

KNX

BACnet

MQTT

Modbus

OPC
(DA/UA)

SNMP

Fidelio/Opera | Protel | Infor
RMS Cloud | CharPMS
VingCard Web | Kaba | Salto

DALI EnOcean
M-Bus DMX

Proprietary solutions

All-in-one

Building management software for
medium-sized and enterprise building
automation projects

NETx BMS Platform

Building automation systems are heterogeneous



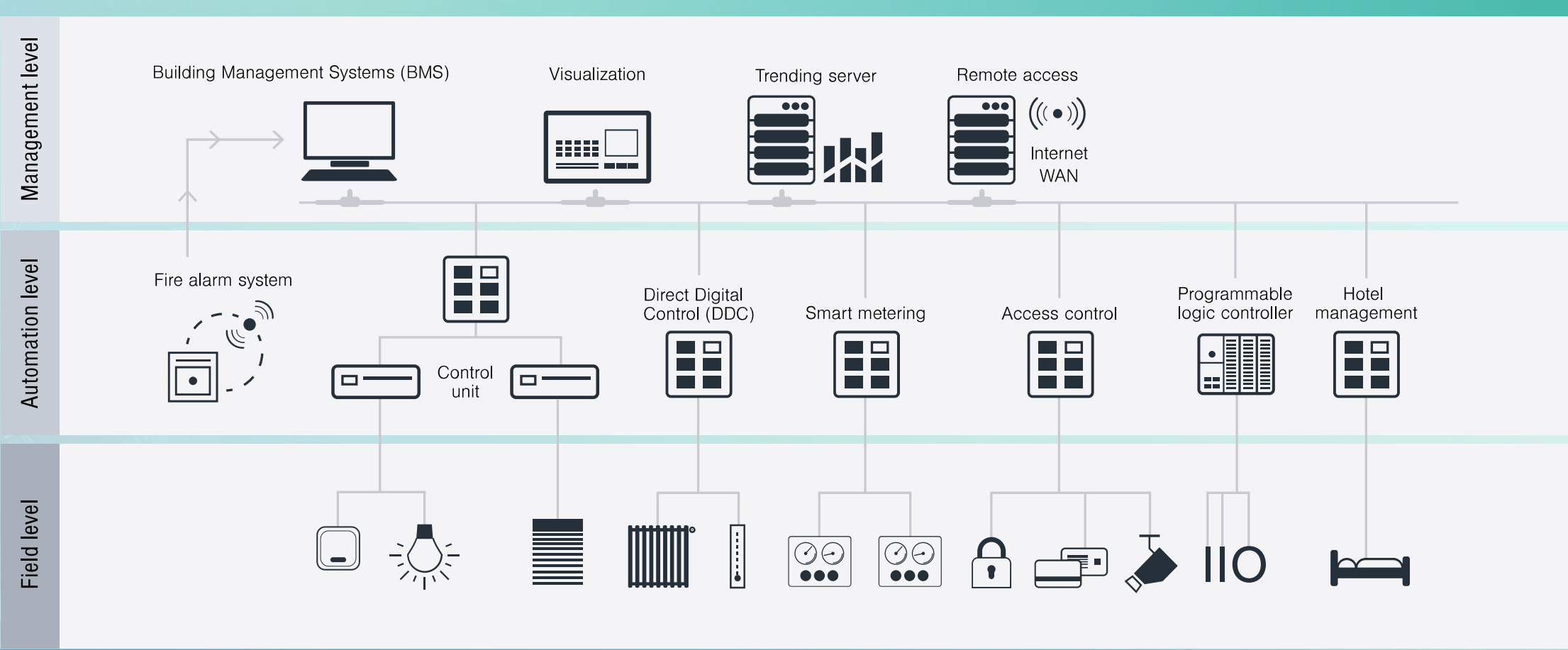
Many different technologies are used

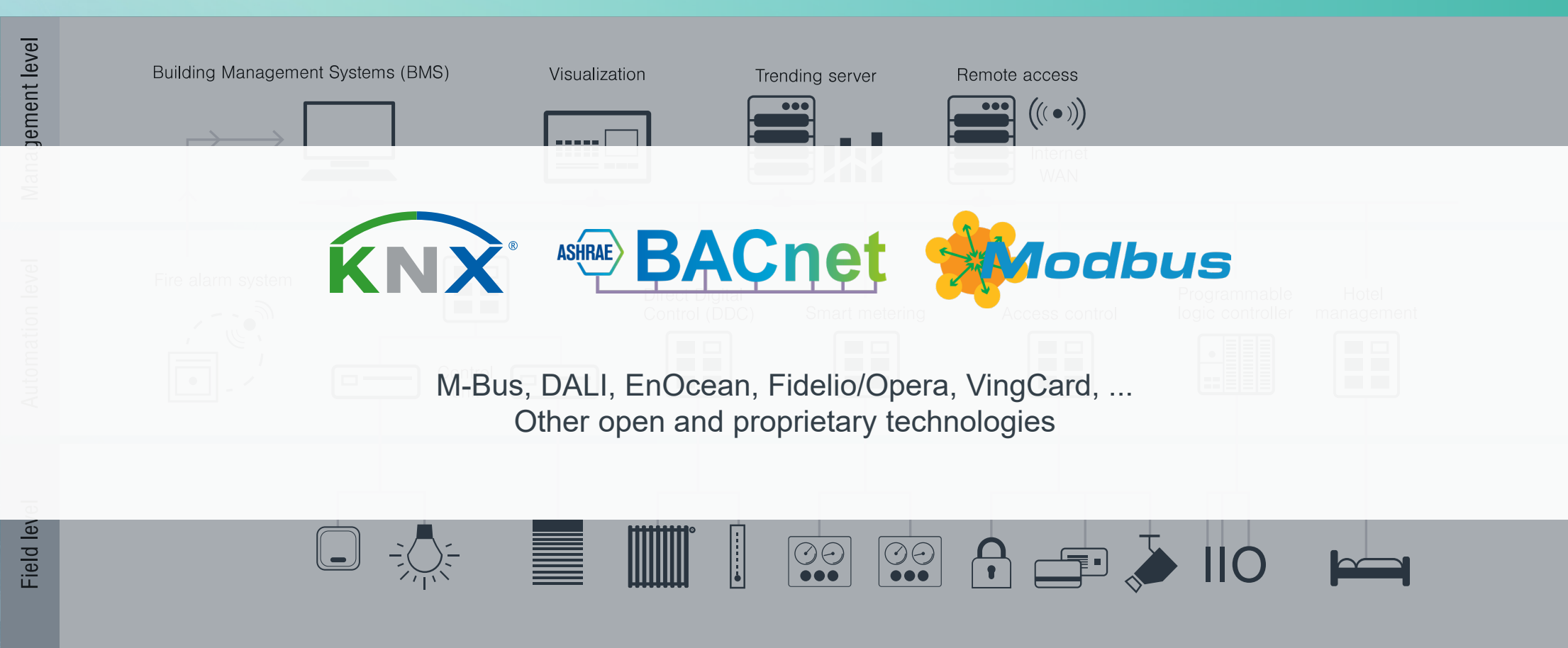


Each technology has its characteristics and its own way to represent and process control data



