



BAB TECHNOLOGIE GmbH

CONTROL R

(Room Allocation Plan)
documentation

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1 INTRODUCTION

The Room Allocation Plan Module is an instrument to show the state of rooms and control them. Application scenarios for such modules are buildings which feature always the same or similar interior concepts. A good example for that are schools, conference facilities or hotels.

General

This module is a part of the EIBPORT visualization editor since the firmware version 0.9.5. All settings will be made with the help of its own configuration interface. After successful configuration the EIBPORT calculates all necessary trigger points for the defined period beforehand. To enable generating of the trigger points, the EIBPORT has to obtain a licence. The configuration itself can be used without licence. A licence refers always to the serial number of respective EIBPORT and could be requested at info@bab-tec.

2 LICENCE UPLOAD

The licence, which enables the complete range of functions in the room allocation plan, has to be uploaded in the ConfigTool („System“). This is made in the tab “Licence Upload”. Beside this her is also the serial number shown for that the licences is been issued. Is it not matching the serial number of the current device, it will be shown in red coloured letters.

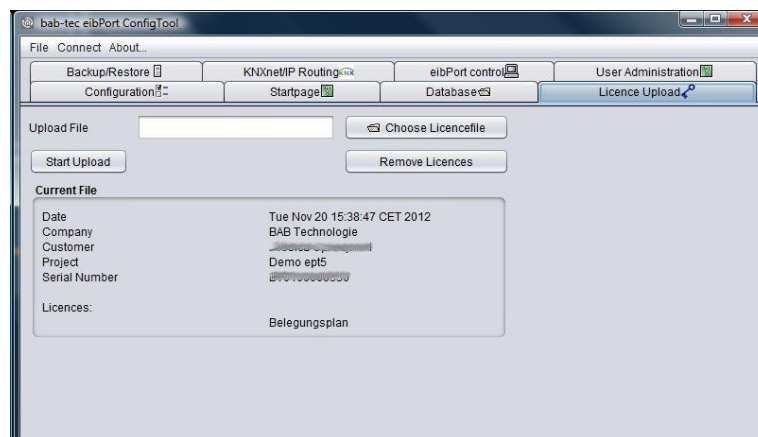


Figure 1: ConfigTool – Licence upload

For uploading a licence, simply select desired file und activate button „Upload“. If a correct licence for the Room Allocation Plan is uploaded, company name, customer name, project name, serial number and type of licence will be shown.

3 CONFIGURATION

Please enter the Visualization Editor of the EIBPORT. You will reach the configuration window of the Room Allocation Plan by using the button ahead, left beside the Security Settings (user administration). In the centre of the editor window now the configuration mask of the Room Allocation Plan is been shown.



Figure 2: Change to layoutplan module

Right beside the “Room Allocation Plan” - button, the menu bar appears. To define a new allocation plan, you have to proceed step by step.

3.1 SETTINGS

In this menu general settings and visualisation specific settings are made. The general settings are offering three configuration possibilities:

Maximum telegrams per second

This determines the maximum quantity of telegrams, which the allocation plan is allowed to generate for one second. Please consider that generally should not send more than 7 telegrams on the bus. So please mind also the bus load created by other services and components.

Retrigger for each time block

If this option is set the status of the time block will be retriggered at its beginning even if the status doesn't change. If it is not set, the status will only sent if status changed.

Discard manual schedule items

The afterwards added changes through manual schedule items will be discarded when data is generated.

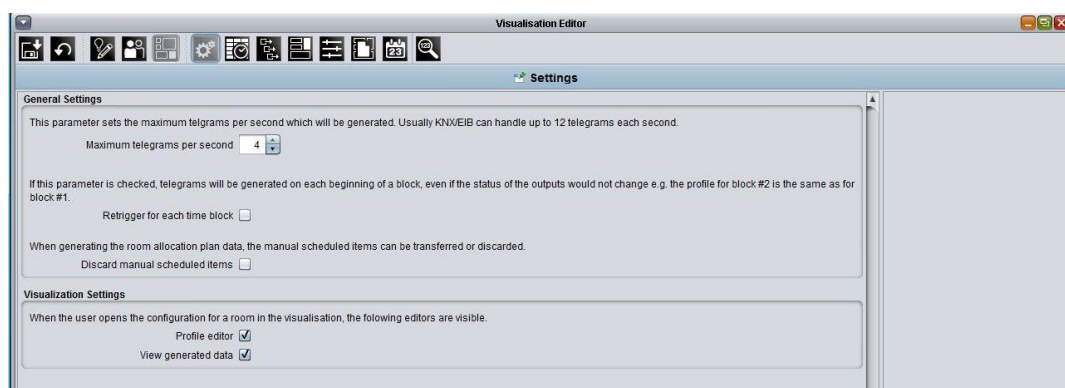


Figure 3: Configuration – settings



In the Visualisation Settings specific views can be disabled for the visualisation user:

Profile editor

In case this option is activated, the visualisation user is able to change profile configuration.

