



case study

Refurbishment of the building automation system at Brenners Park-Hotel & Spa



The heterogeneous building automation of the legendary Grandhotel in Baden-Baden was integrated into a new control technology using BACnet® and our software and hardware components. As an integration platform, OAS provided the BACnet®-compliant Niagara controllers "OAS SBS JACE 8N4 IoT - automation and integration platform" from its Smart Building Solutions series. The BACnet® standard plays a crucial role in the project for migration and integration.

Brenners Park-Hotel & Spa is a luxurious five-star hotel operated by the Oetker Hotel Group in Germany. The luxury hotel in Baden-Baden, acquired by the Oetker family in 1941, offers guests 104 hotel rooms and lavish suites, three restaurants and a spacious spa area in the adjacent Villa Stéphanie.

THE CHALLENGE

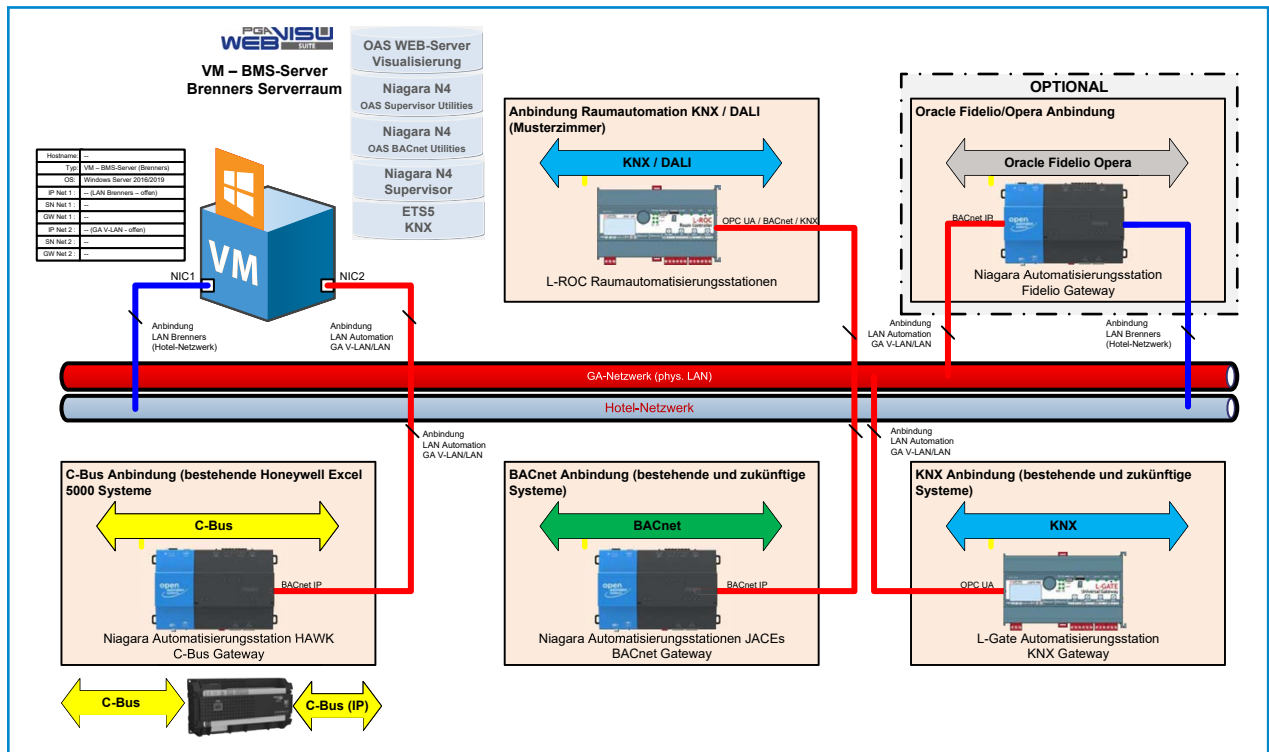
- The existing control technology (BMS) was to be refurbished for reasons of IT security and become open, interoperable and future-proof with BACnet® and OPC communication.
- The new Building Management System (BMS) must run in the data centre in a virtual server environment and still securely support all necessary interfaces. Thus, the new building management system represents an operationally secure portal solution.
- The new BMS must be open for future interoperable automation solutions and at the same time integrate the existing heterogeneous systems of different manufacturers and interfaces.
- Another goal was a WEB-based, unified and intuitive navigation and operation across all buildings and trades.
- In 15 information focal points as well as various electrical distributors, different generations and systems of automation stations run with the regulations and controls.
- In the subnets, these components communicate with BACnet®, C-Bus, but also with DALI, KNX, Modbus, OPC-DA and OPC-UA.
- 16 existing C-bus controllers had to be rationally integrated into the new BMS. In order to be able to read and write as many values as possible from the systems at the control technology level, a BACnet®-capable concept was required that also enables interaction with existing and future BACnet® automation devices.

