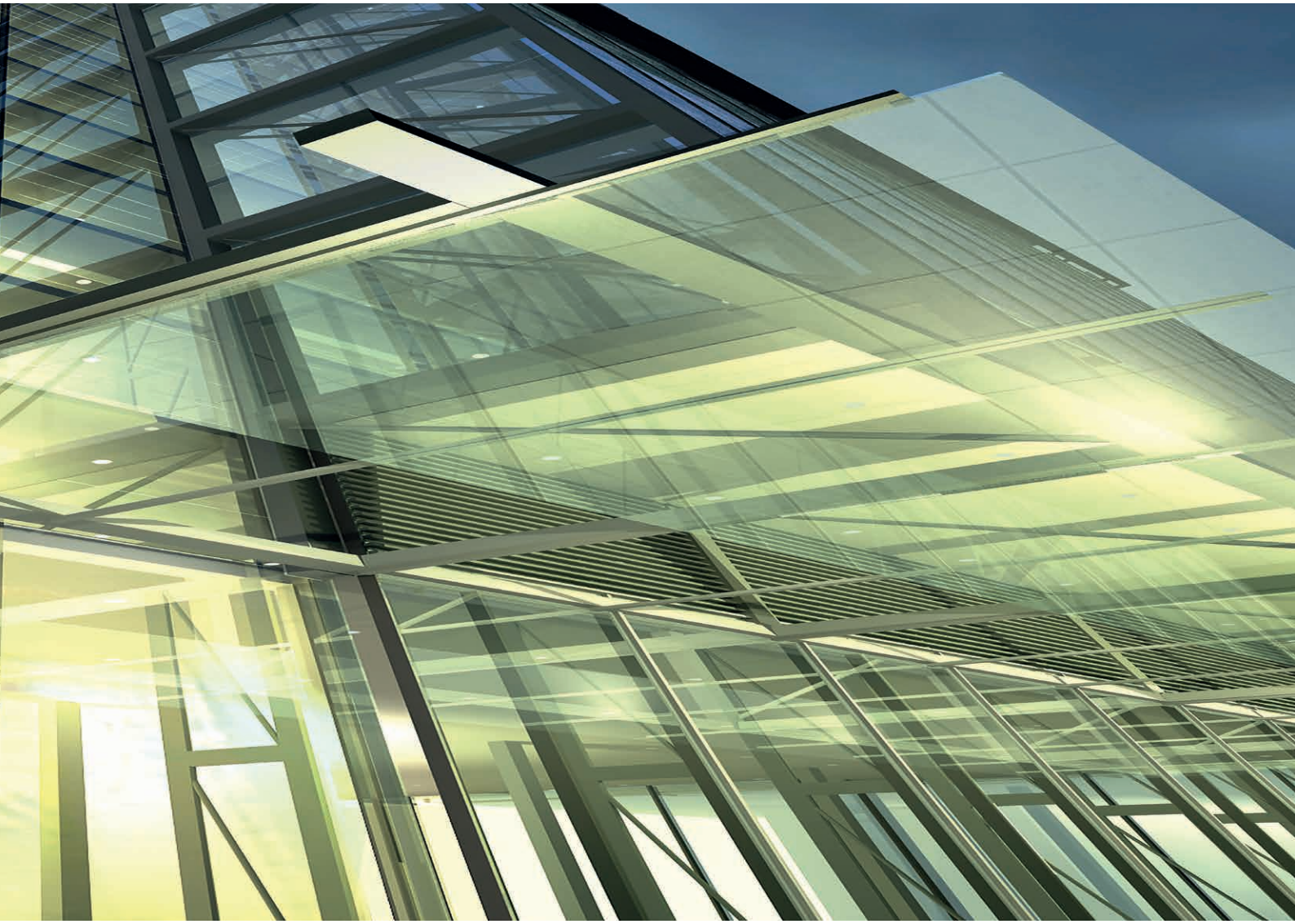
NETx
AUTOMATION



NETx Voyager 5.0

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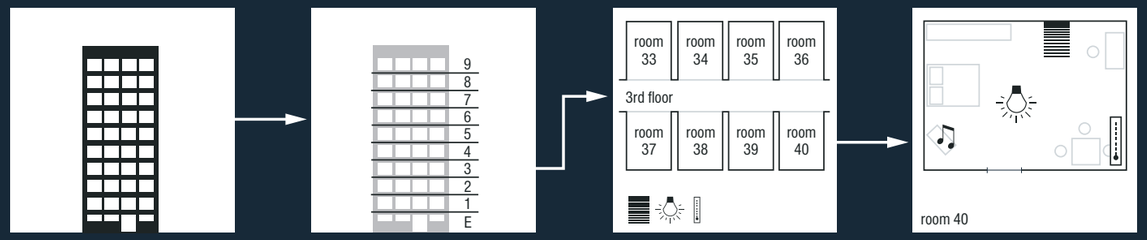
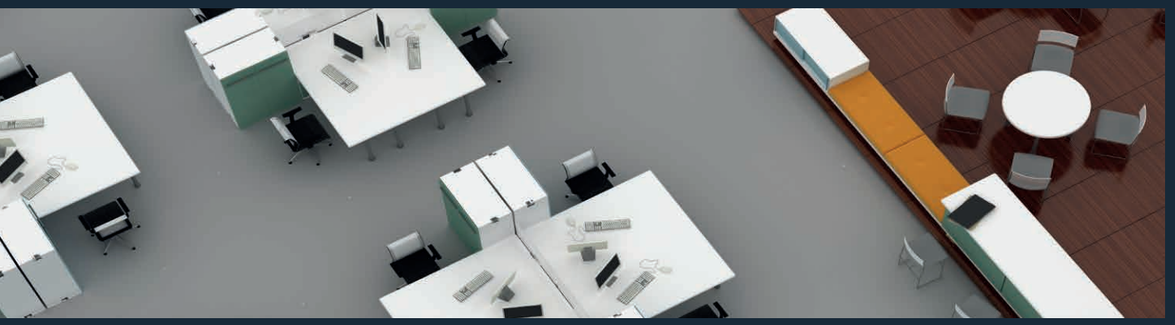
The visualization software NETx Voyager is used to control and visualize smart homes and buildings. Being part of the technical building management, the NETx Voyager acts as a client of an OPC server (OPC version). Alternatively, the NETx Voyager can directly communicate with a KNX installation (Direct(KNX) version). The building automation system is represented through a comfortable graphical user interface which provides a multitude of different management functions dedicated to the use within the building management. The field of application ranges from residential buildings and homes up to large hotel and office buildings, hospitals, commercial buildings, and airports. A complex and widespread installation can be controlled and maintained from a central point in a reliable and comfortable way.





NETx Voyager 5.0

Usability and scalability are of utmost importance for the NETx Voyager. Thanks to the used concepts and the powerful engine, professional visualizations for large-scale projects can be created in a fast and easy way. The user is able to freely choose the level of detail and the appearance at the display – NETx Voyager provides a multitude of possibilities. Background images, user-defined buttons, figures, multi-state controls, and any web based content (e.g. web cams) can be included. The integrated mechanisms of the NETx Voyager provide a broad range of possible applications like the integration of multimedia devices and hotel management systems. Traditional visualization concepts have been enhanced with new functionality. It is possible to include web based services and animated figures. Additional modules like the integrated scene manager, the trending module, the embedded calendar, the flexible processor, the historical data chart, or the alarm management module offer new opportunities for professional visualizations.

Shutter control

Lighting control

Control of hotel management systems

Building safety and security

Using multimedia devices

Control of heating systems

NETx Voyager 5.0

Trending module

In combination with the NETx BMS Server, the NETx Voyager is able to monitor and visualize value changes of any datapoint. Activating or deactivating the trending of a datapoint can directly be done within the visualization by the end user - even during runtime.

Versatile