View generated data

If this flag is set, the visualisation user is able to see generated data. The data can only be generated if the EIB**PORT** contains a valid licence for the Room Allocation Plan.

The calendar view can be always disabled by an option in the visualisation element.

3.2 TIME TABLE

With the time table the grid is set in which the allocation plan should work. Is the allocation plan used to work in a school for example here the duration of the lessons and the breaks is set.

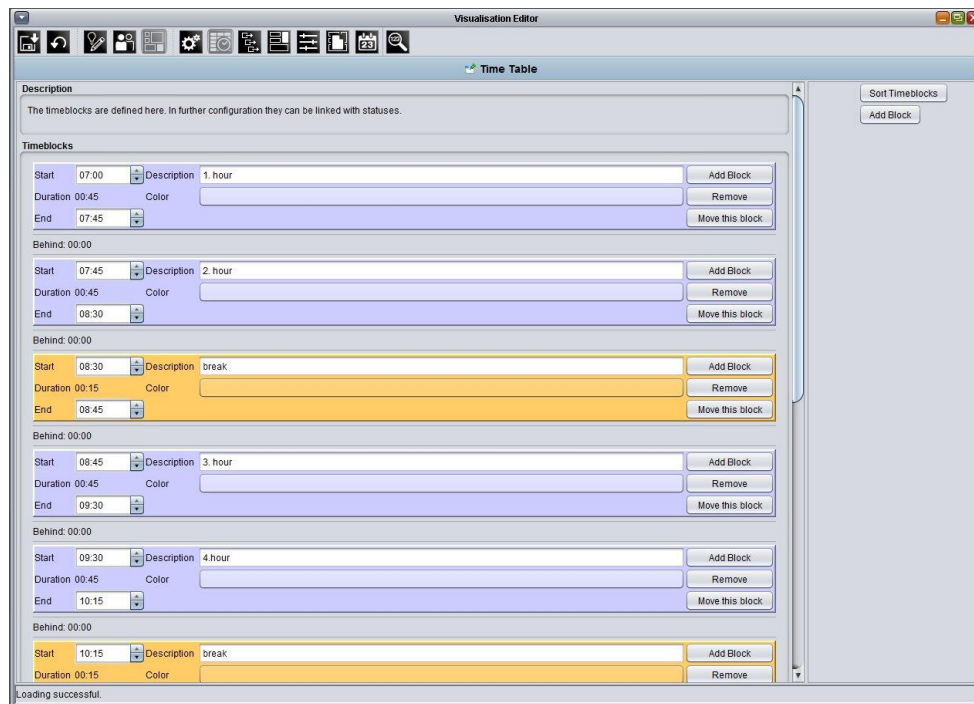


Figure 4: Configuration – time blocks

Add Block

A new time block is added by using the button “Add Block” in the right corner of the window. Every time block has to be assigned a start and an end point. A new created block automatically contains a duration of 45 minutes and it will always starts at 7 o'clock in the morning. The duration is only a proposal, which can be altered by changing the starting point or/and the end point. Apart from that, you can enter a name to every time block (e.g. “1st hour”) and allocate an individual colour. When a time block is created the buttons “Add Block”, “Remove” and “Move this Block” will appear.

Adding additional blocks

When adding an additional block a dropdown menu appears which offer the possibility to define the location of it (“Before this block” or “Behind this block”). Every new block will be created accordingly 45 minutes before or behind to the existing block. Time blocks doesn't have to be located in chronological order.

Sort Timeblocks

By menu item „Sort Timeblocks” the blocks will be sorted automatically by time, in case they was not created in a time based order.



3.3 OUTPUTS

All the rooms controlled by the allocation plan have a common denominator, -the controllable functions. With these settings all “Outputs” will be determined which the rooms have together.