"After the refurbishment of the building control system, the hotel operation has become even more reliable, user-friendly and efficient thanks to the design and technology of OAS and the integration by PGA."

Ralf Rostock

FAST FACTS

- Building type:** Hotel facilities and spa with swimming pool
- Client:** Brenner's Parkhotel GmbH
- Project type:** Refurbishment Building Automation / Building Management System BMS
- Project scope:** Hotel complex consisting of main building, swimming pool and seven annexes and villas
 - Integration of room automation in sample room ELO/KNX, DALI via LOYTEC
 - Integration of 2x refrigeration technology via BACnet®
 - Integration 16x Honeywell-XL500 C-bus controller for HZG, RLT, EZR via C-bus CLIFF / HAWKS NIAGARA
 - Integration Honeywell stock BACnet® JACEs NIAGARA / BACnet®
 - Integration Raumautomation Villa Stephanie ELO/KNX über BACnet® JACE NIAGARA
 - Renovation swimming pool
 - Heating UG, BACnet® JACE NIAGARA
 - Air handling units, BACnet® JACE NIAGARA
 - Swimming pool technology LOYTEC, OPC UA
 - Electrical engineering / KNX DALI LOYTEC
- Authorized Distributor:** OAS Open AutomationSystems GmbH
- System Integrator:** PGA Automation



The migration and integration concept as an open automation solution

THE OPEN AUTOMATION SOLUTION

A model room with the latest equipment, elegant design and continuous digitalisation to develop a new standard was realised. With the highest demands on the guest experience, the building services were kept state-of-the-art at all times. .

The last missing ingredient for the high quality was a homogeneous building management system (BMS) with transparent 3D navigation and modern IoT connection.

The "PGA Gesellschaft für Prozess- und Gebäudeautomatisierungstechnik" was commissioned with the integration. The heterogeneous plant controls were to be integrated across systems and trades on a uniform BMS platform with 3D WEB visualization. Thus, the modern IoT and digitalization concept meets the proven technology. The existing systems were already homogenized on the automation level with the newly developed OAS-BACnet® utilities based on the Niagara Framework®.

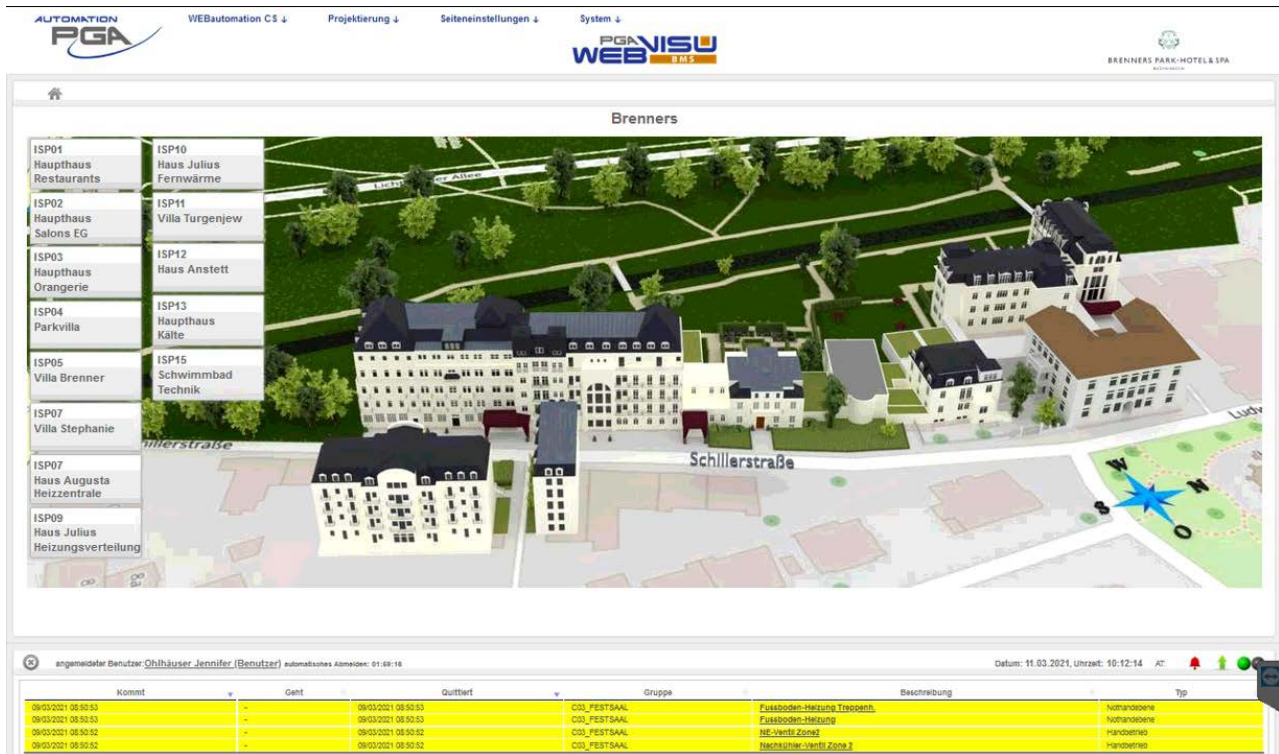
A set of rules had to be defined that would translate the very large number of C-Bus parameters into BACnet® objects. The solution was to extend CentraLine's proven C-Bus interface technology with the BACnet® utilities developed by OAS and ProSystems. Both parts of this Open Automation Solution are each based on the Niagara Framework®. With this solution, all values, attributes as well as parameters and data points of the existing C-Bus-based automation level can reliably interact with the visualisation software (BMS) as well as the BACnet®-based automation level.