Datapoints can be integrated within the visualization independent from the underlying automation system. Using this approach, datapoints originating from different technologies (e.g. KNX, BACnet, LonWorks, Modbus, ...) can be represented and controlled within a single visualization.

Calendar

The embedded calendar module enables the definition and management of time-based events. In combination with the NETx BMS Server, these events can be stored within the server.
The integrator as well as the end user are able to maintain these events – even at runtime.

User management

The NETx Voyager provides a comprehensive user management. In addition to an administrative user, users with limited access rights can be created. Parts of the visualization can be defined as invisible while other parts as “read only”. Access rights to dedicated modules can be limited too.

Historical data and smart metering

Using the database of the NETx BMS Server, historical values of monitored datapoints can be shown. The metering chart is able to visualize the current and historical consumption values of smart meters in an easy and user-friendly way.

Reliability

The NETx Voyager can be combined with a NETx main/backup server solution. If the main server fails, the visualization is able to switch immediately to the backup server without being noticed by the end user.

Alarm management

The integrated alarm module provides the opportunity to define and maintain user-specific alarms. The end user is able to confirm, acknowledge, or suppress an alarm. All changes of alarm states are logged accordingly.

Multi-language support

The language of the editor as well as of the visualization itself can be customized. Therefore, it is possible to provide country-specific solutions.

NETx Voyager 5.0

Advanced control elements

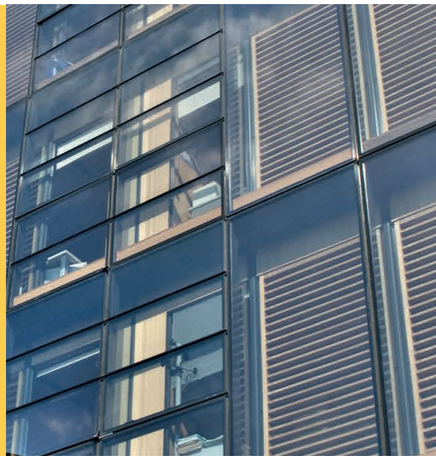
In addition to standard graphical elements like buttons, sliders, and images, enhanced and professional control elements are available (e.g. graph, multi-Internet, RGB control, ...).

Drag & Drop

Using drag & drop, datapoints can be simply linked to control elements. This approach provides the possibility to create and modify professional visualizations with just a few clicks and in a short amount of time.

Scene manager

With the help of the integrated scene manager, scenes can be configured and maintained directly within the visualization. Saving and replaying of defined scenes can not only be done by the designer but also by the end customer.



Eventor/Processor

Using the built-in Eventor and/or Processor, control functionality that is not available within the field and automation level can directly be added within the visualization.