Example:

In a school building, the light, the shading and the heating should be controlled. So following outputs will be applied:

- Switch ON and OUT the light (EIS 1)
- Releasing gate object of the blinds(EIS 1)
- Switching heating control to “Off“, “Standby“, “comfort“ or “Eco“ (EIS 14)

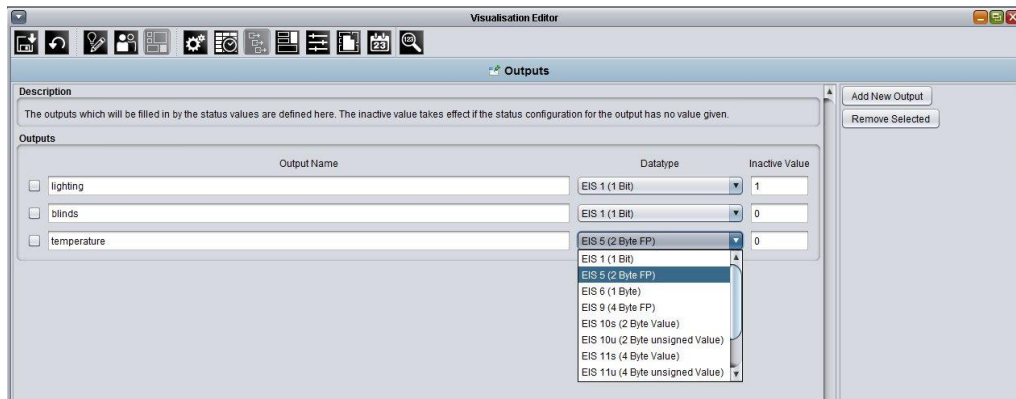


Figure 5: Configuration – Outputs

Output Name + Datatype

At this point it should be considered that the outputs do not say anything about the states. It is only defined which outputs (functions) are available. Every output has to have the correct EIS type. In the example this is EIS 1 for the light and the blinds, and EIS 14 to control the heating.

Inactive value

For every output an inactive value has to be set. This value is sent when there is a period of time where is nothing set through the normal allocation settings. In the school this is for example at the evening, at night or during the lesson free time.

Remove Selected

To delete one or several outputs, you have to set a checkmark in front of the desired line and push the button “Remove Selected“.

3.4 ROOMS

In this menu the rooms which will be controlled by the allocation plan are applied. With it now also the group addresses are assigned. Apart from that the rooms can be sorted in groups.

Create a new room

To create a new room the column on the right side of the window is used. In delivery state, you will find here two symbols with the labelling “Rooms” and “Groups”. Below of them, three symbols are located, which allows the functions “Apply”, “Delete” and “Edit”

Edit a room

If a new room is created it is shown in the overview window on the right sorted in the folder “Rooms”. Should the room be added to a designated group this can be done by using drag and drop; just ‘take’ the room with the mouse pointer and ‘pull’ it into the folder of the group. For every new room the parameters will be shown in the middle of the window. Every room should get an individual colour with colour picker array on top.

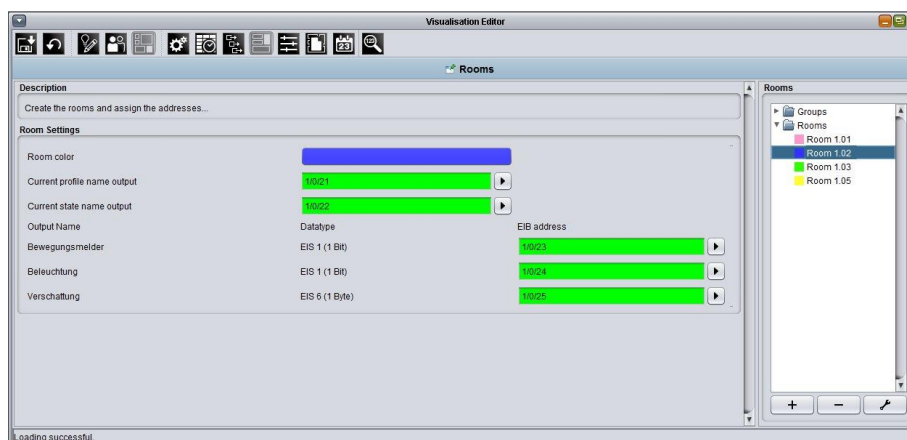


Figure 6: Configuration – Room



Outputs

The two arrays “Current profile name output“ and “Current state name output“ are defined for every room by default. On these addresses, the current profile- and state-name will be sent as an EIS 15 telegramm to the bus if desired. Below this the arrays for the functions, defined in the menu “Outputs“, will follow. It is shown the description, the data type and the address input array. With the help of the button with the arrow symbol the dialogue of the ESF file will appear. The desired address can be chosen by double click it in the list.