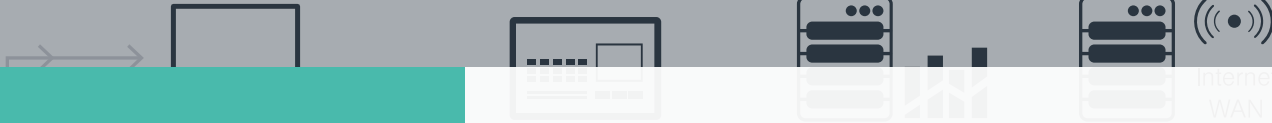
Building automation





Management level

Building Management Systems (BMS) Visualization Trending server Remote access



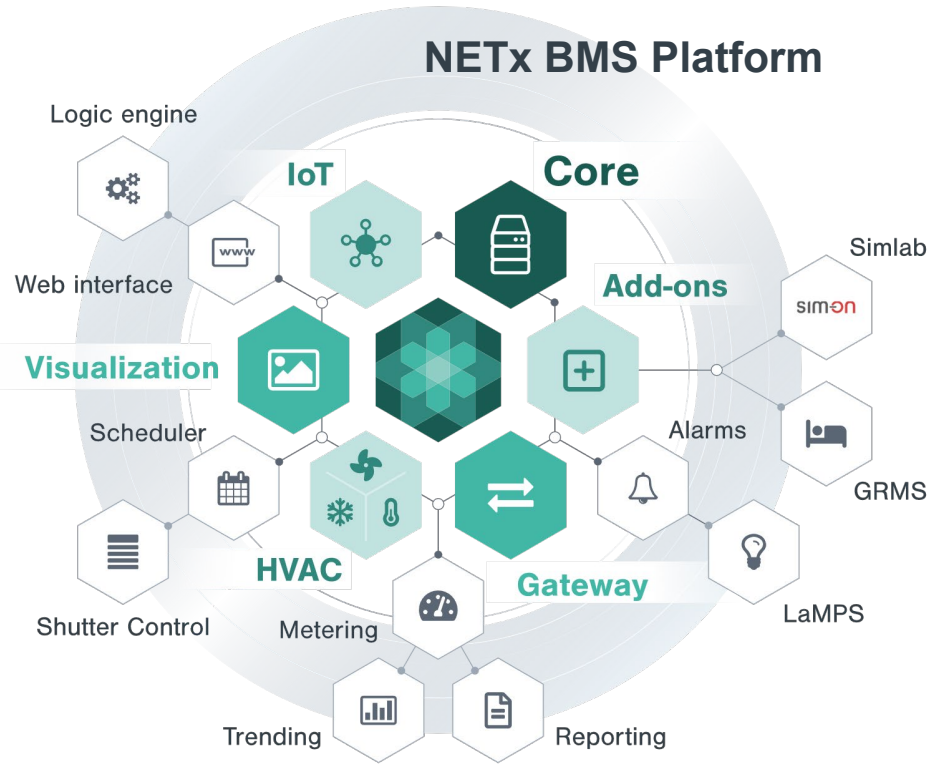
How to integrate management applications e.g. visualization, trending, alarm management, ...?



M-Bus, DALI, EnOcean, Fidelio/Opera, VingCard, ...
Other open and proprietary technologies

Field level





Multi-protocol gateway	Providing building management functions	User management
Support for different systems and technologies	Alarm management, trending, scheduling, logic engine, reporting, metering, energy management	Central user management with different backends (e.g. AD authentication)
Visualization	Web interface	Add-ons
Web and PC based visualization clients	Managing BMS functions	KNX/DALI management, automatic shading control

Operating system - Windows based operating system required

Windows 10 / Windows 11

Windows Server 2016 / Windows Server 2019 / Windows Server 2022

For maintainable systems we strongly recommend at least Windows 10 or Windows Server 2016 (or higher). Our products basically also run on older Windows versions down to Windows 7 and Windows Server 2008. However, due to limited future support for these operating systems by Microsoft we will not be able to provide full support for our software running on these systems.

Hardware

Any device that supports Microsoft Windows can be used

Use of virtualization environments possible









Requirements depend on project size
(small embedded device up to server systems)

VMWare, Virtualbox, Hyper-V, ...

License		
Number of data points	Number of visualization clients	Optional: additional license fees for special modules and interfaces
Integrated data points from field level like KNX group addresses, BACnet objects, Modbus registers, SNMP data points, ...	Web and/or PC based clients	<ul style="list-style-type: none"> • Hotel management interfaces Fidelio/Opera or Protel Fix fee + 5 data points for each room • Door lock interfaces VingCard, Salto, Kaba Fix fee + 5 data points for each door lock • NETx LaMPS Fix fee + 1 data point for each DALI ballast
Licensing process		
Hardlock	Softlock	<ul style="list-style-type: none"> • NETx Shutter Control Project specific fee • NETx Metering Module Fix fee + 10 data points for each measurement value • NETx mySmartSuite sufficient number of NETx visualization clients required • and more
USB Dongle hardware independent	Unlock code dependent on hardware and operating system	

Components

Core	Visualization	LaMPS	Shutter Control	mySmartSuite	Add-ons	
<ul style="list-style-type: none"> • Gateway functionality • Alarm management • Trending • Reporting • Scheduler • Logic engine • Metering • GRMS 	<ul style="list-style-type: none"> • Visualization for small, medium and large projects • PC and web-based clients • Any number of clients possible 	<ul style="list-style-type: none"> • Lighting management • DALI management 	<ul style="list-style-type: none"> • Automatic shading system • Complex buildings • Inclusion of weather data • 3D design and simulation • Add-on for BMS Server 	<ul style="list-style-type: none"> • Overview of all rooms • Guest information • Check in and check out information • Room status • Message processing 	Functions	
Web interface <ul style="list-style-type: none"> • Alarm management • Trending • Scheduler • Explorer • Actions & Conditions 	Web interface <ul style="list-style-type: none"> • Visualization 	Web interface <ul style="list-style-type: none"> • LaMPS app 	Web interface <ul style="list-style-type: none"> • Shutter Control app 	Web interface <ul style="list-style-type: none"> • mySmartSuite app 	Web Manager apps	
<ul style="list-style-type: none"> • KNX • BACnet • Modbus • OPC (DA/UA) • SNMP 	<ul style="list-style-type: none"> • Fidelio/Opera • Infor • Protel • RMS Cloud • CharPMS 	<ul style="list-style-type: none"> • VingCard • Salto • Kaba 	<ul style="list-style-type: none"> • Universal XIO interface • HTTP Server and other web service gateways 	<ul style="list-style-type: none"> • 3rd party BACnet, oBIX, MQTT and OPC (DA/UA) clients • 3rd party web service clients 	Hardware gateways: <ul style="list-style-type: none"> • Dali • EnOcean • M-Bus • DMX 	Interfaces