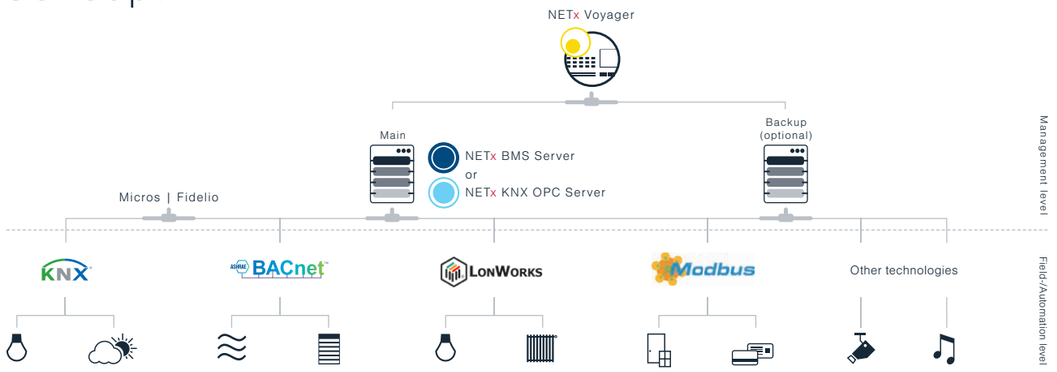
Look & Feel

Individual layouts can be defined by using master pages and customized components. By reusing the own design, it is possible to create an individual look & feel.

Library

User-defined control elements can be grouped and stored as components within a library. This approach provides the opportunity to reuse components in other visualization projects.

Concept



The NETx Voyager is part of the technical building management. The information that is collected by the OPC server is represented in a user-friendly way. The user gets a global view of the whole building automation system and its datapoints.

Due to the use of the standardized OPC Data Access 2.0 interface, the NETx Voyager is able to connect to any OPC server that supports this specific interface. Thus the user is independent of vendors and can freely choose the field of application.

As it is common for all NETx solutions, the NETx Voyager provides a lot of benefits when comparing it to other products. The NETx Voyager guarantees a high data throughput and is able to handle a large amount of datapoints while still providing a reliable communication to the underlying building automation system. Thanks to the high reliability and scalability, the NETx Voyager can be used within the largest building automation projects of the world.

In addition to the OPC version of the NETx Voyager, a so called Direct(KNX) version is available. The Direct(KNX) version provides the possibility to directly communicate with a KNX system without using an OPC server in between. Compared to the unrestricted OPC version, the Direct(KNX) version is limited to KNX systems with a single interface.

Therefore, it is only recommended for small KNX projects. For large-scale projects where different technologies are used, the OPC version has to be preferred.

Versions

OPC | Direct(KNX)

1)

OPC

Driver - NETxAutomation

- simultaneous use of different technologies (KNX, BACnet, LonWorks, Modbus, and more)
- direct access to data via OPC server
- multiple visualization clients
- for visualization projects with any OPC server
- main/backup solution possible
- in combination with NETx BMS Server: access to historical data, metering chart, server based calendar, trending module

2)

Direct(KNX)

Falcon driver - KNX Association

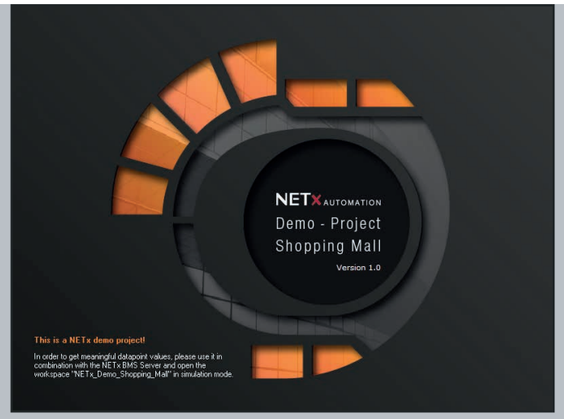
- only for KNX projects
- direct connection to the KNX network without needing an OPC server
- supports all official KNX interfaces
- simple import of configuration from ETS
- for one KNX interface only (e.g. USB or KNXnet/IP router/interface)

Field of application

Due to its reliability and flexibility, the NETx Voyager is a versatile platform that is not limited to a dedicated application domain. The NETx Voyager can be integrated into any building automation system. The scalability of the system provides the possibility to use it within a broad range of applications – from small homes to large-scale commercial buildings where a high amount of visualization pages and control elements are demanded. Due to the flexibility of the provided interfaces, different visualizations can be realized within a single system by combining any number of NETx Voyager systems.

For instance, in addition to a master visualization which provides a global view of the whole building, further visualizations which show only a part of the building to the user can be integrated, too. Typical examples are visualization systems for hotels. While hotel guests are able to control their room using dedicated room visualizations, the hotel staff is able to use a seperate visualization to get an overview of the whole floor.