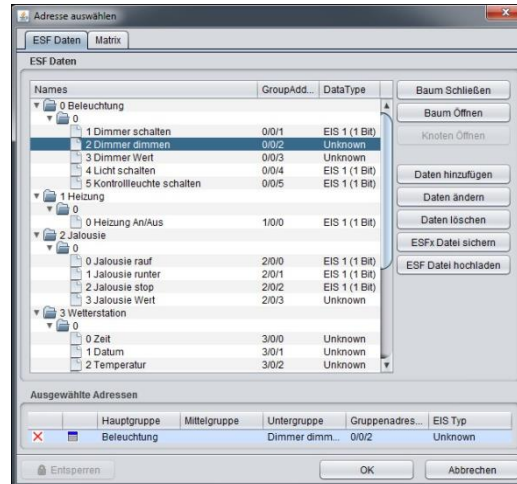


Figure 7: Placing addresses by ESF-file

An ESF-file is created by browsing “File” > “data exchange (e.g. OPC)...” > “Export to OPC-server” in ETS (from version 3.0). Such a file can be uploaded directly into the **eibPort** with the help of the menu “ESF Upload & Management” in the **eibPort** Editor. After this it is available at every address input array.

3.5 STATES

The States will determine the conditions of the particular outputs, according to their allocation. That means that the functions defined in the “Outputs” get their different states by the different use of the “States” during the allocation. The timeframe in this process is given by the setting in the time table.

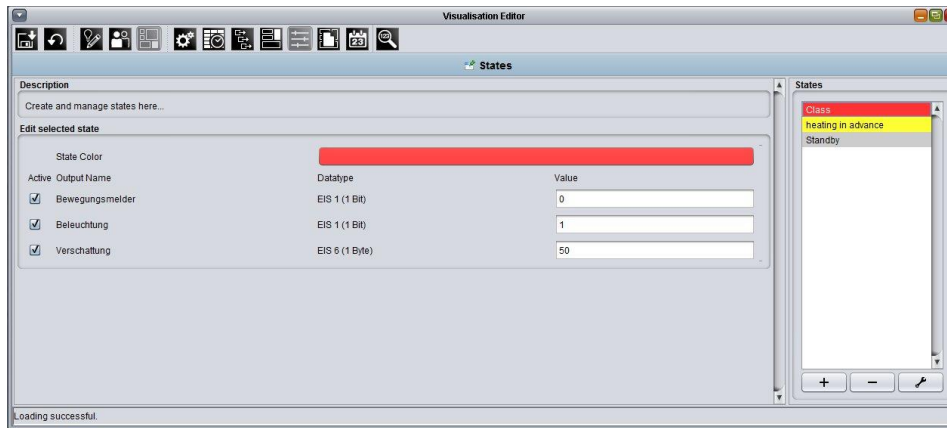


Figure 8: Configuration – Conditions

Example:

In a school `s class room, the outputs light, blinds and heating are defined. According to its destination the room could have different states: Teaching, Breaks or Free Period. Depending on the State the outputs light, blinds and heating should took another value. In Teaching time, the light should be switched on and in Breaks it should be switched off for example. According to this requirement, you can now modify the value of output in the state settings.

Add a new state

The column where all added states will be shown is in the right part of the window. Below this the buttons “Add new state”, “Remove selected state” and “Edit selected state” will be shown. Every state should get a unique name.

State parameters

With the colour selection array it is possible to assign an individual colour to every state. Below this array, you will recover the in the Outputs defined functions again. By checkmarks it is possible to enable or disable these functions according to the particular state. Beside the data type always the array “Value” is been shown. There the value corresponding to data type and state configuration is entered.



3.6 PROFILES

With the Profiles, the Time Table is connected to the defined States. The profile view displays the time blocks, like it was defined in the time table before. The time table reaches from Monday to Sunday. The time grid which results out of this manner can be allocated arbitrary with different states.