 Multi-protocol gateway	 Alarm management	 Trending	 Reporting
Bidirectional data and information change between different protocols and technologies	Monitor the building automation system and report unexpected behavior	Store past data point values for analysis	Management of reports from trend data and historical data point values as well as data from other BMS functions
 Scheduler	 Logic-Engine	 Visualization	 Metering
Definition of time-based events to change data point values or trigger actions	Add control functionality using graphical function block programming or scripts	Sophisticated visualization engine for web and PC based visualization clients	Monitor, analyze and process data from smart meters

Lighting/DALI management

NETx LaMPS



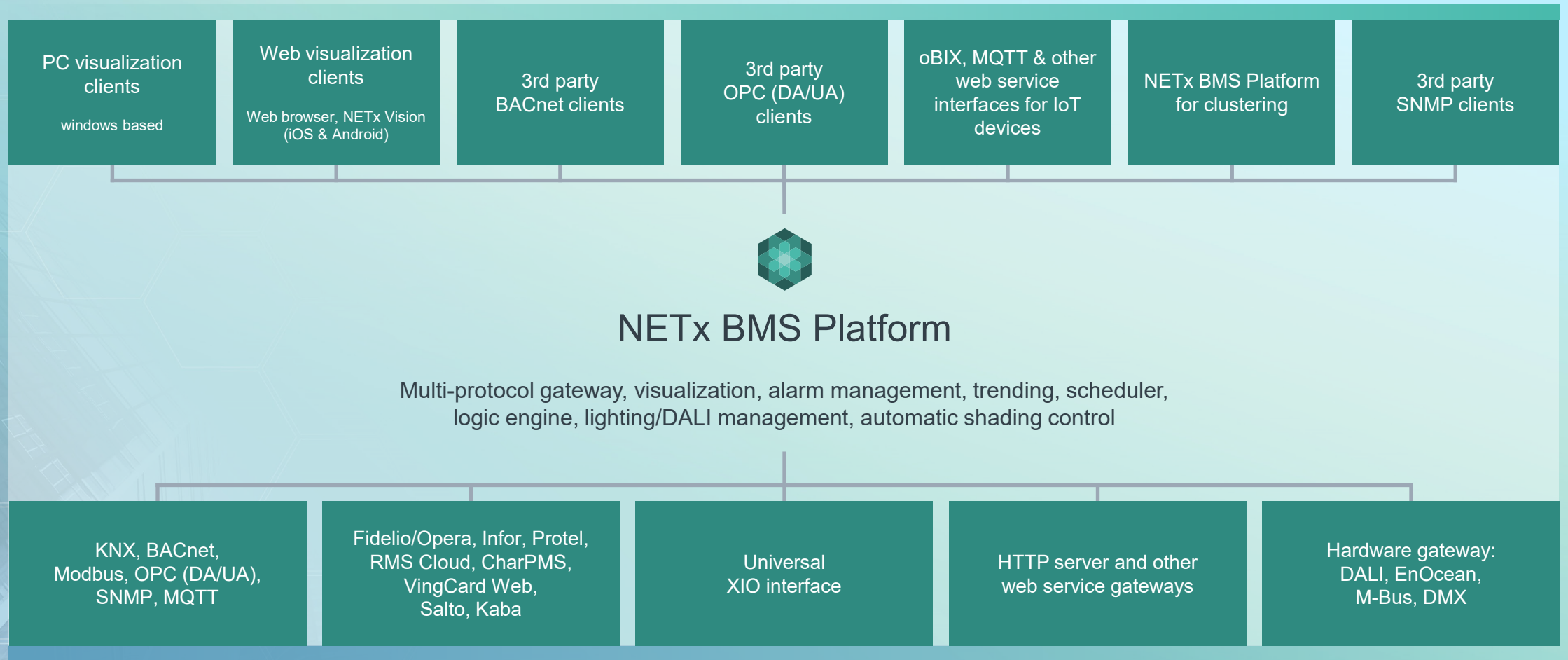
Easy management of KNX/DALI gateways

Automatic shading control

NETx Shutter Control



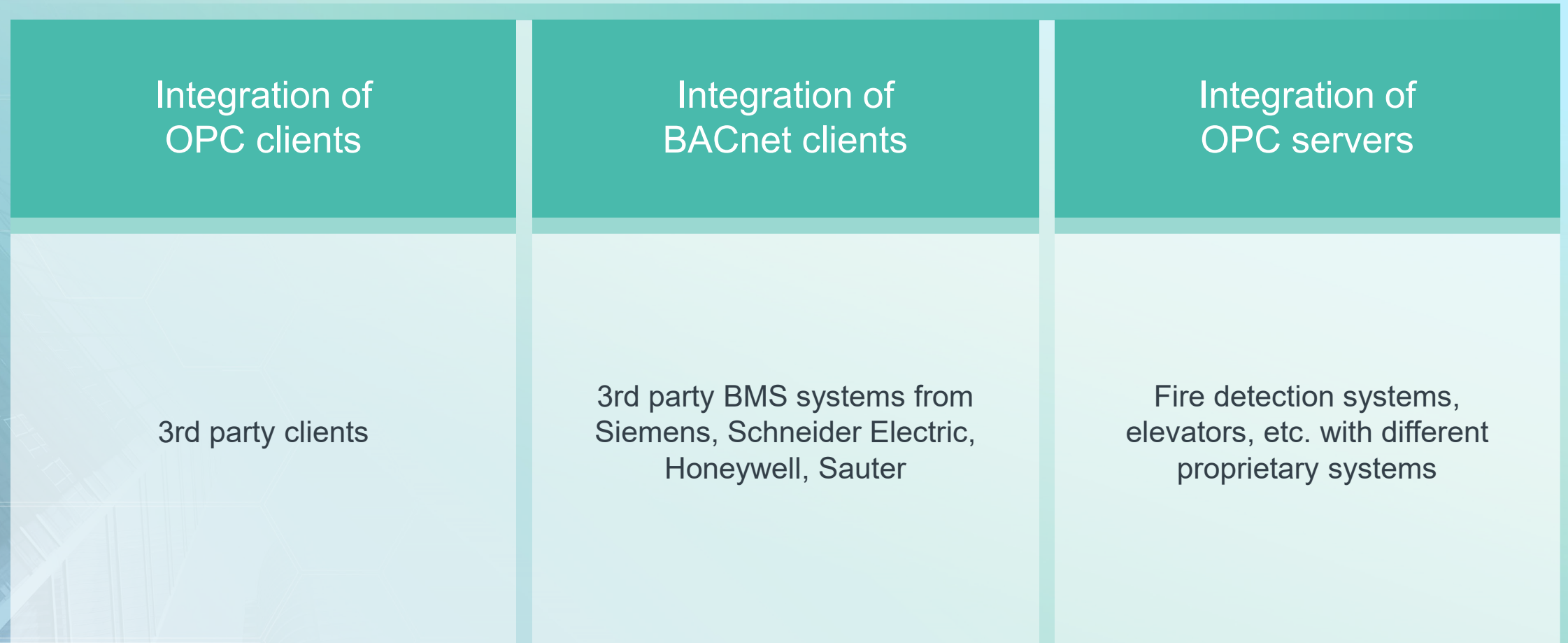
Automatic shading of complex buildings



<h3>Open and standard protocols</h3>	<h3>Hotel management system</h3>	<h3>Door lock systems</h3>
<p>KNX, BACnet, Modbus, SNMP, OPC (DA/UA), MQTT</p>	<p>Fidelio/Opera, Protel, Infor, RMS Cloud, VHP, CharPMS</p>	<p>VingCard Web, Kaba, Salto</p>
<h3>HTTP Server and other Web Service Gateways</h3>	<h3>Develop your own interface</h3>	<h3>Customer specific interface on request</h3>