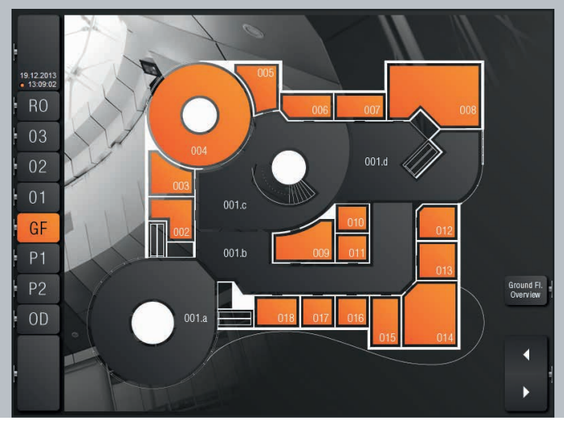
With the introduction of the new NETx Voyager, the application is no longer limited to a single system technology. Due to the used multi-purpose interface, datapoints that originate from any arbitrary technology (e.g. KNX, BACnet, LonWorks, Modbus, ...) can be presented and controlled within a single visualization. The datapoints are represented in a transparent, from the underlying technology independent way. This approach has the advantage that the designer of a visualization does not need to consider the characteristics of the underlying technologies.



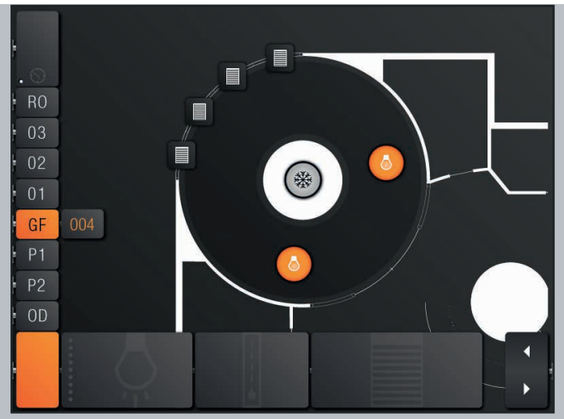
Start

Floor selection

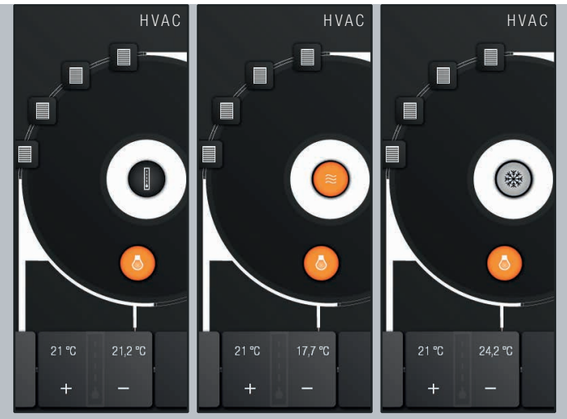
Ground floor overview

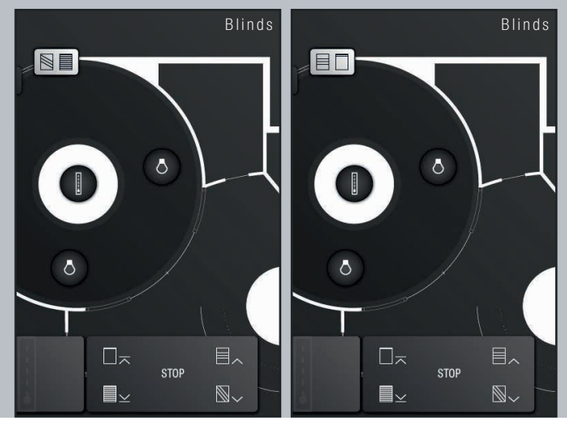


Ground floor



Room

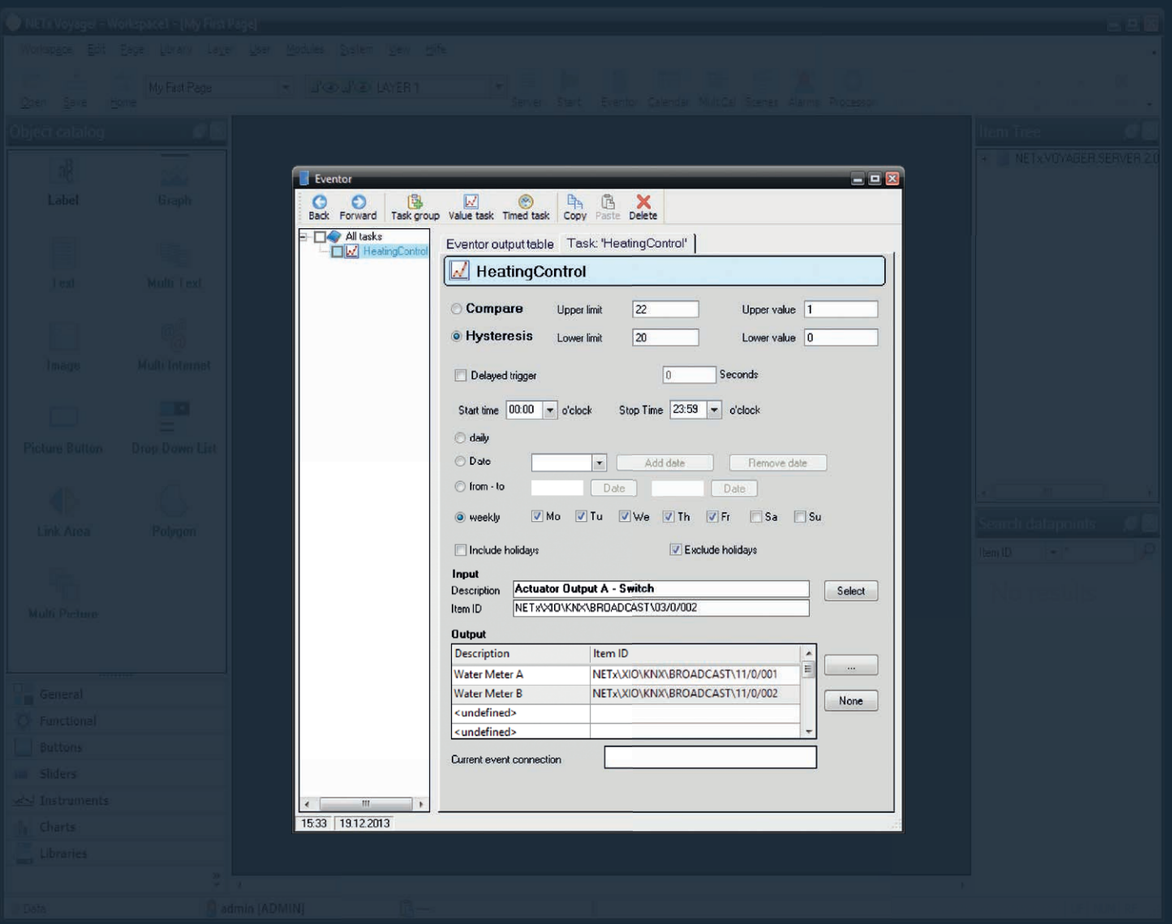




Modules

for a professional visualization

