NETx AUTOMATION

NETx BMS Server 2.0

NETx KNX OPC Server 3.5

NETx Voyager 5.0

NETx Touch

NETx MaRS

NETx Shutter Control

NETx Server Interfaces

NETx Product Catalog

enterprise building automation software

NETx AUTOMATION

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Building management system solution and OPC server - supports KNX, BACnet, LonWorks, Modbus, and other interfaces

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OPC KNX server - bridge between KNX and other systems

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High end visualization - customizable user interface for medium and large projects

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Visualization for touch panels, smart phones, tablets and other web based devices

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Automatic shading control

NETxAutomation Software GmbH

Founded in 2001, NETxAutomation Software GmbH is an Austrian company that is operating world-wide. NETxAutomation provides software solutions and project support in the field of home and building automation. Due to close cooperations with universities (Vienna University of Technology, Technical University Dresden, Artesis University Antwerpen) and since NETxAutomation is member of the KNX Association, the OPC Foundation, and the BACnet Interest Group Europe, all solutions are based on international standards and future-oriented technologies. Since 2008, the NETx KNX OPC Server is recommended by the KNX Association and, thus, a standard in the KNX domain. Innovation and reliability as the main objectives of NETxAutomation can be found in all products. Software from NETxAutomation is successfully used in more than 30 countries of the world - from small homes up to the largest enterprise buildings.

Customers of NETxAutomation are electrical consultants, electrical engineers, and system integrators who get the best project support and consulting service.

NETxAutomation - Solutions for Building Management

NETx Voyager
PC-based enterprise visualization

NETx MaRS
Energy management system

NETx Shutter Control
Automatic shading control

NETx Touch
NETx BMS Clients
Web based visualization clients
iOS, Android, any web browser

NETx KNX OPC Server
OPC server for KNX only

NETx BMS Server
OPC Server with database, web server and BACnet/IP server

KNX · BACnet · LonWorks · Modbus · MICROS Fidelio · Protel · SQL · JSON ABB EQ Meters · Universal XIO interface · OPC DA servers for other systems - “OPC Bridge“

NETx product overview

NETx BMS Server 2.0

Building management system solution and OPC server - supports KNX, BACnet, LonWorks, Modbus, and other interfaces

NETx Voyager 5.0

High end visualization - customizable user interface for medium and large projects

NETx Touch

Web based visualization and control - for touch panels, smart phones, tablets and other web based devices

NETx KNX OPC Server 3.5

OPC KNX server - bridge between KNX and other systems

NETx MaRS

Metering and Reporting System - energy management system for displaying and analyzing consumption values and costs of smart meters

NETx Shutter Control

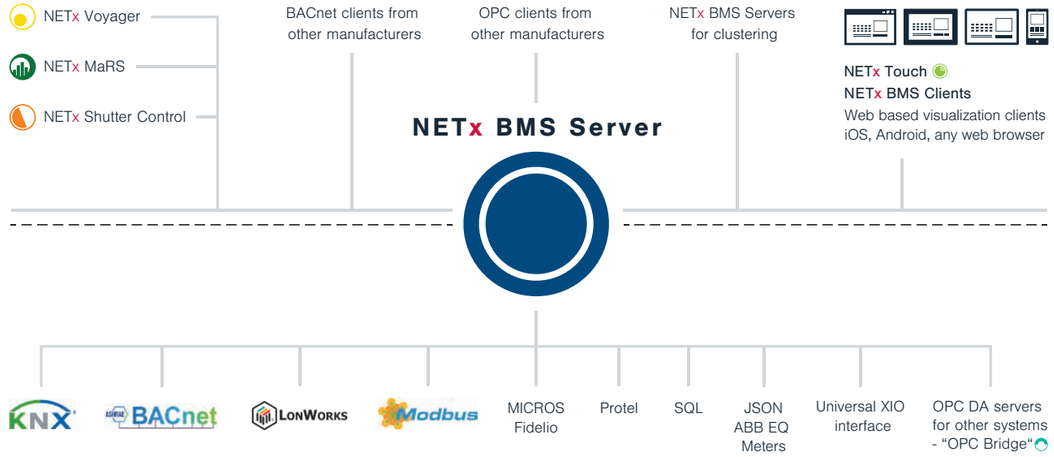
Automatic shading control - controls blinds and shutters based on the season, weather, sun, location and 3D geometry of buildings

