttons between the lists to transfer selected profiles from one list to the other.
- 6. Click  to save.

5.3.2

Configuring workstations

Workstations are computers where the MUM user interface is running in the browser. The local host is already registered. To add further workstations, if necessary:

Dialog path:

- **Configuration > Device Data**
- 1.  to add the machine, save and close the device editor.
- In **Configuration > Operators and Workstations > Workstation rights**
- 1. Select the added workstation and assign a workstation rights with enabled MUM profiles.
- 2. Click  to save.

5.4

Configuring Multi User Manager

5.4.1

Configuring the sync interval

To proceed with the following configuration, the user must log on as an **Administrator**. MUM synchronizes user data between AMS, MUM and MAP 5000 panels. There is an on-demand synchronization and an automatic cyclical synchronization.

The waiting time from the end of a cyclical synchronization to the start of the next synchronization can be configured in MUM:

- In **System** page
 1. Click on **Settings** pane
 2. Select a new **Synchronization interval**
 3. **Save** the modification

5.4.2 Configuring the panel response time

To proceed with the following configuration, the user must log on as an **Administrator**. MUM is communicating with the registered panels during synchronization. To configure the timeout for a request:

- In **System** page
 1. Click on **Settings** pane
 2. Select a new **Panel response time**
 3. **Save** the modification

5.5 Importing the Reference panel

To proceed with the following procedure, the user must log on as an **Administrator** and all the steps described in *Preparing the Reference panel*, page 11 are prerequisites for the procedure described in this section.

After importing this panel as **Reference panel**, it has no special function anymore. From the Multi User Manager perspective, it behaves as all other panels added to MUM.



Notice!

The import of a **Reference panel** it is possible only once per installation. Adding profiles after the import, it is not possible

The synchronization will start after the **Reference panel** is imported successfully. The procedures must follow the order described this section:

A) Add the panel which is prepared to be the Reference panel to MUM

During the preparations, one panel is prepared as the **Reference panel**. In this first step, this panel must be added to MUM:

Dialog path:

- **Panel > Panel list**
 1. Click **+ Add panel**
 2. Enter all mandatory fields

Note: Username (ID) and Passcode are configured during preparation of the **Reference panel**.

1. To check the connection, click **Test connection to MAP5000**
2. Check the returned serial number to confirm the it is addressing the right device and **Save**

B) Check the user ranges and users on this panel

Dialog path:

- **System > Reference panel**
 1. Select the added panel which will be the **Reference panel** in the **Panel tree**
 - MUM will request the data from this panel.
- In **Panel details** area, the data will be presented:
 - All users within the **User ranges** will be listed. These users will be imported as initial **Multi panel users** after the import.
 - Clicking the filter icon shows the users on this panel out of the **User ranges**. These users will be imported as **Local panel users** after the import.
 - At the bottom of this area, the configured **User ranges** of this panel will be shown graphically.

Hovering on a range (blue area on the bar), displays the start and end user ID of the ranges.

C) Import this panel as Reference panel

If all checks were successful (ranges and users as expected), the selected panel can be imported.

Note that if the selected panel is not correct, the panel can be modified (Use **RPS** to correct the data on this panel) or another panel can be selected:

- Delete the panel on the **panel list** dialog
- Add the right panel using the **Add panel** option

Click the **import** option to initiate the import process.

After initiating the import, the following actions will happen:

- The **User ranges** configured on the **Reference panel** will be imported to MUM.
- The names of the **Access-Profiles** configured on the **Reference panel** will be imported to MUM. These profiles can now be selected when users are created in MUM.
- The names of the **Smartkey-Profiles** configured on the **Reference panel** will be imported to MUM. These profiles can now be selected when users are created in MUM.
- The cyclical synchronization is started.

After the first synchronization has finished:

- The users of the **Reference panel** with ID out of the **User range(s)** will be imported as **Local panel users** assigned to this panel.
- The users of the **Reference panel** with ID within the **User range(s)** will be imported as **Multi panel users** assigned to this panel.
- These users will be listed on the Users list page.

Note:

- The imported users can be modified or deleted.
- The panel imported as **Reference panel** can be deleted if wanted/necessary.
- The synchronization process does not break down when deleting the **Reference panel** because this device has no special function anymore.