The NETx Voyager provides a multitude of add-on modules that enable the development of professional visualizations. The NETx Voyager integrates a module for time and calendar based functions, a scene and event manager, an alarm list and a module for alarm notification via e.g. e-mail, a trending module, metering and historical data charts as well as a processor to add complex functionality using VBA scripts. Using these modules, the control of the building can be geared towards the customer's needs.



User management

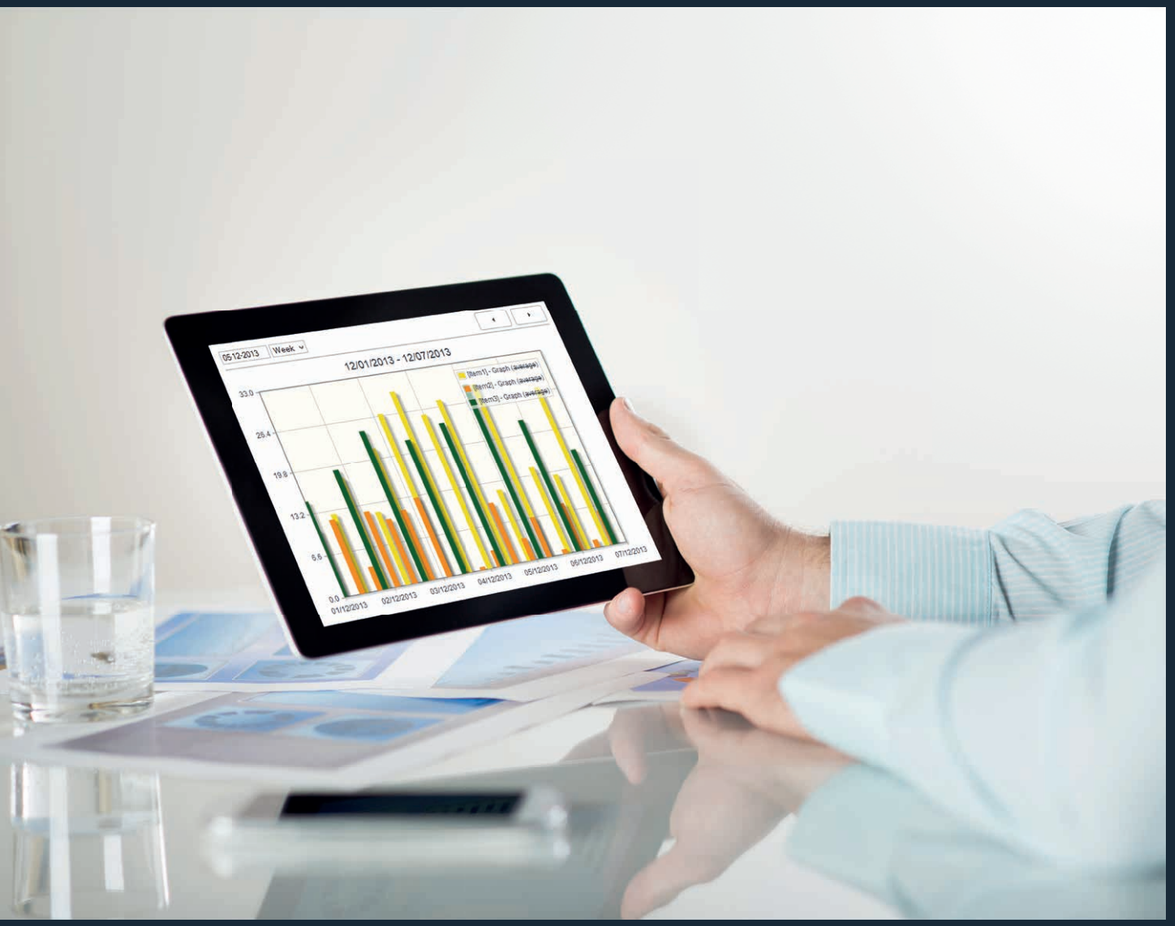
Depending on the application, different users shall be able to control a visualization. Based on the access rights of the users, dedicated actions shall be allowed while others can be denied. A typical example would be a hotel where the hotel staff is allowed to perform a more broad range of actions than a typical hotel guest. To satisfy these requirements, the NETx Voyager provides a comprehensive user management.