NETx Server Interfaces

Extension modules for NETx BMS Server and NETx KNX OPC Server

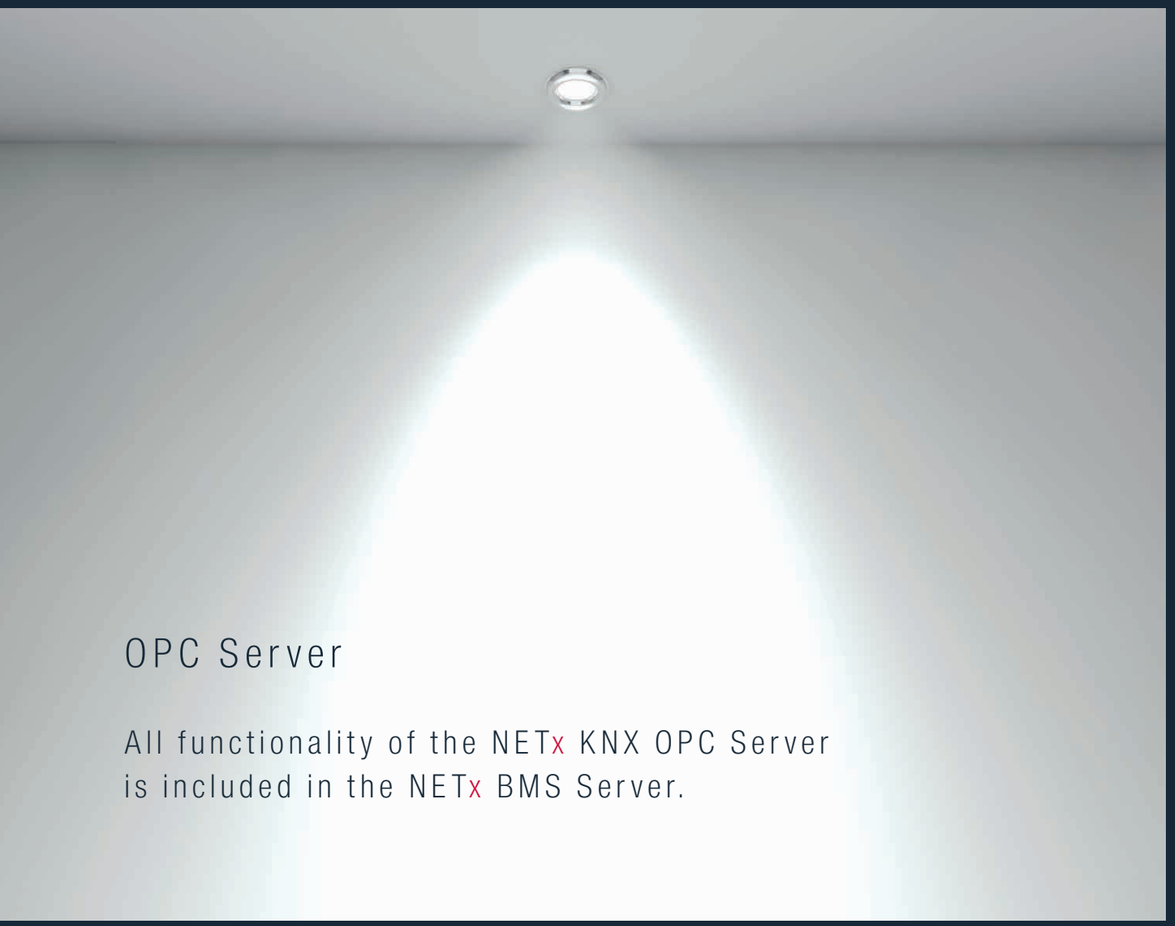
MANY SYSTEMS - ONE SOLUTION - NETx BMS Server 2.0

Lighting Shading Smart metering Trending Climate Heating Ventilation Access control Time attendance system



The NETx BMS Server is the core component for solutions within the building management domain. As a server application it is responsible for collecting and processing datapoint values from any building automation system. The datapoints themselves can originate from a variety of systems and technologies. The NETx BMS Server offers the possibility to integrate datapoints from KNX, Modbus, LonWorks or BACnet. In addition, interfacing to other systems is possible too.

The processed datapoints are then provided to management clients via open interfaces. In addition to providing web based visualizations via the embedded web server, it can serve any amount of NETx clients (e.g. NETx Voyager, NETx MaRS or NETx Shutter Control). Thanks to the open OPC interfaces, an integration of third-party OPC clients is possible. Using the included BACnet/IP server interface, third-party BACnet/IP clients can access the NETx BMS Server too.