Refer to

- *Preparing the Reference panel, page 11*

6 Operation

6.1 Logging into Multi User Manager

1. Through the browser, open `https://<hostname-or-IP-address-where-MUM-is-installed>:7001` for the login screen. Example: `https://my-desktop-pc:7001`
2. Enter the username of an account with the required rights for the role. Consult the system administrator if the creation of an account is required.
3. Enter the password.
4. Click **Login**

6.2 Adding panels

In this chapter, the functions and use cases are described after the **Reference panel** is imported and the synchronization process is running.



Notice!

The panels administrated by Multi User Manager, must be added to it before users can proceed with the operations procedures described in this chapter.

1. Log onto the Multi User Manager as an **Administrator** or **Operator**.

Dialog path:

- **Panels > Panel list**

1. Click + **Add panel**
2. Fill all the mandatory fields

Note: **Username (ID)** and **Passcode** are configured during preparation of the reference panel. (Define OII user on the panel using RPS).

1. Click on **Test connection to MAP5000**
2. When the connection is successful, check the **Product ID** to make sure the right device was addressed.
3. Click **Save**

Repeat the procedure above to add all the panels needed.

After the panel is added successfully in MUM, it is listed in the **Panel list** page.

The following synchronization tasks will be happening on the panel:

- The users of this panel with ID within the **User range(s)** will be deleted.
- The users of this panel with ID out of the **User range(s)** will be imported as **Local panel users** assigned to this panel.
- These users will be listed in the **Users list** page.
- The **User range** will be synchronized to the panel.

Note: During preparation, the panel should be equipped with the necessary **Smartkey-Profiles** and **Access Profiles**. It will not be checked by MUM during the adding panel process whether these profiles are available on this panel. If the profiles are not available, but selected by users, the synchronization of this panel will fail.

6.3 Deleting panels

To delete a panel in Multi User Manager, the user must have **Administrator** or **Operator** rights. To delete a panel:

Dialog path:

- **Panel > Panel list**
- 1. Click **delete panel**
- 2. Confirm the deletion

Deleting the panel in MUM triggers the following actions:

- The panel is not listed in the **Panel list** page anymore.
- All users assigned to the panel will lose their assignment to this panel.
- On the panel no changes are made by MUM. Therefore, all users are still available on the panel.
- The panel is removed from assigned panel groups.

Note: If the panel is added to MUM again, all users in the panel within the **User range** will be deleted and all users out of the **User range** will be imported as **Local panel users** - it is not important that these users are already registered in MUM.

6.4 Adding a Local panel user

Local panel users can be assigned to one panel only. To add a **Local panel user** in Multi User Manager, the log on must be with **Administrator** or **Operator** rights.

Dialog path:

- **Users > Users list**
- 1. Click on **+ Add user**
- A **User configuration** dialog will open
- 2. Select the option **Panel user**
- 3. Fill in all the mandatory information
- 4. Select a panel from **Available panels and panels groups**
- 5. Define **User ID** and **Passcode**

Note: The **User ID** can be defined manually or automatically.

- For defining the **User ID** automatically, click **Get user ID**. Then, the next free **User ID** out of the **User range** will be selected automatically.
- In case the **User ID** is inserted manually, the synchronization will fail if the **User ID** is in the configured User range because this range is reserved for **Multi panel user** only.
- In case the manually selected **User ID** is already occupied by another user in that panel, an error message will appear when trying to save the user.
- 1. Make sure you save by clicking on **Save**

After a new user is added, the user is listed on the **User list** page.

The user will be immediately created in the assigned panel.

Note:

- Local panel users can be deleted locally on the panel (using the keypad). The user will be deleted automatically in MUM during the next synchronization.
- When a new user is created directly on the panel (using the keypad), this user will be automatically created in MUM during the next synchronization task.
- If this user contains characters which are not MUM (AMS) compatible, such as “*”, the user will not be imported to MUM.
- A Local panel user cannot be changed into a Multi panel user later.
- The defined User ID cannot be changed later.
- The panel assignment cannot be changed later (Change assignment from panel A to panel B).

6.5 Adding a Multi panel user

Multi panel users can be assigned to one or more panels, and to one or many panel groups. To add a **Multi panel user** in Multi User Manager, the log on must be with **Administrator** or **Operator** rights.

Dialog path:

- **User > Users list**
- 1. Click on **+ Add user**
- A **User configuration** dialog will open
- 2. Select the option **Multi Panel user**
- 3. Fill in all the mandatory information. The mandatory information are identified with *
- 4. Select a group from **Available panels and panels groups** by clicking on 
- 5. Define **User ID** and **Passcode**

Note: The **User ID** can be defined manually or automatically.

