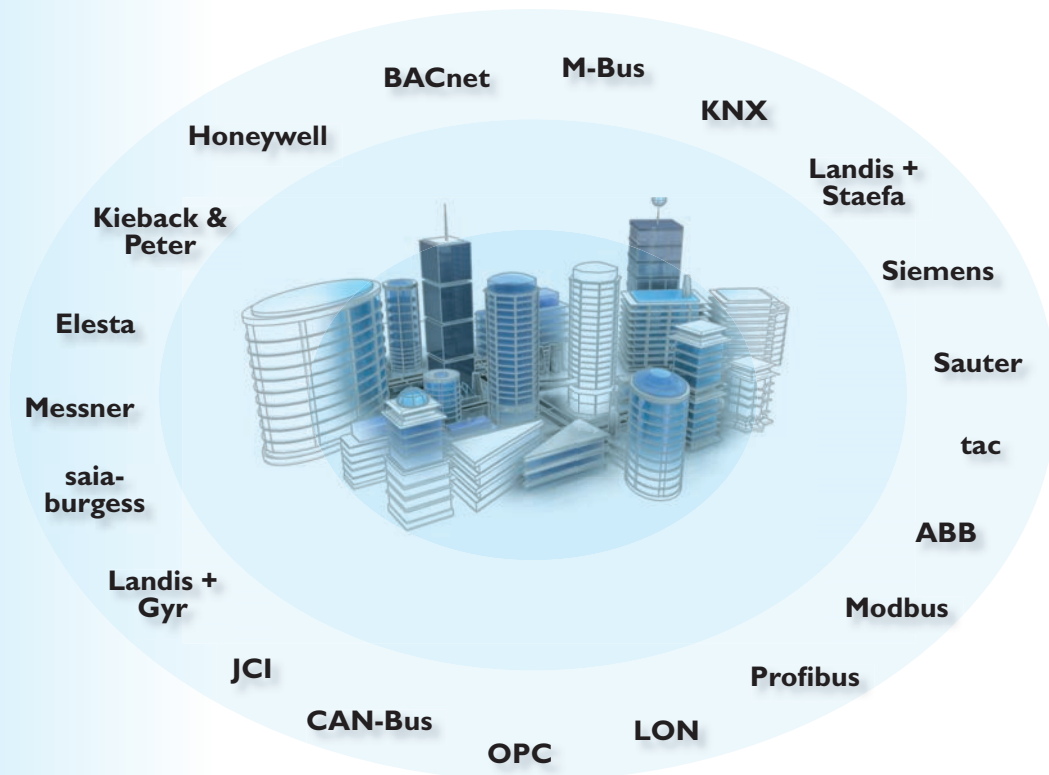


Brand-neutral Building Management System

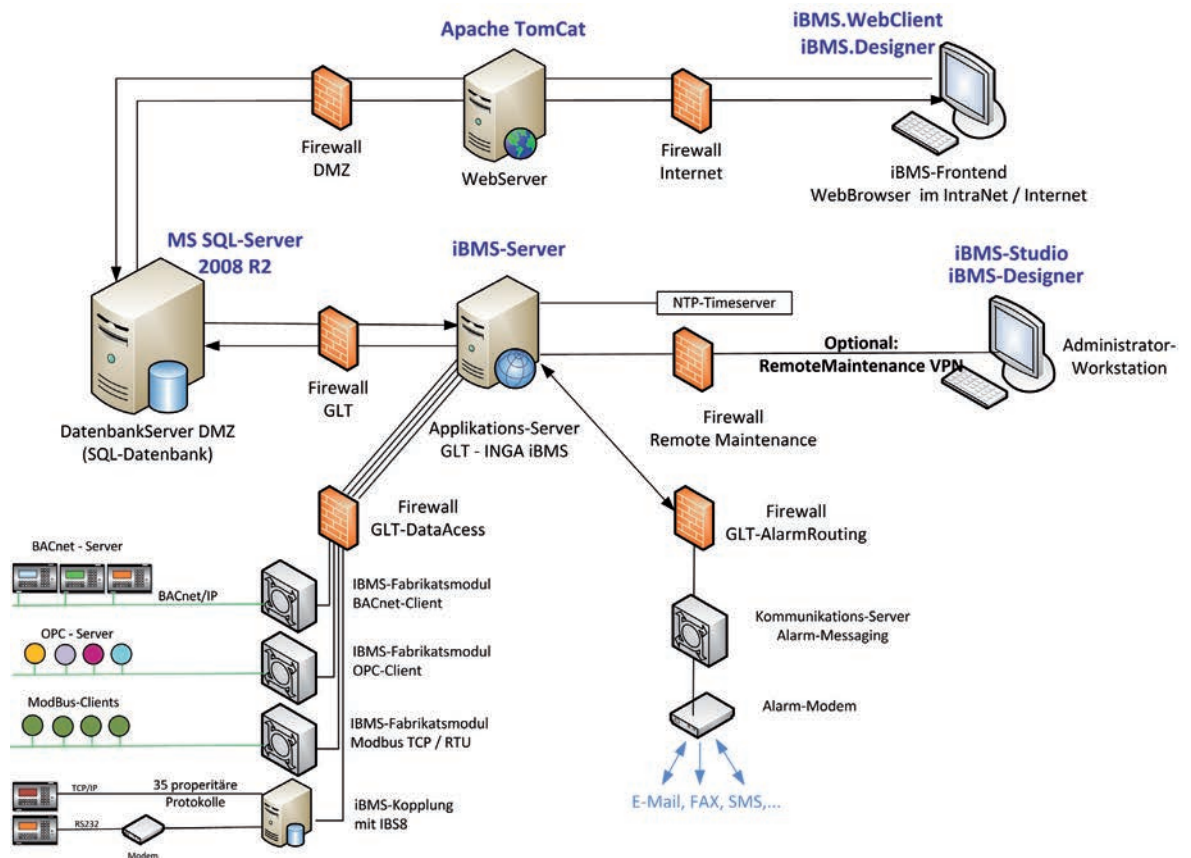


BACnet Advanced Operator Workstation



Overview of Intelli BMS

- No installation of additional software on the workstations (web clients)
- Every standard web browser becomes a full workstation
- Runs on Windows, Android, MAC OS, Linux, etc.
- Event-based automatic updating of data and images
- Centralised data storage using a high-performance Microsoft SQL Server
- Visualisation and operation via an Apache Tomcat web server
- Scalable from a single workstation up to a highly available distributed cloud solution
- Support for multiple customers allows the definition of multiple independent projects
- Can be used on commercially available server; workstation and network hardware
- Web-based graphics editor with object and symbol libraries
- Allows modifications during operation
- Allows the creation of custom animated objects
- Multilingual user interface and documentation
- Interface for additional custom applications (Apps)



BACnet visualisation

Intelli BMS is a BACnet Advanced Operator Workstation' (device profile B-AWS) as per ISO 16484-5. As a native BACnet client, Intelli BMS does not require a gateway or an OPC server for communication. In addition to basic communication, Intelli BMS also satisfies the requirements for extended BA functions. The BACnet Desktop in the WebClient provides numerous tools for this, including an integrated BACnet browser, access to all BACnet objects and properties, creation and deletion of objects as well as management functions such as backup and restore for the BACnet devices. This means that Intelli BMS exceeds the requirements of Profiles A and B of the current AMEV 2011. The user has full access to the BACnet devices and objects and a solution satisfying current and future requirements.

Information points are quickly generated during the configuration process by directly reading the BACnet devices in the automation network or by using EDE lists. A plant identification key (AKS) already integrated into the device programming provides even more optimisation of the time required. The project explorer (navigation tree) in Intelli BMS is automatically created based on the plant identification key. Generation of the system images is made easy through the use of templates that can be assigned to multiple systems. The configurator (system integrator) thus profits from a significantly reduced configuration time and the reduced effort required for making changes to the network or system.