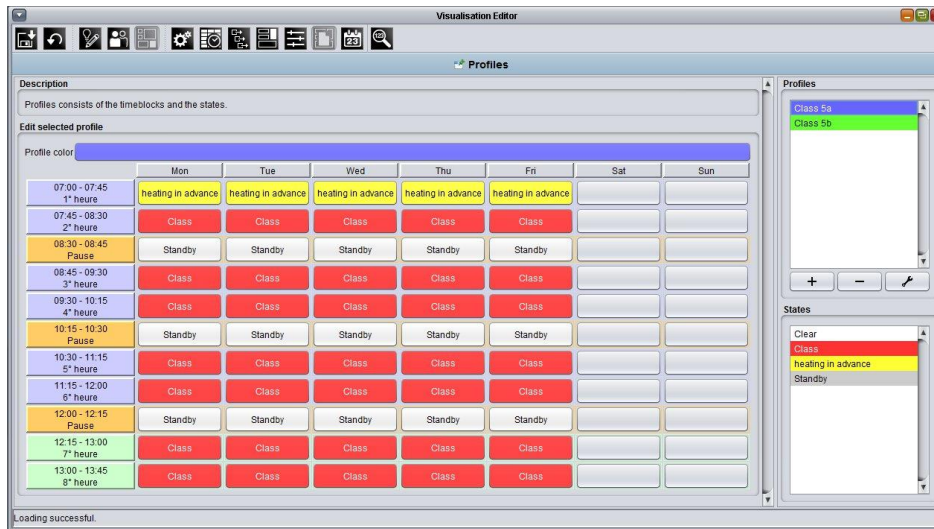


Figure 9: Configuration – Profiles

Please note: For periods where nothing is defined for, the previously defined inactive value of the output come into effect.

Add profiles and manage them.

In the right part of the window are displayed two kinds of digest. The one at the top shows all applied Profiles, and the one below displays the defined States. Beneath the profile overview additionally three buttons called “Add new profile”, “Remove selected profile” and “Edit selected profile” are shown. If a new profile is created a request to assign a unique name will appear. After that the time table created before will be displayed divided by days and time blocks. Above is offered the possibility to allocate an individual colour to the current profile. These colours help to distinguish the profiles in the calendar overview in a better way.

To allocate the States to the Time Table

If a profile was created with name and colour it is possible to allocate the States to a desired time block in the shown table. Therefore simply one or more time blocks are marked by clicking it and then one of the States shown in the “States” Overview is chosen. Automatically all marked time blocks are filled with the colour and the description of the desired State.

3.7 CALENDAR

In the calendar all settings are brought together. With the profiles the rooms gets the defined States which they have during the time blocks. Every room has its own calendar, which is segmented in two twelve-month parts. For the days, in which no profile is allocated to, the defined inactive value of each output will be valid. This means that in case of vacations or holidays the rooms will be automatically switched with the inactive values.

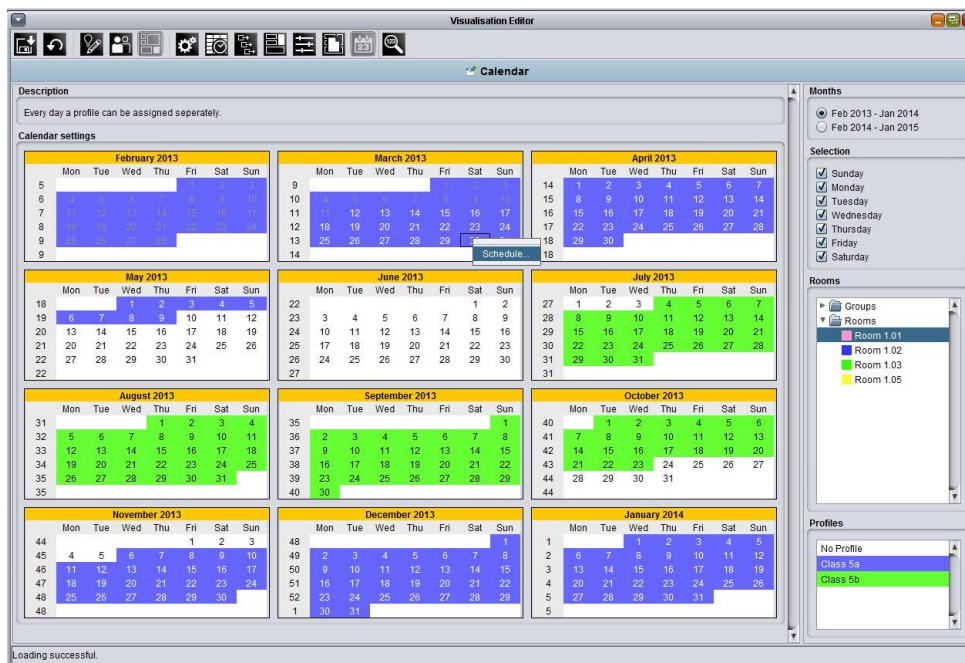


Figure 10: Configuration – Calendar

Allocate Rooms

The right part of the configuration window offers the necessary options. To allocate a room it must be chose out of the list in “Rooms”. After this the calendar appears immediately. Now the desired days should be marked by the mouse pointer. Marking happens with a black frame around the days. In case one or several days are marked in such a way, the according profile must be selected by mouse click. In a result all marked days will be shown in the colour of the profile. Only one profile can be assigned to one room in the same period.

Manual scheduled items

In the calendar view and throughout the access over the visualisation element it is possible to intervene manually into the allocation and set another state for an optional period. In the calendar view this works over right clicking the desired day. With the context menu “Schedule” a dialog window “Set State” opens.