- For defining the **User ID** automatically, click **Get User ID**. Then, the next free **User ID** within the **User range** will be selected automatically.
- In case the **User ID** is inserted manually, the synchronization will fail if the **User ID** is in the configured User range.
- In case the manually selected **User ID** is already occupied by another user in that panel, an error message will appear when trying to save the user.
- Make sure you save by clicking on **Save**

After a new user is added, the user is listed on the **User list** page.

Note:

- A **Multi panel user** cannot be changed into a **Local panel user** later.
- The defined **User ID** cannot be changed later.



Notice!

The Multi panel users are only created when the synchronization of the panel occurs.

6.6 Editing Multi panel user ranges

The multi panel user ranges define which user IDs can be assigned to multi panel users.

Dialog path:

- **System configuration > tab Multi panel user ranges**

Actions:

1. It is possible to either edit  an existing range, or delete  from the ranges list (**Range start/Range end**).
 - An **Edit** range wizard opens.
2. Set the **start** number and the **end** number > **Save**.

It is possible to add a range. In the same dialog:

1. Click on **+ Add range**
- An **Add range** wizard opens

2. Set the **start** number and the **end** number > **Save**

6.7 Editing users

The data of users can be modified in Multi User Manager. To edit the users dat, the log on must be with **Administrator** or **Operator** rights.

- In the **User list**



1. Select the icon
2. The **User configuration** dialog will open
3. Edit the desired information
4. Click **Save**.

Note:

- In case it is **Local panel user**, the modified data (first name, last name, etc.) will not be synchronized to the assigned panel.
- If user data is modified directly on the panel (using the keypad) it will not be synchronized to MUM.
- In case it is a **Multi panel user**, the modified data will be synchronized to the assigned panel(s) during the next synchronization.
- If the data of a **Multi panel user** is modified directly on the panel (using the keypad), the modification is undone automatically during the next synchronization.
- The **User ID** of a user cannot be modified.
- A **Local panel user** cannot be changed into a **Multi panel user**.
- A **Multi panel user** cannot be changed into a **Local panel user**.

Remarks regarding the Passcode:

- The statements above do not apply to changing the passcode.
- When the passcode is changed locally on the panel (using the keypad), the new passcode will be automatically synchronized to all other panels which are assigned to this user in MUM. It will be automatically done during the next synchronization



Notice!

Passcode changes

Avoid changing the passcode locally for one user on different panels within the same synchronization cycle.

6.8 Resetting password of users

The reset the password in Multi User Manager, the log on must be with **Administrator** or **Operator** rights.

Dialog path:

- **User > Users list**



1. Select the icon
- A **User edit** dialog will open
2. Click the **Reset passcode** option
- After confirming, the passcode on the panel will be immediately set to "000000".

Note:

- The passcode can be changed by user locally on the panel (Using the keypad).

- If it is a **Multi panel user**, the modified passcode will be synchronized to all other panels, this user is assigned to in MUM during the next synchronization.

6.9 Deleting users

To delete users in Multi User Manager, the log on must be with **Administrator** or **Operator** rights.

Dialog path:

- **User > Users list**

1. Select the user and under **Actions** click on 
 - A **Delete user** dialog will open
2. Click **Delete**
 - A **Success** message dialog will open
3. Click **Ok**

Note:

- In case of a **Multi panel user**, the user will automatically be deleted on all assigned panels during the next synchronization.
- In case of a **Local panel user**, the user will immediately be deleted on the assigned panel.
- If a user is deleted directly on the panel (using the keypad or RPS):
 - In case it is a **Multi panel user**, the user will be recreated automatically by MUM on the panel during the next synchronization.
 - In case it is a **Local panel user**, the user will be automatically deleted in MUM during the next synchronization.
- The credentials for communication between MUM and the panel are configured. During the preparation of the panel, one user is prepared as “OII-User”. If this user is deleted, the communication between MUM and the panel will break down. Refer to *Preparing the panels, page 12*.

