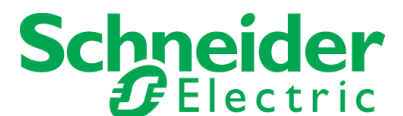


SmartStruxure™ Lite Solution

Our open system approach to
standards and protocols



Get Control. Get Efficient. Get Value.

SmartStruxure Lite solution

Introduction

The concept of SmartStruxure Lite originated from OEM development. Confronted by the many challenges of high-tech instrument development, our staff created modules that could be assembled. The concept proved right, in a variety of projects, and gradually led to the current technological platform used in multi-purpose management devices (MPM). In the end, components were not only mechanically modular but also software modular. This proved to be a big edge over other design philosophies.

With this powerful modular framework in hand, SmartStruxure Lite products are able to combine multiple communication protocols and standards. This has enabled our system integrator community to deliver cost effective solutions to their clients.

Today, our products provide control for wired end-devices, as well as wireless end-devices based on EnOcean® and ZigBee® standards. They support wireless networking through ZigBee mesh, IP networking, as well as daisy-chain connections through CANbus. They offer bidirectional gateway integration from EnOcean, ZigBee, Modbus® and analog/binary inputs and outputs, to BACnet® IP, oBIX™ and EcoStruxure® Web Services (EWS).

Key advantages of supporting multiple open standards and protocols is the ability to integrate third party devices and combining multiple applications within the same Building Management System.

Integrating Third Party Devices

The idea behind enabling the integration of third party devices is to offer the best complete solution to satisfy customer needs.

As new products and innovations are made available by manufacturers from all over the world, being able to offer a solution based on an open platform that can integrate new value-added devices and components is key.

With extensive in-node functionalities, MPM devices from SmartStruxure Lite perform all integration duties at the zone level, without the need of expensive gateways.

Bridging the Gap Between HVAC, Lighting and Metering

If you look at market data in commercial buildings, there is a ratio of five HVAC Building Automation Systems for every one Lighting Building Automation System. This means that scaling from one system to the other is complicated even though these respective systems are designed to manage the same spaces. The lack of interoperability increases hardware and software costs because both HVAC and lighting applications require their own specific gateways and servers that get integrated via another set of "system level" gateways and servers.

This divide has had a steep cost for system integrators, building owners and facility managers. For owners and managers, the high hardware and software costs of installing each system has pushed them to choose between the two instead of gaining the energy efficiency advantages of both. When parallel systems (non-integrated) are installed, it also increases the time and resources dedicated to manage and monitor everything through multiple interfaces.

Supporting a wide-variety of open standards and protocols enables SmartStruxure Lite to bridge the gap between

Protocols and Standards

BACnet

BACnet is a data communication protocol for building automation and control networks. It was developed under the auspices of the American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE).

EnOcean

EnOcean is self-powered wireless monitoring and control systems for sustainable buildings by formalizing the interoperable wireless standard. The EnOcean Alliance has the largest installed base of field-proven wireless building automation networks in the world.

ZigBee

Zigbee is a set of high level communication protocols allowing low data rate transfers at a low cost with low power consumption. These standards are tailor-made for uses like wireless sensor networks, whether for residential, commercial or industrial applications.

CANbus

CANbus is a communication protocol and a set of specifications for devices used in automation. It is perfect to recognize, monitor and manage nodes that are a part of networks.

Modbus

Modbus is a serial communications protocol commonly used for connecting industrial electronic devices.