In addition to an administrator, users with limited access rights can be created. For example, it is possible to specify parts of the visualization as invisible while other parts can be defined as “read only”. In addition, the access rights to dedicated modules (e.g. the calendar module) can also be constrained.

Eventor & Processor

If the existing control functionality provided by the field and automation level is not sufficient, the missing functions can be realized at the management level using the NETx Voyager. To achieve this, the so called Eventor and Processor are available.

The Eventor provides a user-friendly solution to change datapoints based on specific conditions (time or value based conditions). If the available mechanisms of the Eventor are not sufficient, the Processor can be used to provide the missing functionality. Using the Processor, predefined or user-specific VBA scripts can be integrated. Both the Eventor and the Processor can be used in online mode during runtime.

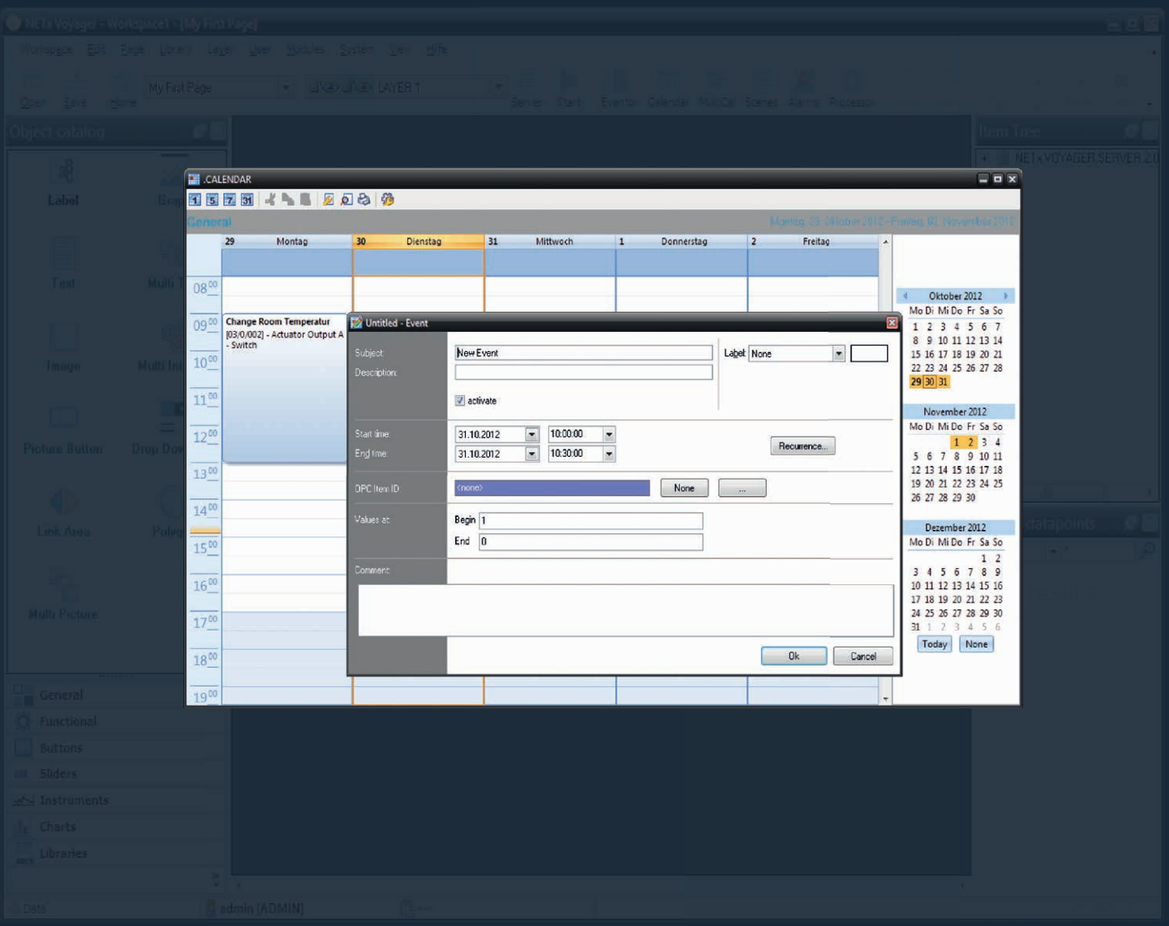


Trending

When using the NETx Voyager in combination with the NETx BMS Server, trending of datapoints is possible. The aim of the trending module is to monitor and analyze past and future values of datapoints within a certain time period. Enabling and disabling of a trend can directly be done by the end user - even during runtime. Changing the configuration of the NETx BMS Server is not required. Datapoints that have trending activated can be grouped together. A trending group can be visualized in a trending graph window that shows the trends of the datapoints that belong to the group. In NETx Voyager it is possible to show several trending graphs at the same time. This provides the opportunity to compare trending groups and their included trends with each other. Within a trending group, the end user has the opportunity to configure trends. It is possible to change the time interval of the trending and the appearance (e.g. graph type, graph color, interpolation mode). Furthermore, trends can be completely removed from a trending group.