6.10 Panel group

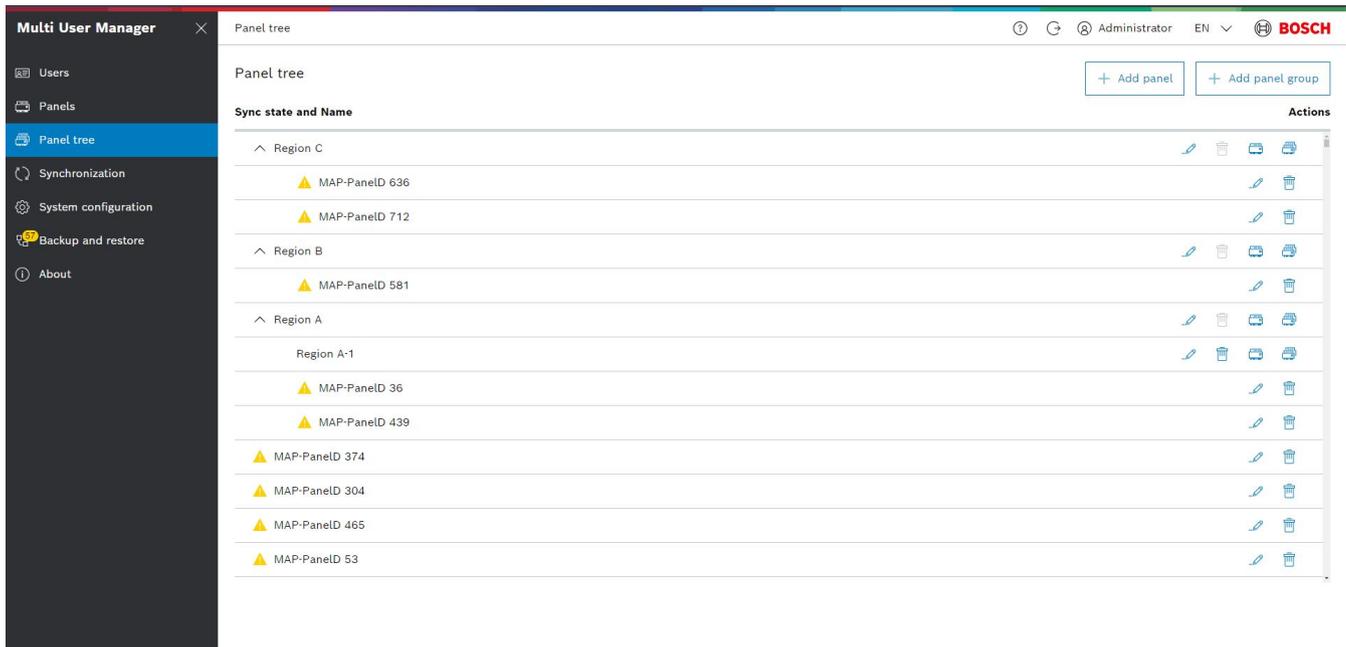
One or multiple panels can be assigned to panel groups. The purpose of panel groups is to have the ability to easily assign **Multi panel users** to several panels. To create panel groups in Multi User Manager, the log on must be with **Administrator** or **Operator** rights.

Use cases:

- There is a company with a lot of branches.
- Each branch has some panels.
- Some branches are in the same area (e.g. region of a country).
- There are employees who should have access to one specific panel.
- These users should be configured in MUM as **Local panel user**.
- There are other employees who should have access to all panels of one specific branch or several specific branches.
- There are other employees who should have access to all panels of one specific area/region or several specific areas/regions.
- There are employees who should have access to all panels of a specific area/region but also access to all panels of another branch which is in another region.

Using the group functionality in MUM it is possible to create a hierarchical group structure, which reflects the organizational or geographical structure of the company.

See the following image as an example of a use case using the **Panel tree**:



According to the image above, consider the following examples:

- Assigning a **Multi panel user** to panel group “Branch E” and “Branch H”, gives the user access to the panels 10, 11 and 15.
- Assigning a **Multi panel user** to panel group “Region Y”, gives the user access to the panels 10, 11, 12. 13. 14 and 15.

Creating a new panel group:

Dialog path:

- **Panel > Panel tree**



1. Click **Add panel group**
 - The **user edit** dialog will open
2. Enter the panel name.
3. Click **Save**
 - The new Panel group is visible on the **Panel tree** page as main group.
 - Use the add panel group icon of a specific group to assign or create a subgroup.
 - Use the add panel icon of a specific group to assign or create a panel which should be assigned to that group.