OPC Server

All functionality of the NETx KNX OPC Server is included in the NETx BMS Server.

NETx BMS Server 2.0

Main/backup

For high reliability, the NETx BMS Server can be deployed as a main/backup solution.

Gateway functionality

Any information can be exchanged and forwarded between technologies and systems that are integrated via the NETx BMS Server.

Integration

The NETx BMS Server allows the integration of different protocols and technologies. In addition to KNX, BACnet, LonWorks, and Modbus, interfaces to other systems (e.g. Micros Fidelio) can be included. Furthermore, datapoints from existing OPC servers can be integrated too.

Historical data storage

Using the included database, historical values of any datapoint can be stored for further usage. Interaction of all users, clients or sub systems can be logged too.

Management clients

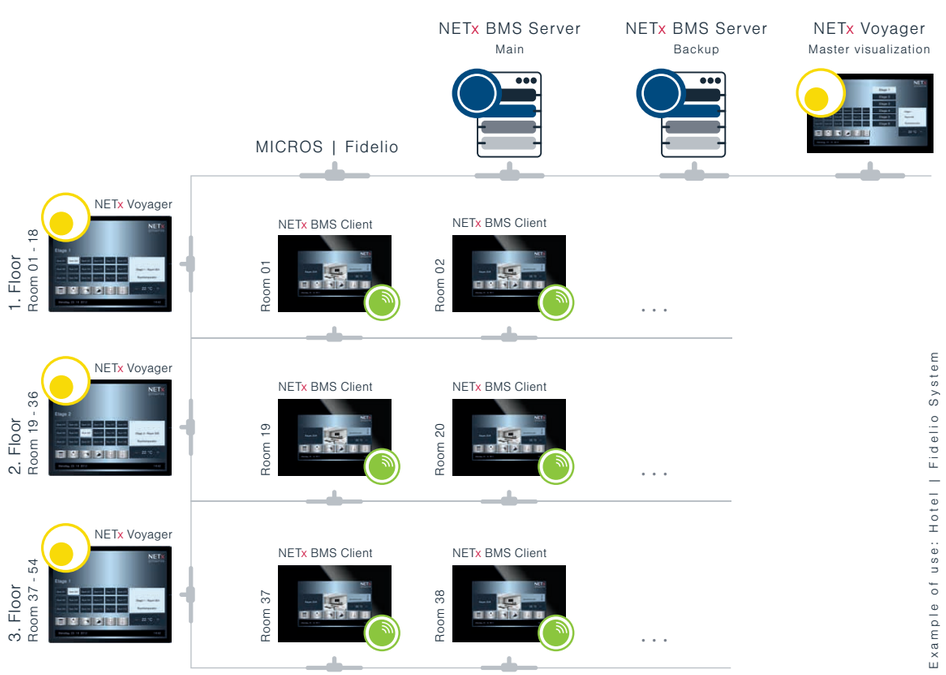
The NETx BMS Server provides interfaces to OPC, BACnet/IP, and VNET in order to integrate NETx clients or other third-party management applications.

Web based visualization

An integrated web server offers access to sophisticated, web based visualizations that can be created with the NETx BMS Client Editor. Administration, analysis and updating of all visualization clients can be done centrally.

Adding control functionality

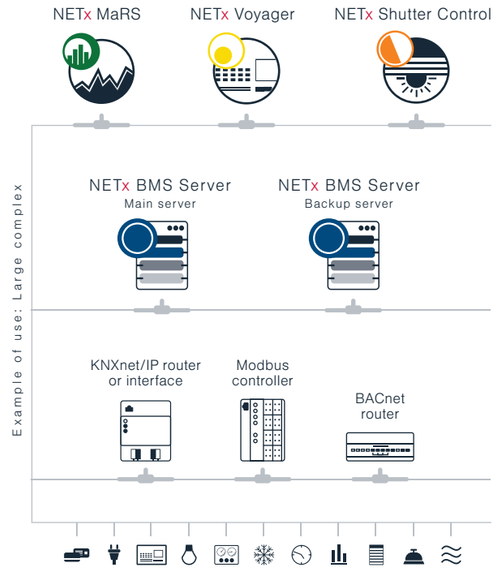
Using server tasks, timers, virtual links, and/or LUA scripts, missing control functionality can be implemented within the NETx BMS Server.