ABOUT OAS

OAS Open AutomationSystems GmbH is your Tridium Authorised Distributor for open energy management and building automation systems for the continuous digitalisation of technical building equipment. Our cloud-based portal solutions offer secure, reliable and hassle-free system integration with high usability. Our modular Niagara Framework® components and OEM product developments communicate with BACnet® and other common protocols and offer limitless integration from the field level to the automation level to the cloud.

open
automation
systems

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Example of the 3D visualisation of the hotel complex for the Brenners Park Hotel and Spa

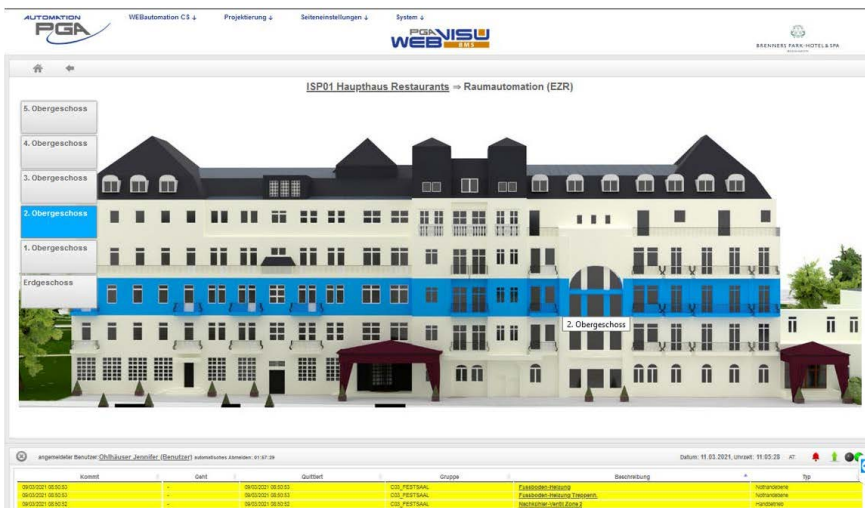
THE 3D VISUALISATION

Information focus 1 in the main building, one of a total of 15 focuses, shows the complexity of the project. The systems engineering for the main ventilation, the technical control centre and the refrigeration control centre for the three restaurant kitchens converge here. The transparent 3D navigation through the hotel complex is a quantum leap in the hotel's control technology. Whether in the main building, the City Palais, Villa Stéphanie, Baumgärtnerhaus or one of the many other areas, orientation is easy.

Realised with the WEBvisuBMS web visualisation platform by OAS, all buildings and facilities can be found quickly and operated safely. The WEBvisuBMS by OAS enables location-independent access and browser-supported operation management. 3D views of the entire hotel complex and simple operation via catchy system images are key to the modern operating concept.