There the Duration, the Start time and State of the manual schedule is been set. Additionally a comment for this change is entered. After saving it the day(s) with the changing’s will be marked with bold font and with a bracket. If the mouse pointer is then hold over the marked day information about the changing’s.

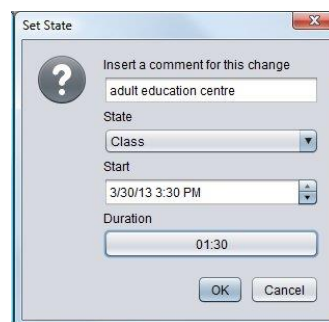


Figure 11: Set State

Month

Every room possesses a calendar, which is divided into two twelve-month’s parts. The calendar will always start one month before the current month. With the help of the two radio buttons, a time period can be chose.



Selection

With this checkmarks the weekdays which should be taken for the profile selection generally are determined. For a school without weekend teaching on this way the Saturday and Sunday can be disabled for allocation from the beginning. These days are not longer available for marking and there comes automatically the inactive value defined in the output settings into effect.

Please note: If in this choice the desired weekdays are not disabled but haven't a profile allocated anyhow the inactive value comes into effect because there is missing any configuration.

Rooms

Here the list of "Rooms" is been shown like it is created in the "Rooms" menu.

Profile

The profile list is shown like it was applied in the "Profile" view.

3.8 GENERATED DATA

In the “Generated data” view all switching times generated by the room allocation plan module will be shown. These data will only be generated, if the EIBPORT contains a valid licence for the allocation plan. Please see chapter “Licence upload” at the beginning of this manual.

Changed	UTC	Europe/Berlin	Room	EIB address	Value
31.12.2012 23:03:00	01.01.2013 00:03:00	01.01.2013 00:03:00	Raum 1.03	1/0/31	Projekttag
01.01.2013 06:00:00	01.01.2013 07:00:00	01.01.2013 07:00:00	Raum 1.03	1/0/31	Projekttag
01.01.2013 06:00:00	01.01.2013 07:00:00	01.01.2013 07:00:00	Raum 1.03	1/0/32	Belegt
01.01.2013 06:00:00	01.01.2013 07:00:00	01.01.2013 07:00:00	Raum 1.03	1/0/33	0
01.01.2013 06:00:00	01.01.2013 07:00:00	01.01.2013 07:00:00	Raum 1.03	1/0/34	1
01.01.2013 06:00:01	01.01.2013 07:00:01	01.01.2013 07:00:01	Raum 1.03	1/0/35	50
01.01.2013 06:00:01	01.01.2013 07:00:01	01.01.2013 07:00:01	Raum 1.03	1/0/36	20.0
01.01.2013 12:00:00	01.01.2013 13:00:00	01.01.2013 13:00:00	Raum 1.03	1/0/31	Projekttag
01.01.2013 12:00:00	01.01.2013 13:00:00	01.01.2013 13:00:00	Raum 1.03	1/0/32	1
01.01.2013 12:00:00	01.01.2013 13:00:00	01.01.2013 13:00:00	Raum 1.03	1/0/34	0
01.01.2013 12:00:01	01.01.2013 13:00:01	01.01.2013 13:00:01	Raum 1.03	1/0/35	0
01.01.2013 23:03:00	02.01.2013 00:03:00	02.01.2013 00:03:00	Raum 1.03	1/0/36	18.0
02.01.2013 06:00:00	02.01.2013 07:00:00	02.01.2013 07:00:00	Raum 1.03	1/0/31	Projekttag
02.01.2013 06:00:00	02.01.2013 07:00:00	02.01.2013 07:00:00	Raum 1.03	1/0/32	Projekttag
02.01.2013 06:00:00	02.01.2013 07:00:00	02.01.2013 07:00:00	Raum 1.03	1/0/33	Belegt
02.01.2013 06:00:00	02.01.2013 07:00:00	02.01.2013 07:00:00	Raum 1.03	1/0/34	0
02.01.2013 06:00:01	02.01.2013 07:00:01	02.01.2013 07:00:01	Raum 1.03	1/0/35	1
02.01.2013 06:00:01	02.01.2013 07:00:01	02.01.2013 07:00:01	Raum 1.03	1/0/36	50
02.01.2013 06:00:01	02.01.2013 07:00:01	02.01.2013 07:00:01	Raum 1.03	1/0/36	20.0
02.01.2013 12:00:00	02.01.2013 13:00:00	02.01.2013 13:00:00	Raum 1.03	1/0/31	Projekttag
02.01.2013 12:00:00	02.01.2013 13:00:00	02.01.2013 13:00:00	Raum 1.03	1/0/32	1
02.01.2013 12:00:01	02.01.2013 13:00:01	02.01.2013 13:00:01	Raum 1.03	1/0/34	0
02.01.2013 12:00:01	02.01.2013 13:00:01	02.01.2013 13:00:01	Raum 1.03	1/0/35	0
02.01.2013 12:00:01	02.01.2013 13:00:01	02.01.2013 13:00:01	Raum 1.03	1/0/36	18.0
03.01.2013 06:00:00	03.01.2013 07:00:00	03.01.2013 07:00:00	Raum 1.03	1/0/31	Projekttag
03.01.2013 06:00:00	03.01.2013 07:00:00	03.01.2013 07:00:00	Raum 1.03	1/0/32	Projekttag
03.01.2013 06:00:00	03.01.2013 07:00:00	03.01.2013 07:00:00	Raum 1.03	1/0/33	Belegt
03.01.2013 06:00:00	03.01.2013 07:00:00	03.01.2013 07:00:00	Raum 1.03	1/0/34	0
03.01.2013 06:00:01	03.01.2013 07:00:01	03.01.2013 07:00:01	Raum 1.03	1/0/35	1
03.01.2013 06:00:01	03.01.2013 07:00:01	03.01.2013 07:00:01	Raum 1.03	1/0/36	50
03.01.2013 12:00:00	03.01.2013 13:00:00	03.01.2013 13:00:00	Raum 1.03	1/0/31	Projekttag
03.01.2013 12:00:00	03.01.2013 13:00:00	03.01.2013 13:00:00	Raum 1.03	1/0/32	20.0
03.01.2013 12:00:00	03.01.2013 13:00:00	03.01.2013 13:00:00	Raum 1.03	1/0/34	Projekttag
03.01.2013 12:00:01	03.01.2013 13:00:01	03.01.2013 13:00:01	Raum 1.03	1/0/33	1
03.01.2013 12:00:01	03.01.2013 13:00:01	03.01.2013 13:00:01	Raum 1.03	1/0/34	0
03.01.2013 12:00:01	03.01.2013 13:00:01	03.01.2013 13:00:01	Raum 1.03	1/0/35	0
03.01.2013 12:00:01	03.01.2013 13:00:01	03.01.2013 13:00:01	Raum 1.03	1/0/36	18.0