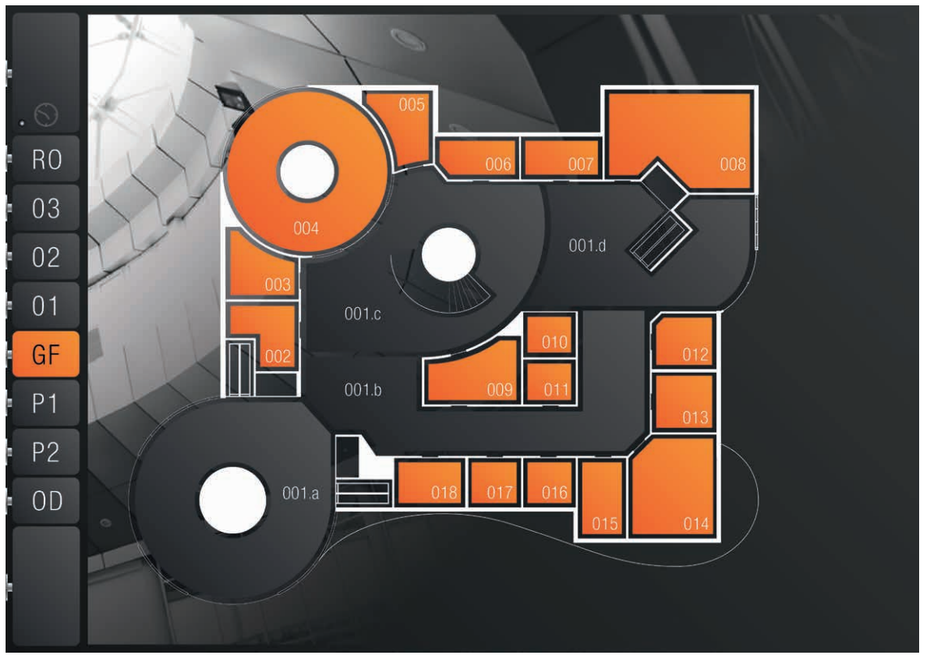


Field of application

A major advantage of the NETx BMS Server is its scalability. Due to the reliable server engine and the modular design of the interfaces, the NETx BMS Server can be used in small, medium, and large-scaled projects - from smart homes to the largest hotel projects and commercial buildings in the world.

As a central server within the building management, the NETx BMS Server acts as a central point for administration. Thanks to the performance of the server engine, the NETx BMS Server can be combined with an almost unlimited amount of management clients. Depending on the project size, the functionality of the building automation system can be distributed to different management clients. The datapoints of interest are centrally collected by the NETx BMS Server and then provided to the clients.
To increase the availability, the realization as a redundant main/backup solution is possible.





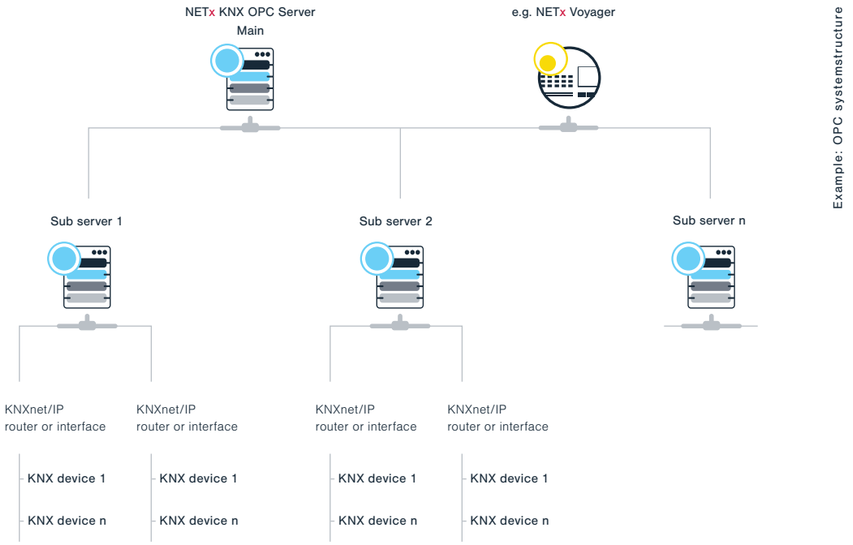
Server-based visualization at the highest level

The NETx BMS Server is more than just a data server. Thanks to the embedded web server, the NETx BMS Server provides a flexible platform for web based visualizations. Both for creating and for its representation, no additional software is necessary - all necessary software components are already included in the NETx BMS Server.