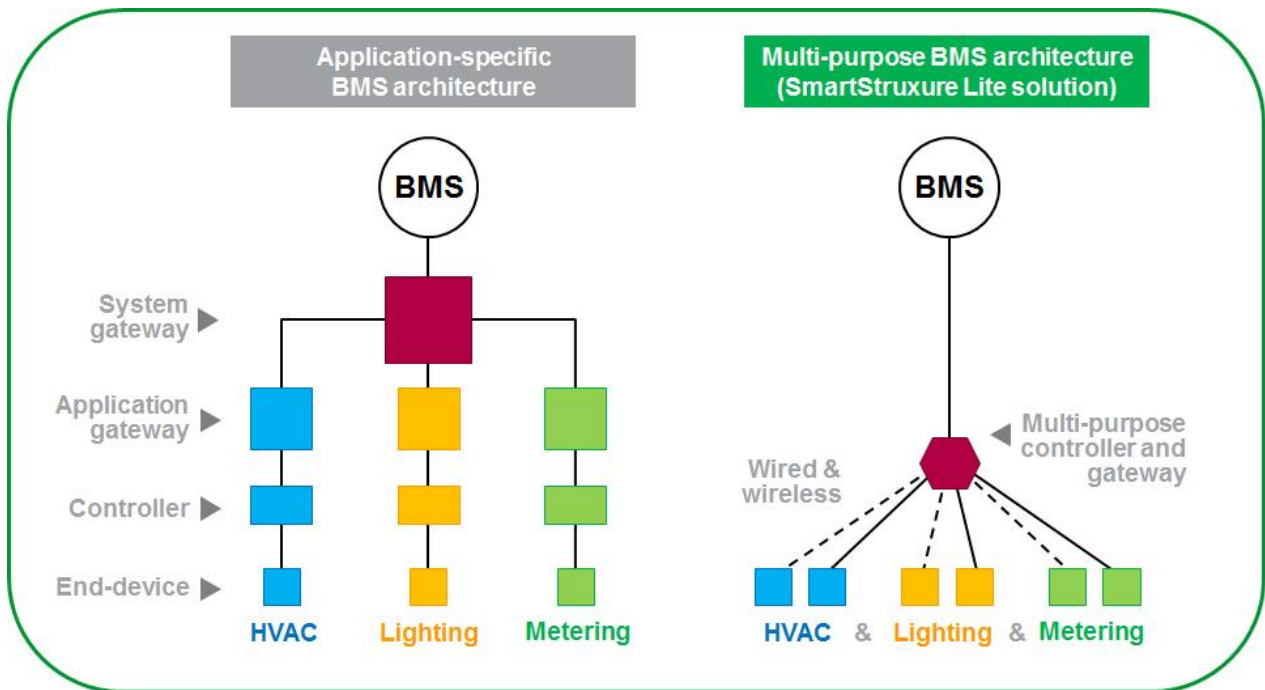
oBIX

oBIX (for Open Building Information Exchange) is a standard for RESTful Web Services-based interfaces to building control systems.

Our open system approach to standards and protocols

HVAC, Lighting and Metering at the right price and through an integrated interface (StruxureWare Building Expert).

The scenario of combined (or merged) HVAC and lighting control can be easily achieved by using MPM devices. Here is a diagram comparing the traditional application-specific BAS architecture to the SmartStruxure Lite architecture:



Conclusion

Although some industry stakeholders prefer to design and develop proprietary systems, the SmartStruxure Lite solution has always chosen the open route in order to facilitate the integration of third party devices and to provide solutions that would more easily combine applications through a single cost-efficient intelligent building management system.

This open approach towards communication protocols and other industry standards also enables us to scale and adapt as new incentives, requirements and regulations are implemented in various jurisdictions around the world.

The best way to meet customer needs is to operate a platform that is ready to adapt itself to ever changing expectations.

Protocols and Standards

EcoStruxure Web Services (EWS)

The EWS standard includes a set of web services and operations, as well as a common data model. It was developed in support of Schneider Electric's EcoStruxure project, with the goal of seamlessly integrating products and systems from five key business segments, namely; Power Management, White Space Management, Building Management, Security Management, and Industrial Process Management.

The EcoStruxure Web Services standard defines a common interface for the exchange of data between Schneider Electric Level 2 and Level 3 systems in EcoStruxure targeted solutions. Products and systems that adhere to the standard will be able to quickly and easily exchange information, such as real time data, historical data, and alarms, with each other. The standard also supports the exchange of system implementation information, for example; hierarchical structure.