- BACnet Advanced Operator Workstation as per ISO 16484-5
- Exceeds the requirements of the AMEV 2011
- Significantly reduced effort for configuration and modification



BACnet Desktop

OverView

Browser

Lupe

Create

Edit

Delete

ACK

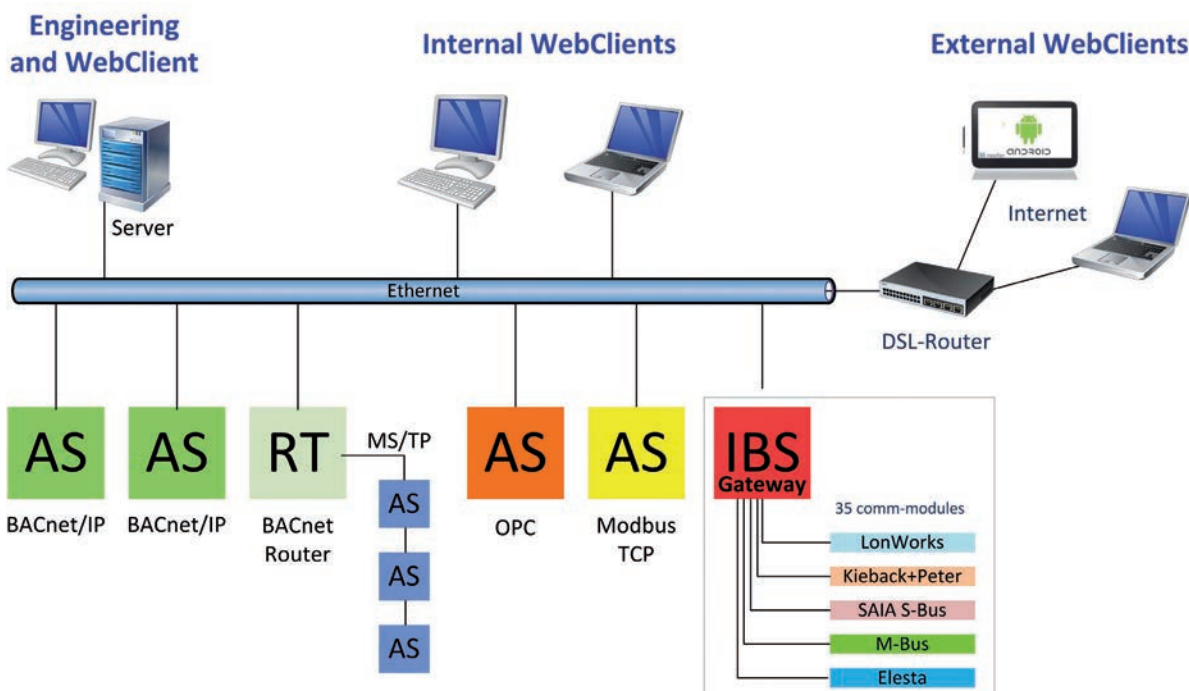
| | BACnet-Browser Structured view and editor for devices, objects and properties | | | | |
|--|--|--|--|--|--|
| | BACnet-Search Searchfunction for objects | | | | |
| | Trend List of all BACnet-Trendlog-objects | | | | |
| | Schedule List of all BACnet-schedule-objects | | | | |
| | Calendar List of all BACnet-calendar-objects | | | | |
| | Loop List of all BACnet-loop-objects | | | | |
| | EventSummary List of all alarm and events ACK supported | | | | |
| | Alarmsummary List of all alarms ACK not supported | | | | |
| | EnrollmentSummary List of all BACnet-objects with assigned notification-class | | | | |
| | Notification-classes List of all BACnet notification-classes | | | | |
| | Event-enrollment List of all BACnet event-enrollment objects | | | | |

Migration projects

Intelli BMS is an open, brand-neutral building management system for the visualisation, operation and monitoring of building operation systems across all trades and types of real estate. This exceeds the requirements for a BMS defined in the VDI guideline 3814. The main difference to other brand-bound (proprietary) building management systems is the neutrality of the system. Systems from various different manufacturers can be interconnected in the unified user interface, with the different communication protocols also being taken into account. The intuitive unified operation of the system for all interconnected brands provides a quick and reliable overview. The common networking provides the operator with the necessary information for optimising the system, increasing the availability and service life and reducing the energy costs. Intelli BMS is the only building management system that has remained backwards-compatible since 1986.