Interfaces to management level

<p>OPC</p>	<p>BACnet</p>	<p>oBIX and other Web Service interfaces for IoT</p>
<p>OPC DA and OPC UA</p>	<p>BACnet/IP server</p>	<p>oBIX and KNX Web Services</p>
<p>MQTT</p>	<p>Web interface</p>	<p>VNET</p>
<p>Communication to one or more MQTT brokers</p>	<p>Web Manager and Web Visualization</p>	<p>Secure connection to PC based visualization</p>



Alarm management

Dashboard / Alarms / List / History

Alarm List 0 (0) 0 (0) 0 (0) 2 (0)

Project Tree

- Hotel Hilton
 - Floor1
 - Room101
 - Room102
 - Room103
 - Room104
 - Room105
 - Room106
 - Room107
 - Room108
 - Room109
 - Room110
 - Floor2
 - Floor3
 - Floor4
 - Floor5
 - Floor6
 - Trendings

New list Old list **History**

\Hotel Hilton

Priority	State	Reason	Name	Path	Date
■	ACK	condition fulfilled	Room1 Overheat	\Hotel Hilton\Floor1\Room101\Al...	2018-09-26 14:40:25
■	ACK	condition fulfilled	Room2 Overheat	\Hotel Hilton\Floor1\Room102\Al...	2018-09-26 14:39:05
■	ACK	acknowledged	Room1 Overheat	\Hotel Hilton\Floor1\Room101\Al...	2018-09-26 14:38:51
■	ACK	acknowledged	Room2 Overheat	\Hotel Hilton\Floor1\Room102\Al...	2018-09-26 14:38:51
■	IDL	activated	Room2 Overheat	\Hotel Hilton\Floor1\Room102\Al...	2018-09-26 14:38:04
■	NEW	activated	Room2 Overheat	\Hotel Hilton\Floor1\Room102\Al...	2018-09-26 14:38:04
■	NEW	condition fulfilled	Room2 Overheat	\Hotel Hilton\Floor1\Room102\Al...	2018-09-26 14:38:04
■	IDL	activated	Room1 Overheat	\Hotel Hilton\Floor1\Room101\Al...	2018-09-26 14:37:57
■	NEW	condition fulfilled	Room1 Overheat	\Hotel Hilton\Floor1\Room101\Al...	2018-09-26 14:37:57
■	NEW	activated	Room1 Overheat	\Hotel Hilton\Floor1\Room101\Al...	2018-09-26 14:37:57
■	IDL	deactivated	Room1 Overheat	\Hotel Hilton\Floor1\Room101\Al...	2018-09-26 13:04:07
■	IDL	deactivated	Room2 Overheat	\Hotel Hilton\Floor1\Room102\Al...	2018-09-26 13:04:07
■	IDL	activated	Room2 Overheat	\Hotel Hilton\Floor1\Room102\Al...	2018-09-26 13:03:07
■	IDL	activated	Room2 Overheat	\Hotel Hilton\Floor1\Room102\Al...	2018-09-26 13:03:07
■	IDL	reconfigured	Room2 Overheat	\Hotel Hilton\Floor1\Room102\Al...	2018-09-26 13:03:07
■	IDL	created	Room2 Overheat	\Hotel Hilton\Floor1\Room102\Al...	2018-09-26 13:03:07
■	IDL	reconfigured	Room2 Overheat	\Hotel Hilton\Floor1\Room102\Al...	2018-09-26 13:03:07
■	IDL	reconfigured	Room1 Overheat	\Hotel Hilton\Floor1\Room101\Al...	2018-09-26 13:01:12
■	IDL	activated	Room1 Overheat	\Hotel Hilton\Floor1\Room101\Al...	2018-09-26 13:01:12
■	IDL	activated	Room1 Overheat	\Hotel Hilton\Floor1\Room101\Al...	2018-09-26 13:01:12

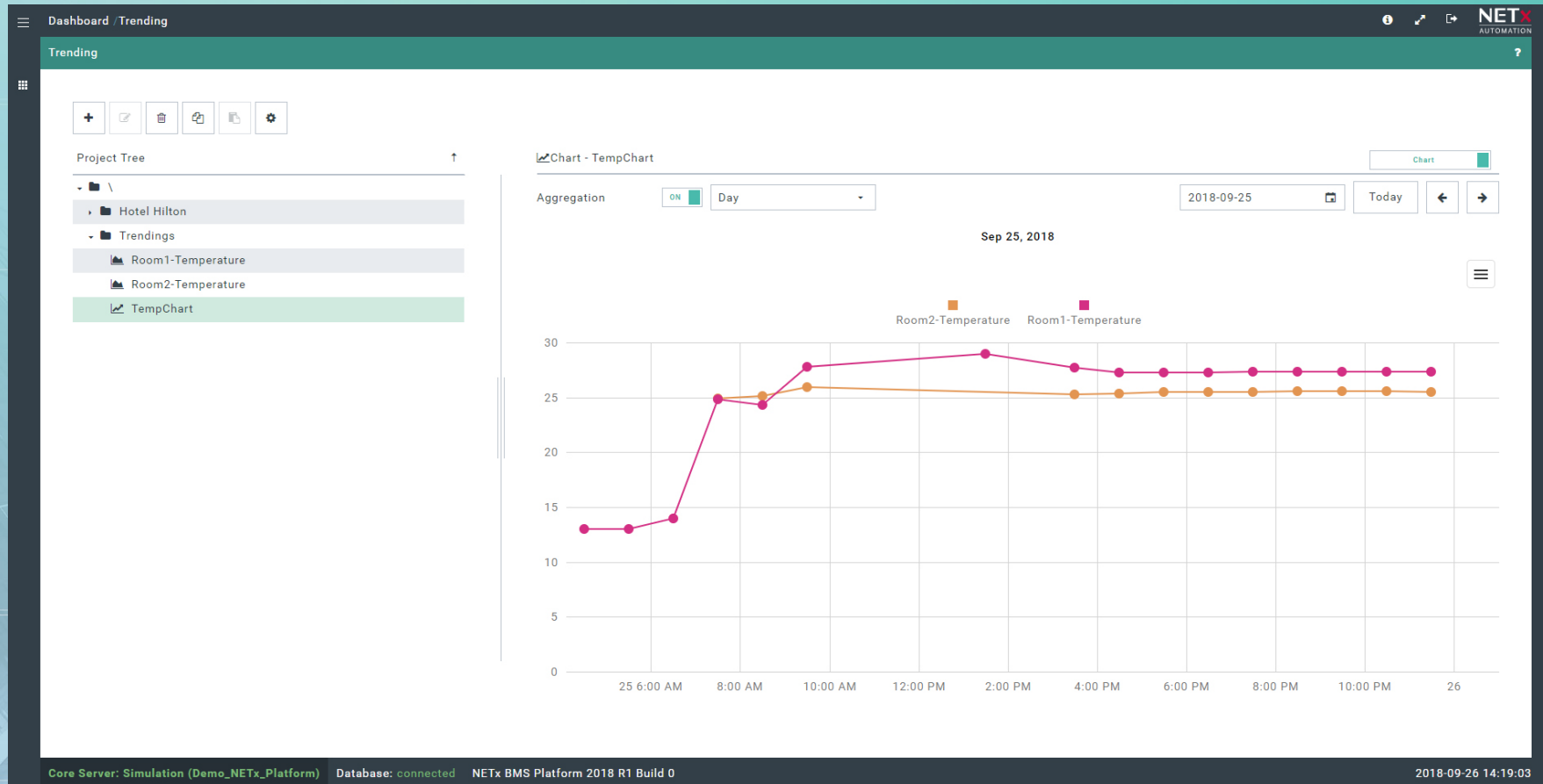
Definition of alarm conditions to detect unexpected system behavior