Note:

- It is possible to drag and drop groups or panels from one position in the tree structure to another position.
- It is impossible to delete a group assigned to sub-groups or panels.
- The changes will be synchronized to the panels during the next synchronization.

Use case example:

- There is a **panel group** assigned to ten panels and a second panel with 100 **Multi panel users** assigned.
 - Assigning the second panel as the parental group of the first group let MUM automatically create the 100 **Multi panel users** on all panels assigned to the first group during the next synchronization.

- If the assignment between these two groups is removed, the **Multi panel users** of the second group will be deleted on the panels during the next synchronization.

6.11 Synchronization

6.11.1 Synchronization component

The main function of Multi User Manager is to synchronize its user data with the panels, which happens automatically in the background.

There are two types of synchronization: automatic synchronization and on-demand synchronization.

Automatic synchronization

The automatic synchronization is initialized by importing the Reference Panel. The synchronization interval can be configured on the System configuration page:

- **System configuration > Additional settings > Synchronization interval**

The synchronization interval is the time between the end of one synchronization and beginning of another. This is not the total time of the synchronization component.

The default value for the synchronization interval is 1h.

Available values are: 5min, 10min, 15min, 30min, 1h, 2h, 6h, 12h or 24h.

The duration of the synchronization depends on the amount of data (Users, panels, ...) in the system.

On-demand synchronization

In the main menu:

- **Synchronization**

In the **Synchronization overview > Start synchronization**

- After the synchronization succeeds, it is possible to see the data imported from the panels.

Note: It is only possible to initiate an on-demand synchronization after the automatic synchronization that happens when importing the reference panel.

Aborting a synchronization

It is possible to interrupt a running synchronization manually:

- **Synchronization > Abort synchronization**

Note: A running synchronization will be interrupted when a backup or restore is initiated ("Backup and restore").

6.11.2 Synchronization overview

On the synchronization overview dialog you can check the status of the synchronization.

Last synchronization

During the synchronization cycle, all registered panels will be checked for data to synchronize. If needed, user data is synchronized between the Multi User Manager and the panels.

The **Success** information represents the number of panels in which the synchronization finished successfully (no errors).

The **Error** represents the number of panels in which errors occurred during the last synchronization round. One reason could be that the panel was not reachable. In order to see the error message, check the synchronization history of this panel.

The **Unsecure** represents the number of panels, which are identified as unsecure. This happens for example when a panel is replaced (same IP but changed hardware).

If the administrator considers the change detected as safe, the administrator can click on the secure icon to make the panel secure and it is saved in the database again.

If a panel is identified as “unsecure”, this panel is excluded from the synchronization until it is marked as “save” again.

Synchronization

In the **synchronization** wizard is possible to check the status of synchronization:

In case a synchronization is ongoing, an animated bar is displayed. Then, the user can start an on-demand synchronization.

Note that on-demand synchronization can be started when a synchronization has stopped and a “wait period” of 15 minutes has elapsed.

Last synchronization affected panels

In **Last synchronization affected panels** wizard all panels are listed.

The panels are listed as panel tree (with panel groups). In the first row, the synchronization status of the last synchronization round is displayed (**Success, Error, ...**).

In the last row **Actions**, the synchronization history can be opened for the panel. All synchronization tasks for the respective panel are listed. If case of an error during the synchronization, the error reason can be found in the history.

Note that the status of the last synchronization round of a panel is also displayed on the **Panels** page and the **Panel tree** page (row **Last sync** status). If no synchronization is running, this window section shows **A synchronization is stopped**.

7 Backup and Restore

The **Backup and Restore** function enables the user to save the data stored within Multi User Manager. These backups can be restored to the system.

Data covered by the backup:

- **Multi panel users** - all Multi-panel user data including its panel(s) and group assignments. Note that Local panel users data are not backed up.
- **Users** with no panel assignments.
- **Panels** - all panel data.
- Groups - all **panel/group tree** data.
- **System configuration** - multi panel user ranges; synchronization interval; panel response time settings.
- **Backup and restore configuration** - automatic backup interval; retention interval; file location; password for automatic backup.

Data not covered by the backup:

- MUM logging information.
- Panel users.
- Backup and restore history.
- Synchronization history.

There are two possible methods for creating backups from the MUM system:

- Automatic backup

The backup is automatically created cyclically. For this method, the backup interval must be configured.

- On-demand backup

The MUM operator can initiate a backup by clicking on the corresponding button on the MUM user interface. The backup will start immediately.