Figure 12: Configuration - Generated data

Generate switching data

If a valid licence uploaded into the eibPort a query appears with that the switching data could be generated when saving the editor configuration (“Saving Options”). Because generating of data will take some time, you should only agree in case, that the configuration was changed resp. completed.



Figure 13: Query for generating circuitry



In order to generate the switching data the checkbox “Room Allocation Plan: Generate Data” must be checked. For this reason an additional menu item is shown in the saving dialog which gives information about the status of the process.



Figure 14: Dialogue for storing

Look at switching data

If the data is generated it can be looked at in the configuration window “Generated Data”. On the right side the list of the generated files will be shown. These are divided in week packages which contain all calculated switching points of the corresponding week. Every file always gets the name and the date of the Sunday the according week begins with. All circuit data is always summarized from Sunday 0:00 o’clock until Sunday 0:00 o’clock. The generated data of the week from the 7th until the 13th December are always stored in the file of the 6th of December and so on.

Refresh

If circuit data is generated again because of changes eventually they are not shown in the list of files immediately. To refresh the overview a button with the same name can be found below the data list.

Data overview

In case one of the files is marked, a list of all corresponding switching data will appear in the middle of the configuration window. There are 6 arrays shown:

- **Changed:** This column is showing all the modifications which were added or ceased by manual scheduled items. The manual changes can be done in the calendar view or over the visualisation element by the user. In the menu “General Settings” there is the possibility to specify this data should be considered by generating new data or not.
- **UTC:** Here the switching time according to UTC (Universal Time Coordinated), is displayed.
- **Europe/Berlin:** Here the switching time according to the selected time zone will be displayed. The time zone will be defined by the localisation settings in the ConfigTool of the EIBPORT (System > Configuration > General > Country setting > Location of installation).
- **Room:** At this point the room name is shown for which this circuit data is executed. The rooms will be set in the “Room” view.
- **EIB address:** The KNX group address is shown on which the corresponding switching is executed. The group address is also determined in the “Room”-configuration.
- **Value:** In this array the value is displayed which will be sent on the group address at the defined time. The profile and state name is thereby sent as EIS 15 telegrams.

4 VISUALISATION ELEMENT OF THE ALLOCATION PLAN MODULE

If the allocation plan is configured successfully it can be available for every visualisation user over a visualisation element for each room. The element “Room” can find in the standard library in the “Extended Elements”.