Triggering of alarm actions like notifications (e.g. e-mail, X, ...) or changing data points

Alarm lists via web interface according to VDI/VDE 3699

Alarm history

Alarm logs stored in SQL database



Past values of data points can be stored in SQL database

Multiple database backends (MS SQL, MySQL)

Different trending types like change-of-value (COV), sampling, averages, ...

Define the amount of data via max data age

Pre and post processing of values

Presentation via charts and tables within web interface

Dashboard / Scheduler

Scheduler

Project Tree

- \
- Hotel Hilton
 - Floor1
 - Room101
 - Alarms
 - Scheduler
 - Lights ON
 - Room101 Lights ON
 - Room102 Lights OFF
 - Room102
 - Room103
 - Room104
 - Room105
 - Room106
 - Room107
 - Room108
 - Room109
 - Room110
 - Floor2
 - Floor3
 - Floor4
 - Floor5
 - Floor6

Start-Stop Time Event - Lights ON

Enabled

Name * Lights ON

Description Turn Lights ON

Start date/time 2018-09-26 18:30:00

End date/time 2018-09-26 22:30:00

Different Actions

Start Action \Hotel Hilton\Floor1\Room101\Scheduler\Room101 Lights ON

Stop Action \Hotel Hilton\Floor1\Room101\Scheduler\Room102 Lights OFF

Recurrence Daily

Repeat Every day Every days

Months

January	February	March	April	May	June
July	August	September	October	November	December

Holidays Ignore

Ends Never On After recurrences

Additional recurrence None

Save

Time based events to trigger actions (timers, start stop event, cyclic event) and conditional events

Definition of recurrence

Event program list and calendar view within web interface

The screenshot displays the 'Reporting Designer' interface. The main workspace shows a report template with the following structure:

- Header:** 'Emergency Lighting Status Report' with a parameter reference `[Parameters].[CompanyName]`.
- Section:** 'Report information'.
- Table:** A table with columns for 'Device name', 'Last function test', 'Last duration test', and 'Last battery test'. Each test column has sub-columns for 'Date and time' and 'Detail'.
- Levels:** Four levels (Level 5 to Level 2) are defined, each with a formula: `Concat([Sum_ERROR], ' error messages on ', [Count_DEVICE], ...)`.
- Footer:** Includes a date format `{0:yyyy'-MM'-'dd'}`, the NETX AUTOMATION logo, and a page indicator `Page {0} of`.

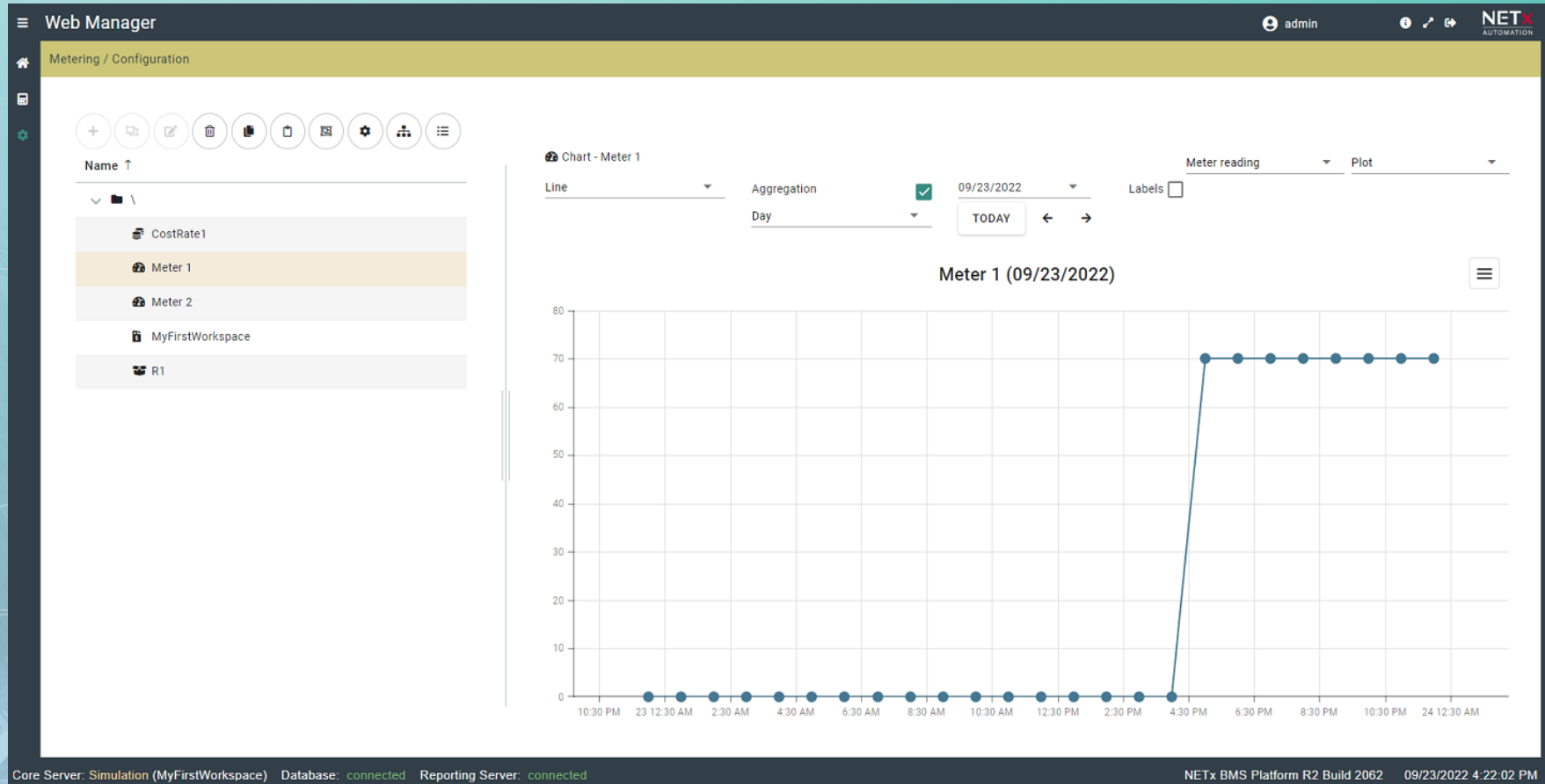
On the right side, the 'PROPERTIES' panel is visible, showing settings for 'LaMPS Emergency L...' with options for sorting, filtering, and appearance.