Web based visualization projects are displayed on so-called NETx BMS clients. Since the developed web engine uses HTML and JavaScript only, any device equipped with a standard web browser can be used - additional plug-ins or software components are not necessary. Thus, web based visualizations are not limited to PC-based systems - smart phones, tablets, touch panels or other embedded devices can be used too. The centralized management of visualization projects and clients is also done within the NETx BMS Studio. The NETx BMS Studio can define a nearly unlimited amount of visualization projects. The creation of visualization projects is done using the NETx BMS Client Editor which is also integrated in the NETx BMS Server as a software component.

In order to use the created visualization projects at a device, a NETx BMS Client definition has to be specified for each client device. In addition to defining a user name and password, each NETx BMS Client definition is assigned to a visualization project. This assignment can be modified dynamically and can be changed at any time during operation.

It is also possible to use a visualization project for several NETx BMS Clients. This dynamic approach of assigning visualization projects to the corresponding NETx BMS Clients allows a flexible and manifold realization of visualization projects.



Example: OPC systemstructure

NETx KNX OPC Server 3.5

Performance

The data throughput for central monitoring increases according to the number of routers or interfaces used.

Scalability

Up to 1000 KNXnet/IP routers/interfaces and more than 100000 KNX group addresses can be managed.

Central monitoring

The advanced NETx KNX OPC Studio offers the opportunity to monitor telegrams and values of datapoints.

Main/backup

For high reliability, the NETx KNX OPC Server can be deployed as a main/backup solution.

Adding control functionality

Using server tasks, timers, response events, and/or LUA scripts, missing control functionality can be implemented within the NETx KNX OPC Server.

Simulation mode

The configuration of the server can be tested without being connected to the physical KNX devices.

Version 1)

Unified driver - Driver - NETxAutomation

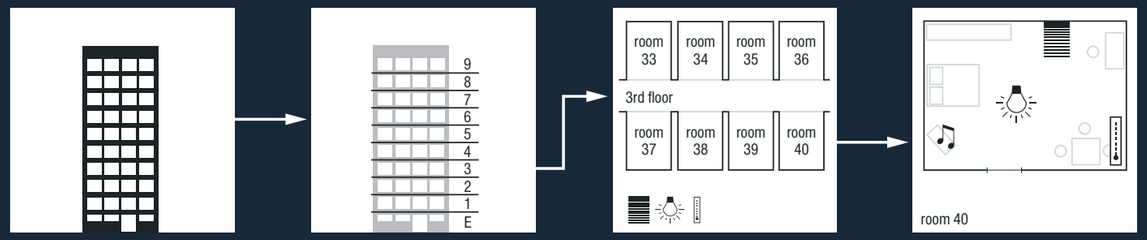
- Connection to the KNX network using KNXnet/IP routers and/or KNXnet/IP interfaces
- Supported protocols: KNXnet/IP tunneling, ABB IG/S, b.a.b-tec (eibNode)
- Up to 1000 KNXnet/IP routers/interfaces are supported
- Active monitoring of availability of physical devices

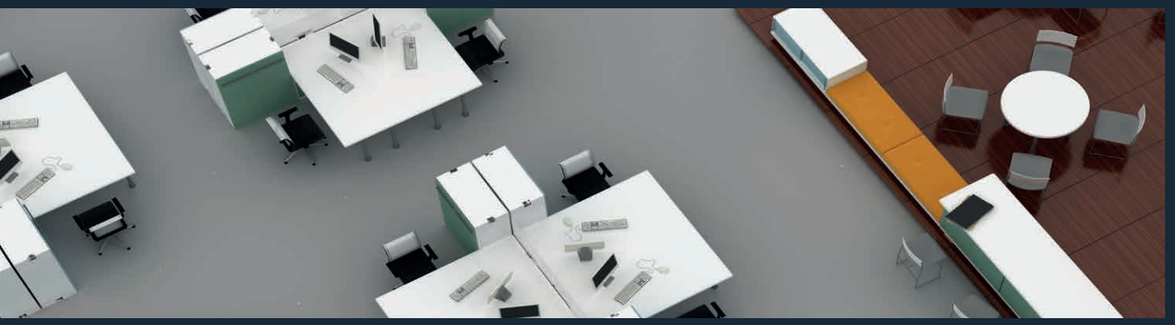
Version 2)