Configuration and automatic backup

If the **Backup and Restore** feature is not configured, no cyclical automatic backups are created.

Dialog path:

- **Backup and restore > Backup settings**
1. Select an **Automatic backup interval** - daily, weekly or monthly.
 2. Select a **Retention Policy Interval** - weekly, monthly, yearly. If a different interval is needed, select the checkbox **Specify a custom retention policy value (in hours)** and enter the desired value. Note that backup files which are older than this interval will be deleted automatically. The retention interval must be greater than the backup interval.
 3. Click **Change the password**. The backup is encrypted with the password. In order to restore the backup, this password is needed for decryption.
 4. The backup location is created by default by the MUM system when installed. If a different location is needed, select the checkbox **Specify an internal to store the backup** file and enter a location.
 5. Click **Save** to confirm and activate the configuration.

Note:

- The first backup will be created immediately after the initial configuration.
- The next automatic backups will be created automatically according to the configured interval.

On demand backup

The MUM administrator can manually initiate a backup.

Dialog path:

– **Backup and restore**

1. Click **Start on-demand backup**.
2. Click **Confirm** to confirm the backup process. If no error occurs during initialization, a success message appears.

Note that depending on the amount of data, the backup process can take some minutes.

Restore

A backup that has been created can be restored back to MUM system with the saved state.

A listed backup can be directly restored:

Dialog path:

– **Backup and restore**

1. Click **Restore** from the file button of the listed backup.
2. Enter the password assigned to this backup.
3. Click **Confirm** to confirm the restore process.

Alternatively, a restore can be made from a local backup file:

Dialog path:

– **Backup and restore**

1. Click the **Import** from file button.
2. Enter the password assigned to this backup.
3. Click **Confirm** to confirm the restore process.

If no error occurs during initialization, a success message is displayed.

Check the **Event history** dialog to more information regarding either failure or success of events.

Attention to some useful remarks:

Regarding users, **panel users** are not stored in the backup file. Only users without panel assignment(s) and **Multi panel users** are restored from backup.

After synchronization, the users out of the **Multi panel user** ranges are imported from the panels to MUM.

The following table clarifies what happens to the panel users when a restore is made. Multi panel users or users without panel assignments are not taken into account here. The numbers before the names are exemplifying user IDs - All these IDs are not in the configured Multi user range which is assumed for this example:

	MUM	Panel
State during backup	010 Peter 020 Paul	010 Peter 020 Paul
State after modification of user data in MUM and synchronization	(delete 010 Peter) 020 Paul_mod ¹ (edit) 030 Mary (add)	020 Paul* 030 Mary
State after restoring the backup ²		020 Paul 030 Mary
State after synchronization ³	020 Paul 030 Mary	020 Paul 030 Mary

* The modification of the user with ID 020 is not synchronized to the panel. For more information, refer to *Editing users*.

¹ Modified.

² After restoring the backup, the current user data is completely replaced by the backup content.

Due to the fact that the panel users are not stored in the backup file, there are no panel users in MUM after synchronization.

³ By the next synchronization, the panel users are imported to MUM.

Using the Event history dialog

In the **Back and restore** dialog, select **Events history** to check whether a backup is created successfully or failed.

The events can be filtered by result:

- All
- Success
- Error

In case a backup failed, detailed information can be displayed by clicking enlarge button of this event. Each new event is marked as unacknowledged.

The event can be acknowledged by clicking the acknowledge button of the event or by using the acknowledge all button.

The number of unacknowledged events is displayed at the sidebar topic **Backup and restore**.

Successfully created backups will be listed on the Backup and restore page with its creation timestamp. The operation type can be either *Automatic backup* or *On-demand backup*. Only backup files in the currently defined file location will be listed. If the location changes, the backup files in the previous configured location will no longer be listed.

- Using the **Export from file** button of a listed backup, the backup file can be downloaded to the local machine.
- Using the **Delete** button of a listed backup, the backup file can be deleted.
- Using the **Restore** from this file, the backup can be restored.

It is important to note that a backup or restore cannot be executed if a synchronization is running. This also occurs the other way around.

The user can either:

- Wait for the synchronization/ restore/ backup to finish to initiate the other intended task.
- Abort the ongoing task in order to initiate the other.

Glossary

ACS

generic term for a Bosch Access Control System, for example, AMS (Access Management System) or ACE (BIS Access Engine).

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