Management of reports from trend data and historical data point values

Predefined templates for alarm/trend reports and DALI test results

Automatic regular report generation possible

Includes a reporting designer for your own templates and designs

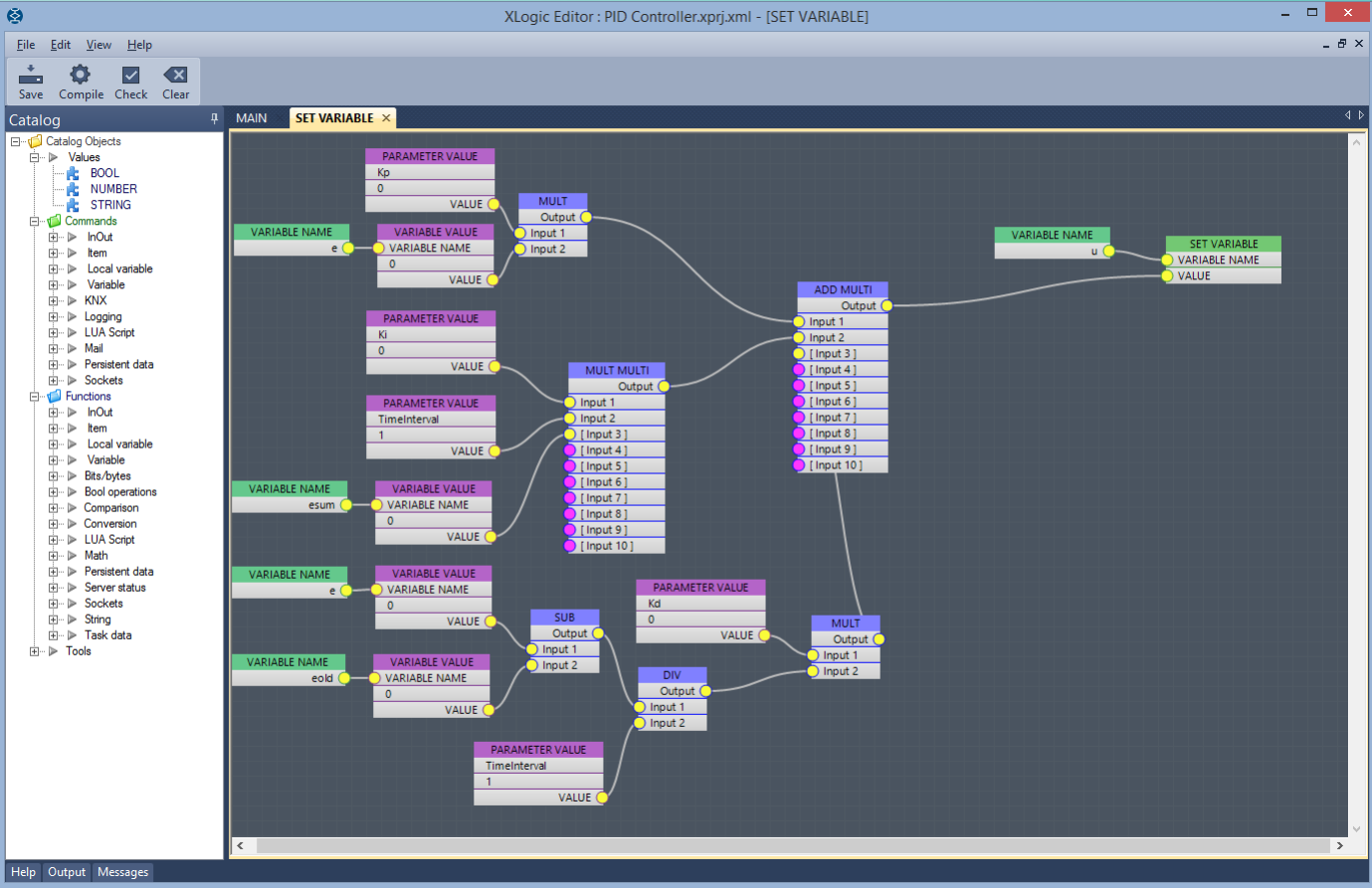


Any smart meter (KNX, BACnet, Modbus, M-Bus, ...) from different sources (electricity, water, air, heating, ...) can be used

All calculated consumption values (hourly, daily, weekly, monthly, yearly) are provided as normal data points

- Inclusion of other trend values in calculation diagrams possible
- Data points that affect the consumption of energy resources (e.g. temperature values) can be used as comparison values

- Results can be presented online in our web interface as tables or chart elements
- Report export to PDF, Excel, etc.