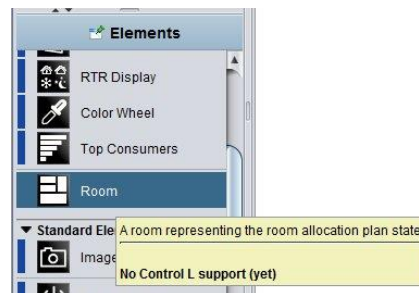


Figure 15: Overview library of elements

The element can be placed freely on visualization surface and offers, beside general standard parameters, the following special parameters:

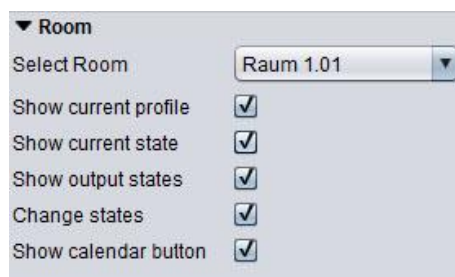


Figure 16: Specific element parameter

Select Room

With the help of a drop-down menu here the room is determined which should be shown by the visualisation element. There are all rooms available which was added in the allocation plan configuration. The element assumes the background colour, which was assigned to the room before. The name of the room will be displayed in the element on the left side above.

Show current profile

In case this checkbox is marked in the element will be shown which profile is allocated to this room.

Show current condition

In the element will be shown which State the room captures at the moment.

Show output states

If checked the outputs which was defined for this room will be displayed as well as their current values.



Figure 17: Visualization Element - Set State



Change states

With this option the visualisation user has the possibility to change the current state of the room with the button “Set State”. There are two possibilities:

- Setting the State at once: A selection array opens with the name of the defined states. With the help of the following drop-down menu a state can be force for the defined period. After the period the room adopts its normal state again.
- Schedule: The user gets the possibility to change the allocation for an optional period in a short term. It will be shown a menu where he is able to choose the State, the Start point and the Duration. Additionally he is able to enter a comment.

Open calendar

Through this selection, a button named “Open Calendar” is placed in visualisation element, which allows the user to customize the calendar configuration of the room afterwards. If the user has thereby also access to the configuration of the “Profiles” or the “Generated Data” can be configured in the visualisation settings of the Room Allocation Plan Module. The visualisation use can have maximum the following sights:

- Calendar view
- Profile editor
- Generated data

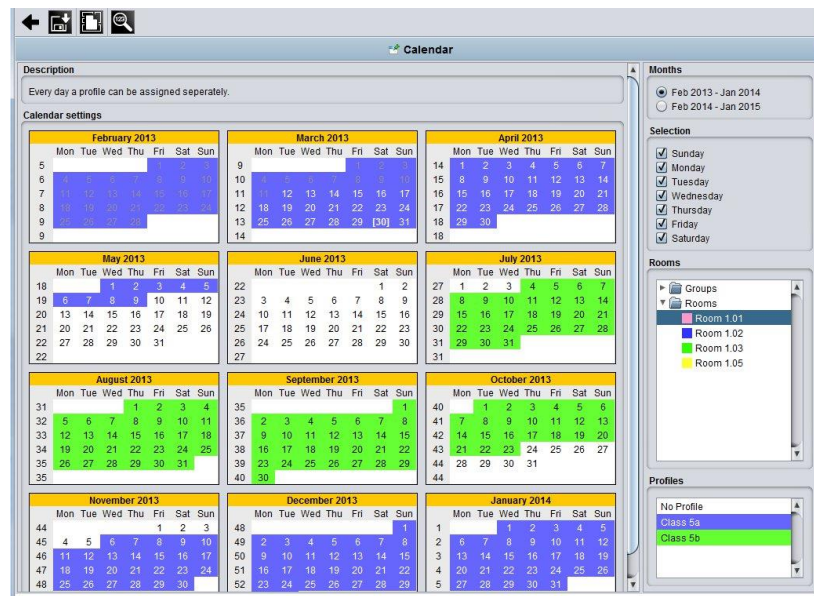


Figure 18: Sight of layoutplan for visualization user

The user will be offered the same configuration possibilities like the administrator has in the editor. This applies also for the possibility to change the allocation over the calendar manually (also see chapter “Change States” and chapter “Calendar” > “manual scheduled items”). To store the settings, you have to use the floppy disk icon. Then all changed allocation data is been saved and the switching data is generated new. This could take a long time, depending on data volume. With the arrow symbol, left beside the “Save”-button, you can switch back to visualization surface.