Historical data and metering

The NETx BMS Server includes a database that is used to store historical values. The historical data chart of the NETx Voyager is a customizable graphical control that visualizes these historical values. In addition a module for integrating smart meters is provided by the NETx BMS Server. This metering module collects the consumption values from the specified meters and stores them in the internal database of the NETx BMS Server. Using the so called metering chart, these consumption values can be visualized by the NETx Voyager. The time base for displaying these values can freely be chosen by the end user. In addition, all values can also be visualized in a table view. Furthermore, the provided graphs and tables can be printed or stored as Excel file.

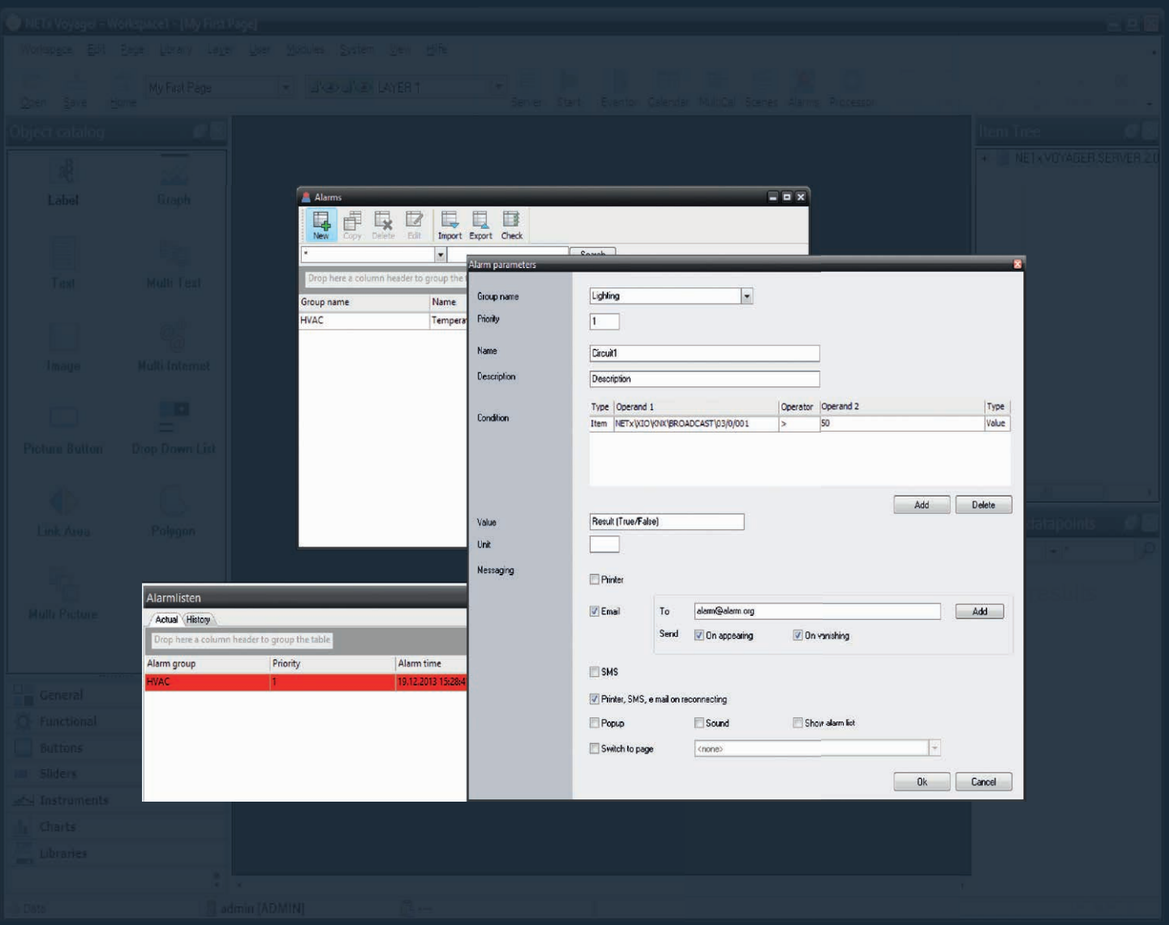


Server based calendar events

In combination with the NETx BMS Server, events can be stored in the server. Compared to a client-based solution, storing calendar events within the server has the advantage that these events are independent from the clients. The user needs to start the client software only to create or administrate the events on the server. Once this is done the client connection can be shut down and the scheduled events on the server will still be executed. Depending on the configured access rights, multiple clients can access and manage server based calendars at the same time. This is also true for web based NETx visualization clients since the server calendar is also available there.

Calendar module

With the help of the included calendar module, time based events can be defined. To specify these events, a graphical user interface is available. Using this interface, the definition of recurring events is possible too. Calendar entries can be created and modified either by the visualization designer or by the end users themselves during runtime. As for all other modules, any datapoint (regardless of the underlying technology) can be used for calendar events.



