



Platform Services BACnet Schedules



APPLICATION NOTE

September 2013

Description: Guide to understanding and setting up BACnet Schedules

OS Requirement: Vista x64/ Windows 7 x64/ Windows 8 x64/ Windows Server 2008 x64/ Windows Server 2008 R2 x64/ Windows Server 2012

General Requirement: Basic GENESIS64 and BACnet knowledge

Introduction

BACnet protocol itself offers Scheduling feature which basically offers time-scheduled writes to BACnet properties. These properties can be referenced in any BACnet device reachable by Schedule-enabled BACnet device. Scheduling feature also includes possibility to define Exceptions against regular schedule. These exceptions can be based on regular pattern or on user-defined Calendar (as this is another BACnet object type used in BACnet Scheduling).

GENESIS64 users may know ScheduleWorX module which offers same functionality. Main differences between ScheduleWorX and BACnet Schedules are:

- ScheduleWorX (thanks to the unified architecture of GENESIS64 platform) offers writing of values through OPC, SNMP, BACnet and all other protocols supported by GENESIS64, while BACnet Schedules are capable to write to BACnet-enabled devices only,
- ScheduleWorX is running as a service in the computer with installed GENESIS64, while BACnet Schedules are running and evaluated inside BACnet device – GENESIS64 acts as a client which is capable to set BACnet device and visualize data (Schedules, Calendars and all other settings) accordingly,
- ScheduleWorX event is defined by Start & End time, when there's no other event defined after, the default value is written to references points, in BACnet there's no end time – event ends by the end of the day, or by beginning of next event. If event is of null data type, the default value is written to referenced properties.

Creating a Schedule object

In order to create a Schedule object, and to configure its properties, follow these steps (it is required to have device, where you want to create Schedule object, discovered - to do so please follow “Platform Services - BACnet Network and Device discover” application note):

1. Launch Workbench Silverlight.
2. Switch to the BACnet provider.
3. In the tree, find desired device.
4. Right-click it and, from context menu, select the ‘**Add Object**’ item.

5. Choose ‘**Schedule**’ in the drop-down list.
6. A form with four tabs (under ‘Schedule Settings’) will be opened:
 - a. **Weekly** – Contains a calendar where you can set up a Weekly Schedule – enter the events starting at a specific time, data type and value which will be written to referenced object (right-click or double-click the cell to add/edit event).
 - b. **Exceptions** – Contains controls allowing you to set up Exception Schedule. Here you can bind a specific date, date range, pattern or existing Calendar object with an exception schedule overriding Weekly schedule.
 - c. **Point List** – List of reference objects and properties which are affected by the schedule.
 - d. **General** – Here you can set basic Schedule properties like Object Name, Instance, Default Value, Effective Period, etc.
7. Fill in all properties you need to configure and press the 'Apply' button to create a Schedule object in the device (if device supports it).

Figure 1 – Schedule configuration



Modifying a Schedule Object

The steps for modifying Schedule object are:

1. Launch Workbench Silverlight.
2. Switch to the BACnet provider.
3. In the tree, find a device and the desired Schedule object underneath.
4. Select it and in opened form switch to '**Schedule Settings**' tab to get same form as you've been creating a Schedule
5. Change the values of the properties as needed (See the description of separate tabs in Creating Schedule Object chapter).
6. Click the '**Apply**' button to pass the changes made to the BACnet Device.

Adding a Calendar Object

In order to create a Calendar object, and to configure its properties, follow these steps:

1. Launch Workbench Silverlight.
2. Switch to the BACnet provider.
3. In the tree, find a device.
4. Right-click it and, from the context menu, select '**Add Object**' item.
5. Choose '**Calendar**' in the drop-down list.
6. A form with three tabs (under 'Calendar Settings') will be opened:
 - a. **Calendar** – Contains a calendar control where users can easily modify content of the DateList property (list of Single Dates and Date Ranges). Pick a date or drag a date range into the calendar to add selected dates and date ranges to the DateList property. The same process can be used for deleting those entries from the DateList property (unselect given date/range).
 - b. **List View** – Contains a manageable list of selected (configured) Single Dates, Date Ranges and Patterns.
 - c. **General** – Here you can set basic Calendar properties like Object Name, Instance and description.
7. Fill in all the properties you need to configure and press the '**Apply**' button to create a Calendar object in the device (if device supports it).

Modifying a Calendar Object

The steps for modifying Schedule object are:

1. Launch Workbench Silverlight.
2. Switch to the BACnet provider.
3. In the tree, find a device and the desired Calendar object underneath.
4. Select it and in opened form switch to '**Calendar Settings**' tab to get same form as you've been creating a Calendar
5. Change the values of the properties as needed (See the description of separate tabs in Creating Calendar Object chapter).
6. Click the '**Apply**' button to pass the changes made to the BACnet Device.

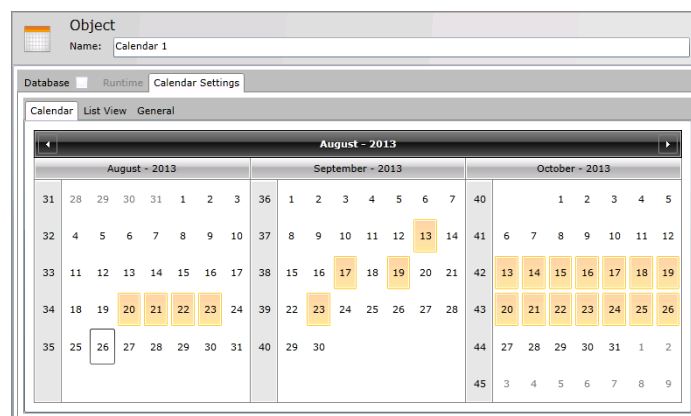


Figure 2 – Calendar configuration