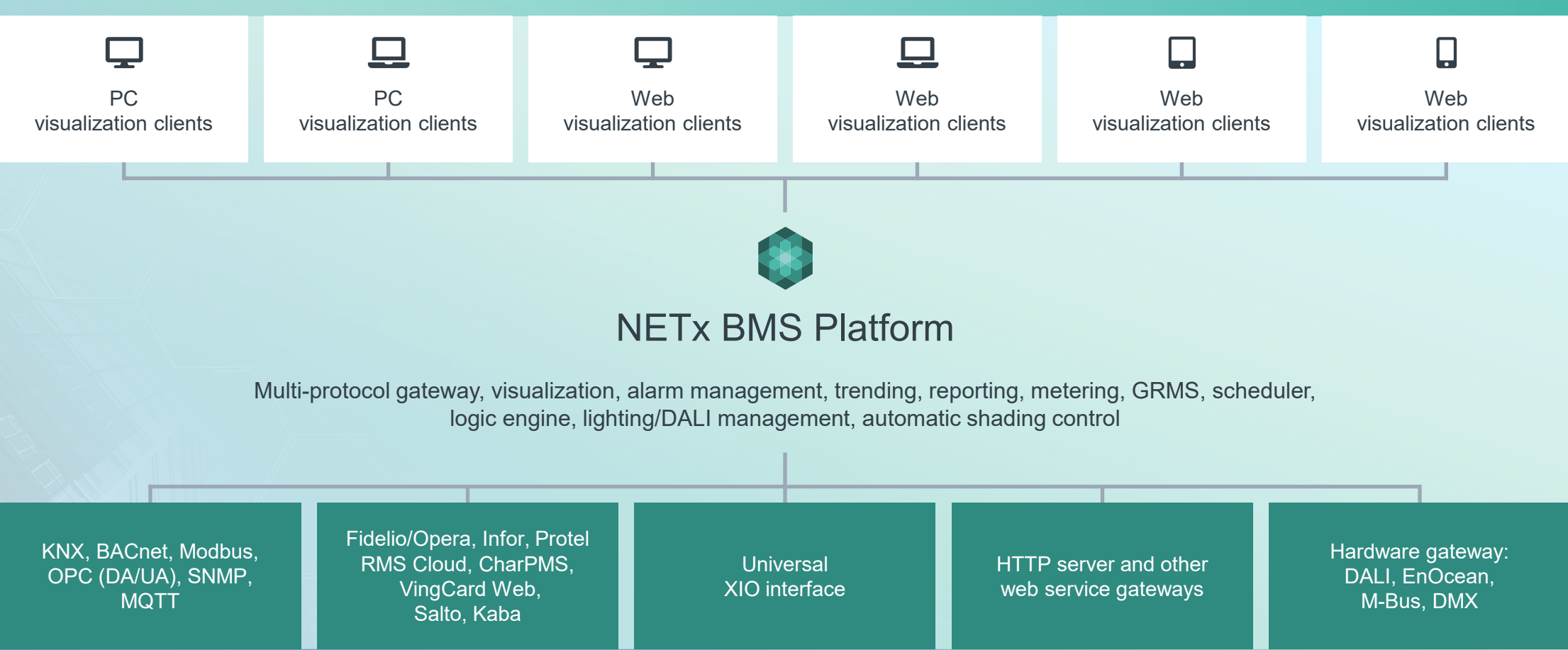
Adding control functions that are missing within the field devices

Adding control functions that are distributed across devices that use different technologies









XLogic editor: graphical functional block programming

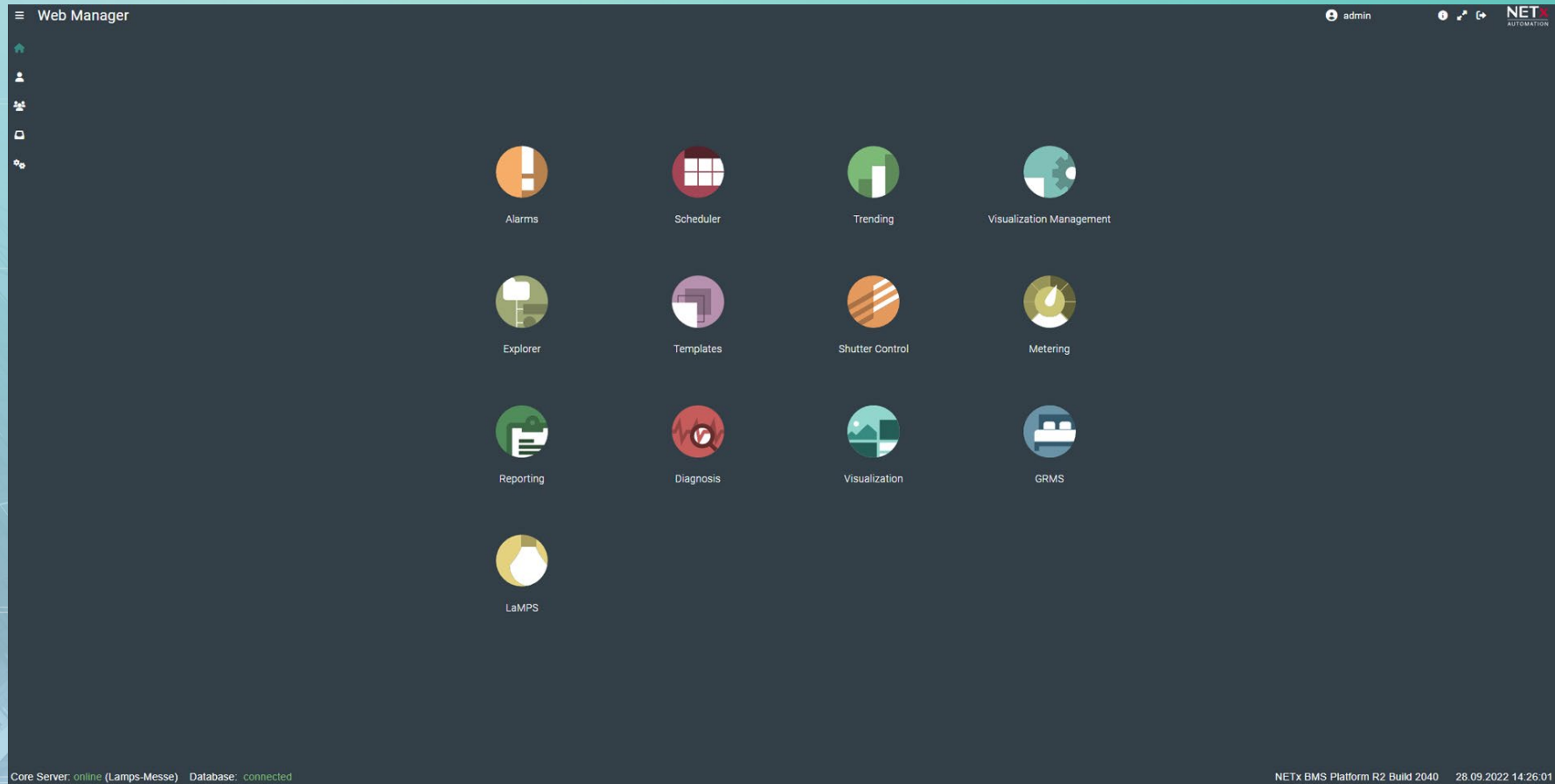
LUA scripts: script engine

Versatile	Unlimited	Scalable
<ul style="list-style-type: none">• Web and/or PC based visualization clients can be used• No difference between web and PC based visualization	<ul style="list-style-type: none">• No limit on the number of used graphical elements and pages• Licensing is done via BMS Platform	<ul style="list-style-type: none">• Fast creation of large visualization projects• Enhanced concepts like variables and templates
Customizable		Ubiquitous
<ul style="list-style-type: none">• User-defined look and file• Enhanced elements like multi-state elements, vector graphic and web-based content		<ul style="list-style-type: none">• Independent of used technology and protocols• KNX, BACnet, Modbus, SNMP, ... in one single visualization