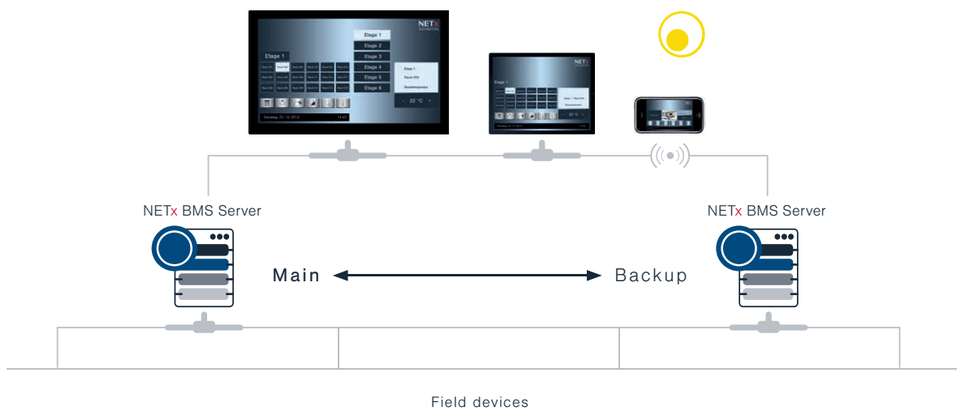
Alarm module

Defining alarms and monitoring alarm states are a essential requirements within the building management domain. Therefore, the NETx Voyager provides a comprehensive alarm mechanism that can be used by the visualization designer to define any number of alarms. If the corresponding alarm condition is met, the end user is notified. This can directly be done within the visualization by a pop-up window or by switching to a user-defined alarm page. In addition, a notification via e mail or SMS is also possible.

By means of the provided alarm list, the user is able to monitor the alarm states. Alarms can be confirmed, acknowledged, or suppressed by the end user. All alarm state changes are logged in a dedicated alarm log file for further use.

Scene manager

By using the integrated scene manager, the visualization designer is able to create user-defined scenes. To achieve this, the datapoints that shall be part of the scene have to be assigned to it. In addition, the designer is able to specify a datapoint for storing the scene and another datapoint for replaying it. Again, any datapoint can be used. In addition to virtual datapoints that only exist within the server, physical datapoints from different technologies (e.g. datapoints from KNX and datapoints from BACnet) can be used at the same time within a single scene. Storing the current datapoint values and replaying them again (i.e. reestablishing the stored values) can directly be initiated by the end user. For this purpose, real datapoints from the field (e.g. a simple switch) as well as virtual datapoints that are only available within the visualization can be used.



Main/backup solution

Reliability through main/backup solution

Reliability is one of the most important requirement within the building automation domain. Therefore, the NETx Voyager can be combined with a NETx main/backup server solution. The visualization is able to communicate with the main and backup server at the same time. If the network connection to the main server is interrupted, the connection to the backup server becomes active. By communicating with the backup server, the NETx Voyager is still able to retrieve the data from the building automation system. Switching between main and backup server is done automatically – without the need of manual interaction by the end user.

A main/backup solution not only increases the reliability of the system but also eases the maintainability. If the configuration of a building automation system has to be changed during runtime, the main server can simply be turned off in order to adapt the configuration. In the meantime, the backup server can remain online and the end user can still use the visualization. Again, the switching between main and backup is done automatically without any user intervention.

System reqirements

Hardware:
PC - Intel oder AMD - 1.6 GHz (Multicore recommended)
RAM: 2048 MB
Hard disk: 4 GB (8 GB recommended)
Ethernet interface: 100 MBit/s
Screen resolution: 1280 x 1024

Supported operating systems:
OPC:
Windows XP Professional (32 bit) SP 3
Windows 7 (32 bit | 64 bit)
Windows 8 (64 bit) | Windows 8.1 (64 bit)
Windows Server 2008 | 2008 R2 (32 bit | 64 bit)
Windows Server 2012 | 2012 R2 (64 bit)
Direct(KNX):
Windows XP Professional 32 bit / SP 3
Windows 7 32 bit | 64 bit
Windows Server 2008 | 2008 R2 (32 bit | 64 bit)

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Member of:

KNX Association | OPC Foundation
BACnet Interest Group Europe

If the NETx Voyager is combined with the NETx BMS Server, a database connection as well as the metering module are also included.

All versions are available with:
- Softlock (license code)
- Hardlock (USB-Dongle)

It is **recommended** to use the **Hardlock version**, since no additional licensing is necessary if the hardware or the operating system is changed.

Order number

Software	Interface	Product-ID
HOME	Direct(KNX)	S07.05.0.02.02
BASIC	Direct(KNX)	S07.05.0.02.03
HOME	OPC DA 2.0	S07.05.0.01.02
BASIC	OPC DA 2.0	S07.05.0.01.03
PROFESSIONAL	OPC DA 2.0	S07.05.0.01.04
ENTERPRISE	OPC DA 2.0	S07.05.0.01.05
USB-Dongle	Free USB port required	H00.00.0.00.04

Details

	HOME	BASIC	PROFESSIONAL	ENTERPRISE
Elements	400	2,500	10,000	unlimited
Pages	20	100	200	unlimited
Eventor	50	500	unlimited	unlimited
Calendar	50	500	unlimited	unlimited
Alarms	50	500	unlimited	unlimited
Scenes	10	500	unlimited	unlimited
Processor	not available	available	available	available
Virtual devices	not available	500	unlimited	unlimited