ABOUT PGA

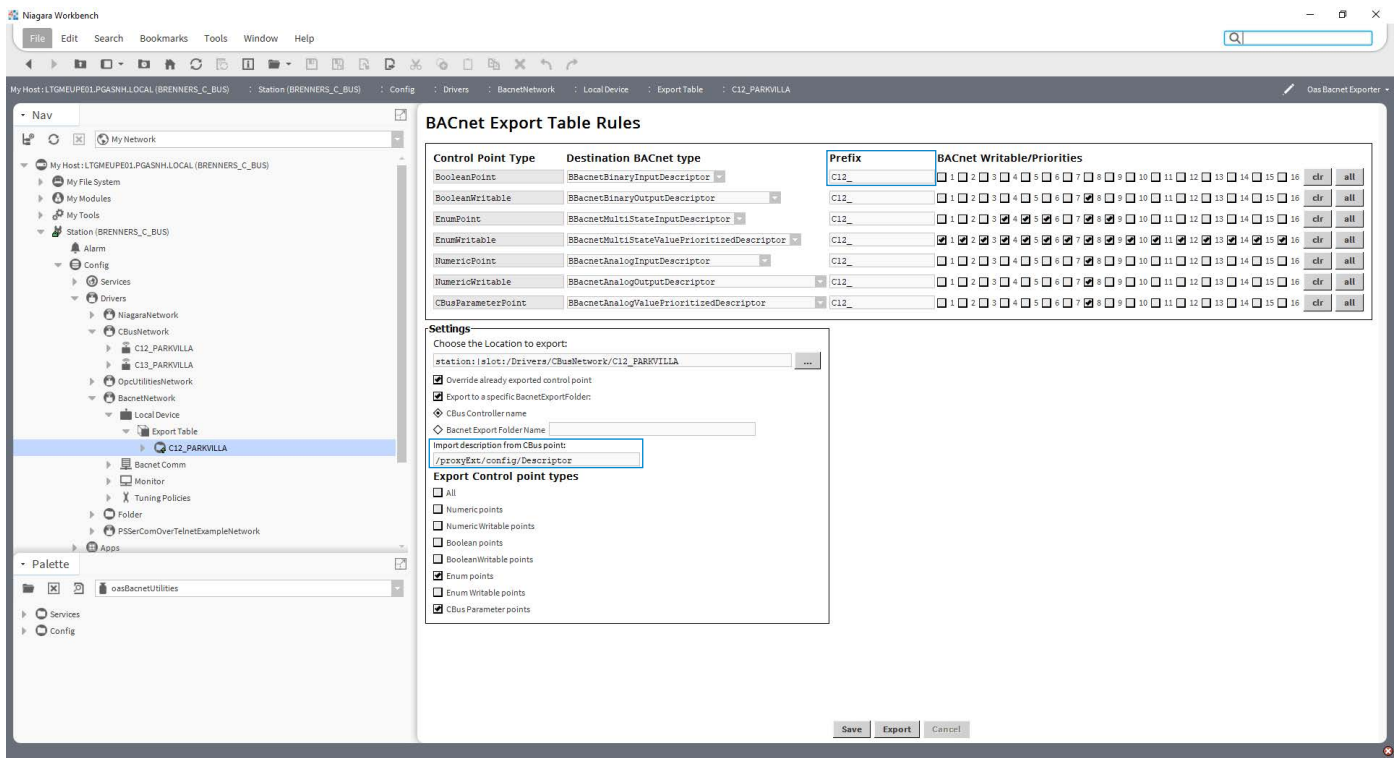
With more than 20 years of experience, PGA Automation plans, develops and implements end-to-end integrated system solutions across the entire range of modern digital automation technology. As a system integrator and solution provider, PGA Automation offers complete end-to-end solutions for all applications in process and industrial automation, room and building automation, environmental water and wastewater technology, energy management and web-based BMS, HMI, SCADA and management solutions.



Transparent 3D navigation through the hotel complex



homogeneous building management system (BMS), here our 21 inch multi-touch panel



OAS BACnet Utilities powered by Niagara Framework®

THE RESULTS

As integration platforms, OAS provided the BACnet®-compliant Niagara controllers "OAS SBS JACE N4 IoT" from TRIDIUM and the Niagara-based "HAWKS 8000" from CentraLine from its Smart Building Solutions series:

- Two SBS JACE 8N4 controllers provide the integration of the refrigeration technology via OAS-BACnet® utilities
- One SBS JACE 8N4 controller integrates the stock of Excel web stations via OAS BACnet® utilities.
- One SBS JACE 8N4 controller integrates the inventory of KNX and LON individual room controls via OAS-BACnet® utilities.
- Two CLNX HAWK 8000 integrate 15 C-bus controllers for heating, ventilation and individual room control via OAS-BACnet® utilities.
- Additional OAS SBS JACE 8N4 IoT controllers take over the automation tasks in the newly renovated swimming pool, also via OAS BACnet® utilities.

SBS JACE 8N4 automation platform

THE SBS JACE 8N4 is our powerful automation and integration platform. Use the possibilities of a high-performance and globally standardised platform for room and building automation of heating, ventilation and air conditioning systems, energy management and room automation solutions. With our SBS series, we offer IoT solutions and services that go far beyond ordinary room and building automation.



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ABOUT TRIDIUM

For over 20 years, Tridium has been a world leader in Open-Protocol application frameworks for operational data. Our products enable the communication and collaboration of different monitoring, control and automation systems in buildings, data centres, manufacturing systems, smart cities and more. We create smarter, safer and more efficient businesses and communities - bringing intelligence and connectivity to the edge of the network and back.

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