Visualization – functions

 <p>Control elements</p>	 <p>Vector graphic</p>	 <p>Auto scaling</p>	 <p>Multiple views</p>
<p>Label, buttons, analog elements (sliders, gauges, ...), link area, multi-state elements, ...</p>	<p>Support of SVG and AutoCAD drawings (DWG, DXF, ...)</p>	<p>PC and web based visualization is automatically scaled to the current screen resolution</p>	<p>Support of multiple views for using multiple screens, browser tabs or floating window elements</p>
 <p>Variables</p>	 <p>BMS functions</p>	 <p>User administration</p>	 <p>Usability</p>
<p>Fast creation of large visualizations using project, page, layer, block and group variables. Reuse of pages and groups</p>	<p>Show graphical interface of BMS functions like alarm lists, calendars, trending charts and tables</p>	<p>Use of central user management of BMS Platform and defining different access rights</p>	<p>Easy to use editor for creating visualization projects</p>



Web based interface to manage BMS functions

Access by any client with web browser via secure connection (TLS secured https)

User management

Sophisticated user management and access permissions

Web Manager Apps

Use of central user management of BMS Platform and defining different access rights



Alarms

Configuration of alarms – showing alarm lists and alarm history



Scheduler

Config. of time based and conditional events - shown event lists and calendar views



Trending

Configuration of trends and charts – showing charts and tables

0 (0) 0 (0) 0 (0) 2 (2)

New list Old list History

Hotel Hilton

Priority	Name	Path	Date	Actions...
Q	Q	Q	>	
Room2 Overheat	\Hotel Hilton\Floor1\Room102\Alarms	2018-09-26 14:38:03	↓ ✓ ⓧ	
Room1 Overheat	\Hotel Hilton\Floor1\Room101\Alarms	2018-09-26 14:37:56	↓ ✓ ⓧ	

Start-Stop Time Event - Lights ON

Save

Enabled

Name * Lights ON

Description Turn Lights ON

Start date/time 2018-09-26 18:30:00

End date/time 2018-09-26 22:30:00

Different Actions

Start Action \Hotel Hilton\Floor1\Room101\Scheduler\Room101 Lights ON

Stop Action \Hotel Hilton\Floor1\Room101\Scheduler\Room102 Lights OFF

Recurrence Daily

Repeat *Every day @Every days

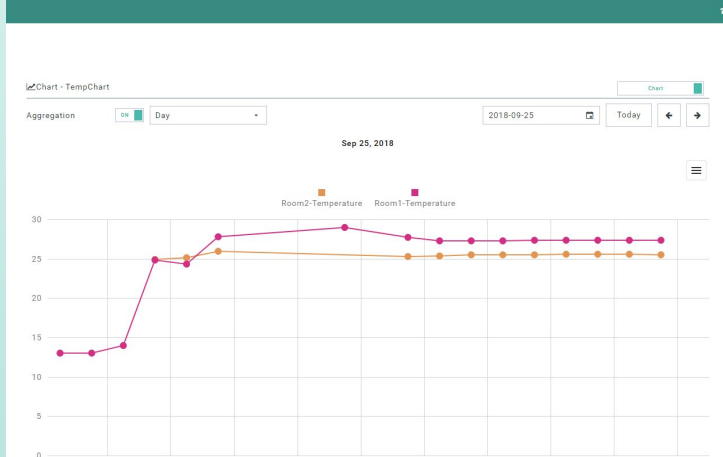
Months

January	February	March	April	May	June
July	August	September	October	November	December

Holidays Ignore

Ends *Never @On @After recurrences

Additional recurrence None





Visualization Manager

Managing visualization projects, devices, connections and user permissions

✖ Edit - Device1 Save

Name *

MAC address

Auto login admin

Connection limit

Project



Explorer

"Master App" for doing all things at single place

Explorer

Project Tree

- \
- Hotel Hilton
 - Floor1
 - Room101
 - Alarms
 - Scheduler
 - Room102
 - Room103
 - Room104
 - Room105
 - Room106
 - Room107
 - Room108
 - Room109
 - Room110
 - Floor2

Folder - Alarms

Name

Q

- Alarm Notification
 - Cool down
 - Room1 Overheat
 - Room1 Temperature over 50



Templates

Sophisticated app to create multiple definitions (e.g. alarms) with a view clicks

△ Edit - Alarm Template

Name *

Path extension

△ Alarm - Room Temp Alarm

Name *

Description

Priority

Condition

Name *

Description

Logic operation



Reporting

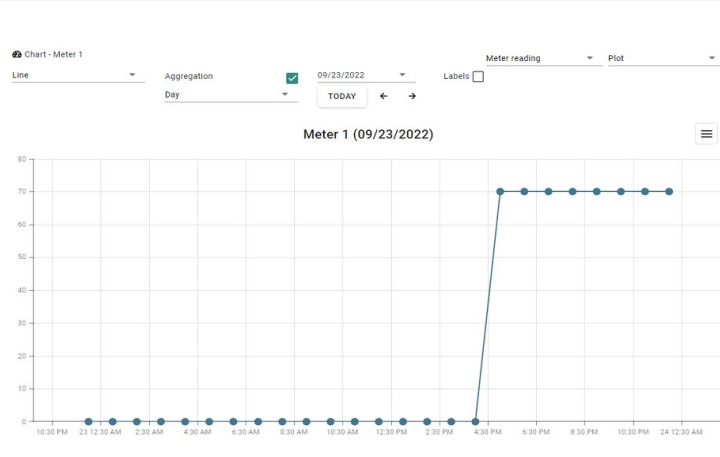
Management of reports from trend data and historical data point values as well as data from other BMS functions

Report information			
Device name	Last function test	Last duration test	Last battery tes
	Date and time	Detail	Date and time
Level 5 [LEVEL5]		Concat([Sum_ERROR], " error messages on ", [Co	
Level 4 [LEVEL4]		Concat([Sum_ERROR], " error messages on ", [Co	
Level 3 [LEVEL3]		Concat([Sum_ERROR], " error messages on ", [Co	
Level 2 [LEVEL2]		Concat([Sum_ERROR], " error messages on ", [Co	
[NAME]		If([IsNull]([DATE_F0]), If([IsNull]([DATE_D0]), If([IsNull]([DATE_D0]), If([IsNull]([DATE_E	



Metering

Monitor, analyze and process data from smart meters



LaMPS

Manufacturer-independent representation of DALI gateways and devices

- LaMPS
 - DALI
 - BuildingA
 - Floor1
 - My DALI Gateway
 - Fault General: Fault General (4|22) True
 - Fault DALI: Fault DALI (5|23) False
 - Fault Device: Fault Device (6|24) True
 - Fault Lamps: Fault Lamps (6|24) False
 - Trigger Test: Trigger Test
 - Test Running: Test Running False
 - Device1
 - Fault: Displays if any fault occurred True
 - Fault Lamp: Fault Lamp False
 - Fault Device: Fault Device True
 - OnOff: OnOff True
 - Device2
 - Fault: Displays if any fault occurred True
 - Fault Lamp: Fault Lamp False
 - Fault Device: Fault Device True

www.netxautomation.com