Direct(KNX) - Falcon driver - KNX Association

- Connection to the KNX network with USB, RS232, KNXnet/IP routers, or KNXnet/IP interfaces
- Supported protocols: KNXnet/IP tunneling, KNXnet/IP routing, USB, RS232
- Integrated Falcon driver
- Only for one interface to KNX

The NETx KNX OPC Server is a server application that provides a standardized way to access KNX networks and their devices and datapoints. As an OPC Data Access 2.0 server the KNX datapoints, i.e. the KNX group addresses, are mapped to OPC items which can be accessed by any OPC client. Using server tasks, timers, response events, and scripts, the NETx KNX OPC Server offers the possibility to add additional control functionality that is missing in the KNX network. Due to the powerful server engine and its scalability, the NETx KNX OPC Server proved itself as a standard solution for KNX projects of all sizes and types - from smart homes up to large enterprise buildings. Thanks to the easy to use NETx KNX OPC Studio and the integrated ETS import tool, any project integrator is able to configure it without much effort. By providing the standardized OPC interface, the NETx KNX OPC Server provides an ideal solution to integrate KNX datapoints into visualizations or other building management clients.





NETx Voyager 5.0

Shutter control

Lighting control

Control of hotel management systems

Building safety and security

Using multimedia devices

Control of heating systems

Version 1)

OPC - Driver - NETxAutomation

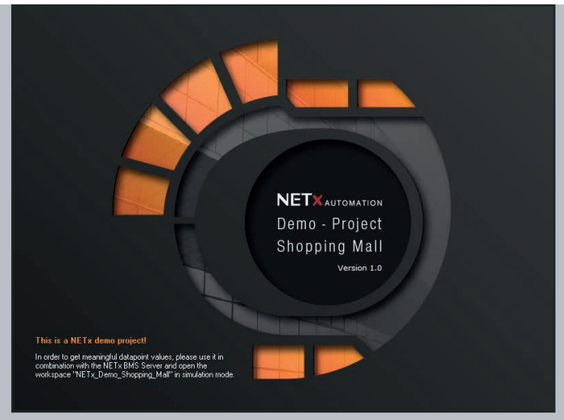
- simultaneous use of different technologies (KNX, BACnet, LonWorks, Modbus, and more)
- direct access to data via OPC server
- multiple visualization clients
- for visualization projects with any OPC server
- main/backup solution possible
- in combination with NETx BMS Server: access to historical data,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

Version 2)

Direct(KNX) - Falcon driver - KNX Association

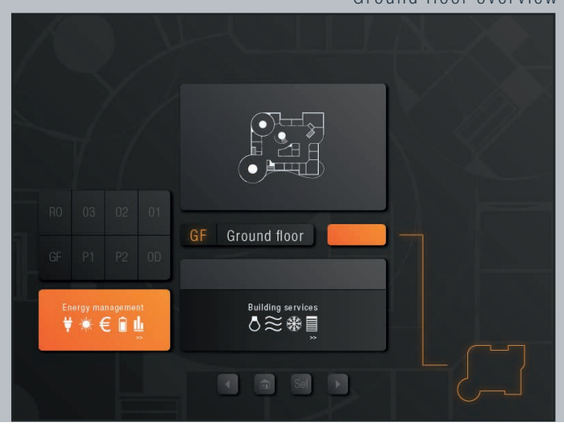
- only for KNX projects
- direct connection to the KNX network without needing an OPC server
- supports all official KNX interfaces
- simple import of configuration from ETS
- for one KNX interface only (e.g. USB or KNXnet/IP router/interface)

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.