Over 35 different branded modules are available for brand-neutral interconnection of the devices from different manufacturers. Intelli BMS currently provides modules for the standard BACnet, OPC and Modbus interfaces. Additional native drivers for connecting numerous control systems and bus systems (M-Bus, KNX, Kieback+Peter, SAIA, Siemens, etc.) are available via the IBS gateway. The branded modules provide major advantages to the configurators and operators.

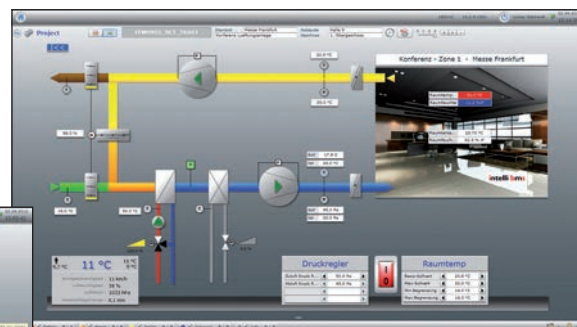
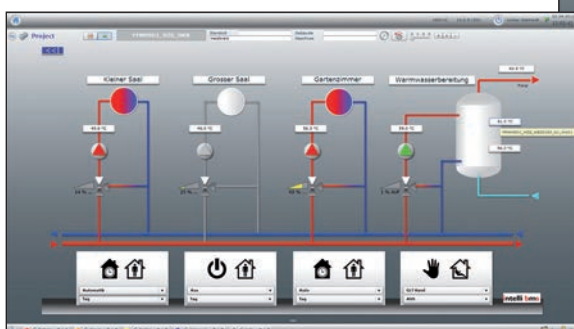
- Replacement of existing building management systems in parallel operation
- Use of different control systems and bus systems
- Operated using a unified user interface
- Networking and control systems across all trades and types of real estate
- Sustainable operation
- Investment security and long-term reliability



System coupling through native communication modules

Intelli BMS modules

- WebClient: Operation via a web browser
 - Full functionality without requiring installation
 - Navigation via the project explorer or system images
 - Search functions provided via ElasticSearch
- Designer: Web-based graphical editor
 - Creation of system images with dynamic displays
 - Object and symbol libraries, including animated objects
 - Templates for fast generation of images in the project
 - Layer function for dynamic inclusion of objects
- AlarmRouting: Flexible alarm system
 - Monitoring with alarm prioritisation
 - Alarm forwarding via email, SMS, fax, printer
 - Visual and acoustic alarms
 - Alarm logs, archiving, statistics and an alarm ticker
- Trend: Graphical reporting
 - Reporting including zoom and filter functions
 - Local and global reporting groups
 - Automatic scaling of axes
- Reporting: Comprehensive text reporting
 - MS Excel as a report design tool
 - Individual custom reports including a template library
 - Automatic and manual creation of reports, including a report archive
 - Displayed in the WebClient or distributed via email
- Studio: Set-up and configuration tool
 - Creation, configuration and deletion of all objects
 - Definition of the plant identification key (AKS)
 - Reading of BACnet devices directly via the network



Our range of services

The Ingenieurgesellschaft für Gebäudeautomation mbH (INGA) belongs to the Zacharias Group and has been an innovative and reliable partner for building automation and energy management for 25 years.

- Development and operation of brand-neutral management and operating systems in the building automation and energy efficiency sectors
- Development of project-specific and trade-specific additional modules (Apps)
- Conception, planning and execution of automation and visualisation projects including installation of hardware and software, commissioning and maintenance
- Creation of plans for the migration of existing systems and the replacement of existing Building Management Systems
- Conception, planning and execution of instrumentation and control projects, including switching systems, networking technology, DDC programming, commissioning fine adjustments
- Installation and configuration of energy controlling systems, including energy services and system maintenance
- System integration of BACnet, OPC, KNX, LON, DDC, PLC
- Maintenance, remote monitoring and operational management of DDC systems and Building Management Systems