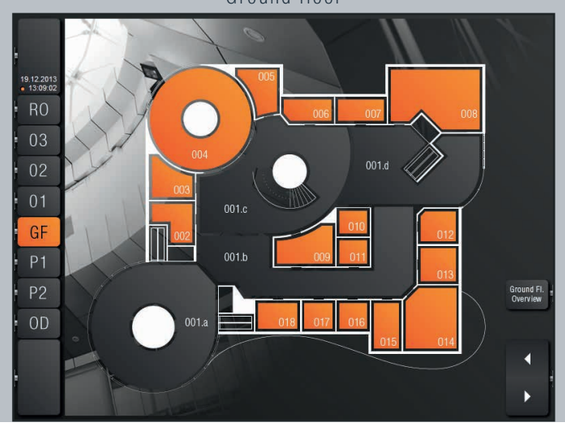


Start

Floor selection

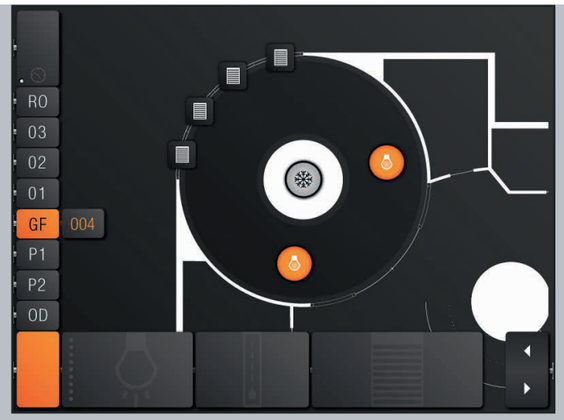


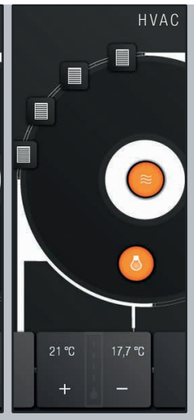
Ground floor overview

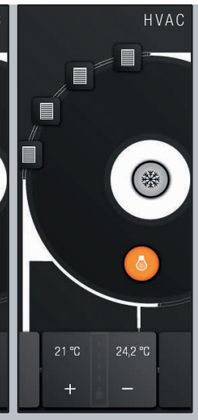


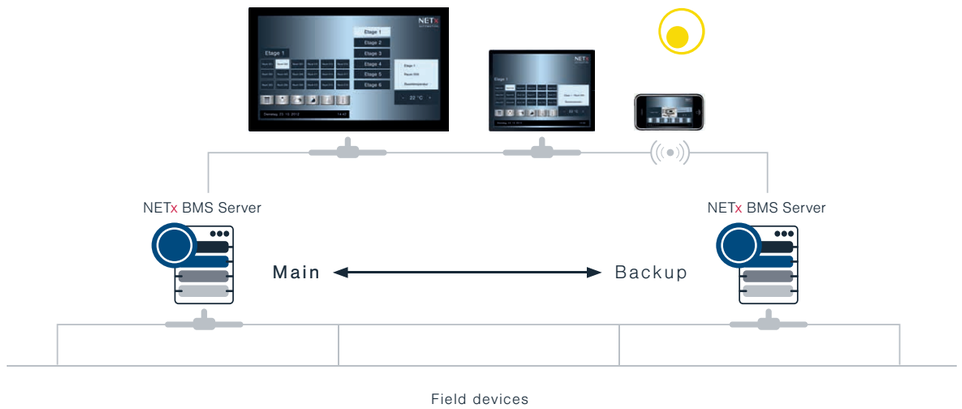
Ground floor

Room









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.

NETx Touch

Visualization, control and operation of a building with a touch screen

- Location-independent operation
- Easy configuration
- Automatic client discovery
- Password protection for configuration pages
- Integration into NETx main/backup environment possible

NETx Touch allows the visualization and control of a building on mobile devices with touch screens. NETx Touch is free of charge and offers enhanced functionality that cannot be provided by a standard web browser. In addition, web based visualizations can be integrated into a main/backup solution – if the main server is no longer available, the web based visualization will automatically switch to the backup server.

NETx Touch also provides the opportunity to change the settings for the connection (address of the main and backup server, the name of the NETx BMS Client definition, user name and password) and to save it permanently protected from being changed by the end user. Furthermore, an automatic client discovery service simplifies the configuration. For iOS and Android.

NETx MaRS

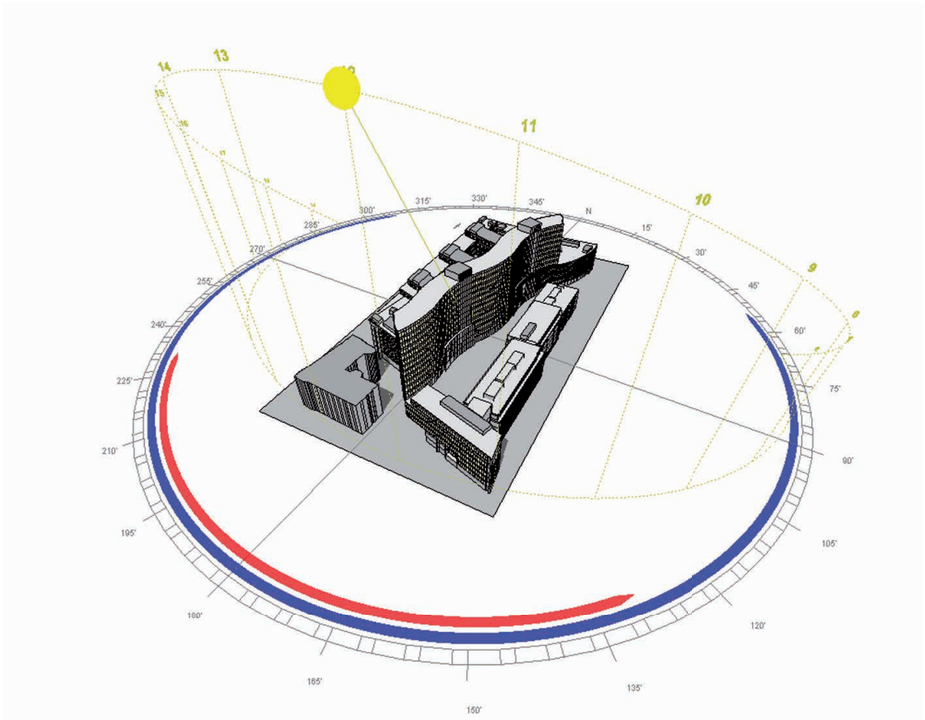
NETx MaRS Application Domains

- **Performing consumption and cost calculation based on a defined cost center structure**
- **Interfaces to third-party applications for further processing of the calculated results**
- **Generation of presentation documents of the performed calculations such as diagrams, graphs, tables, billing reports**
- **Visualization and monitoring of consumption values and costs of any arbitrary resource (e.g. electricity, water, heat, gas, oil, air, ...)**
- **Plausibility check of measured data**
- **Storing the collected values into the central database**
- **Analysis of the consumption values and costs and comparison with indicators (influencing values).**

The Metering and Reporting System NETx MaRS is a modern, user-friendly software that is able to display, analyze, and process smart metering data which is stored within a database system.

NETx MaRS can be used as a central, company-wide data collection for smart metering data. This metering data for energy, water, air, gas, or steam is continuously collected together with other meta-information.

Due to the measurement of consumptions values of different domains, it is possible to decrease the operating costs sustainably. Furthermore, a comprehensive database is provided that can be used for further, electronic processing within costs and billing information systems.



NETx Shutter Control

- Designed for large facilities

Blinds can be controlled individually or per sector.

- Simple operation

Easy to adapt and integrate - no programming of actuators is necessary.

- Weather and time data

Control based on the current weather and time.

- Automatic control

Automatic raising and lowering of blinds if certain thresholds are exceeded.

- 3D design

Inclusion of the 3D geometry of the building as well as the shadows of nearby buildings. Simulation of a whole building area is possible.

NETx Shutter Control is an automatic shading system which controls shutters and blinds depending on the current season, weather, sun position, location, and 3D geometry of the building. The input parameters of NETx Shutter Control are the sensor values of a weather station. All other control commands and inputs, i.e. wind alarm, maintenance mode, and manual/automatic control, are provided by the shutter control system. NETx Shutter Control is designed especially for large and complex buildings. Thousands of shutters and blinds can be controlled and visualized in a central way. Once calculated, the data of a 3D simulation that considers the sun path as well as the shading of surrounding buildings, is included into the control strategy. In addition, NETx Shutter Control includes an automatic control of the slat positions, which is based on the sun position as well as on the shadows of nearby buildings. The pitch of the slats is adjusted according to the elevation and azimuth angle of the sun position. The beginning and the end of the time interval where the sun may hit a window is calculated centrally, thus, ideal lighting conditions are provided.

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KNX Association | OPC Foundation
BACnet Interest Group Europe

NETx Server Interfaces

Extension modules for NETx BMS Server

NETx Fidelio/Opera Interface
Interface to hotel management

NETx Protel Interface
Interface to hotel management

NETx XIO Interface
Integration of project-specific devices and systems on request.

Extension modules for NETx KNX OPC Server

NETx OPC Bridge
Integration of foreign OPC DA servers into NETx KNX OPC Server

NETx SQL database
Storing KNX datapoint values into foreign SQL database