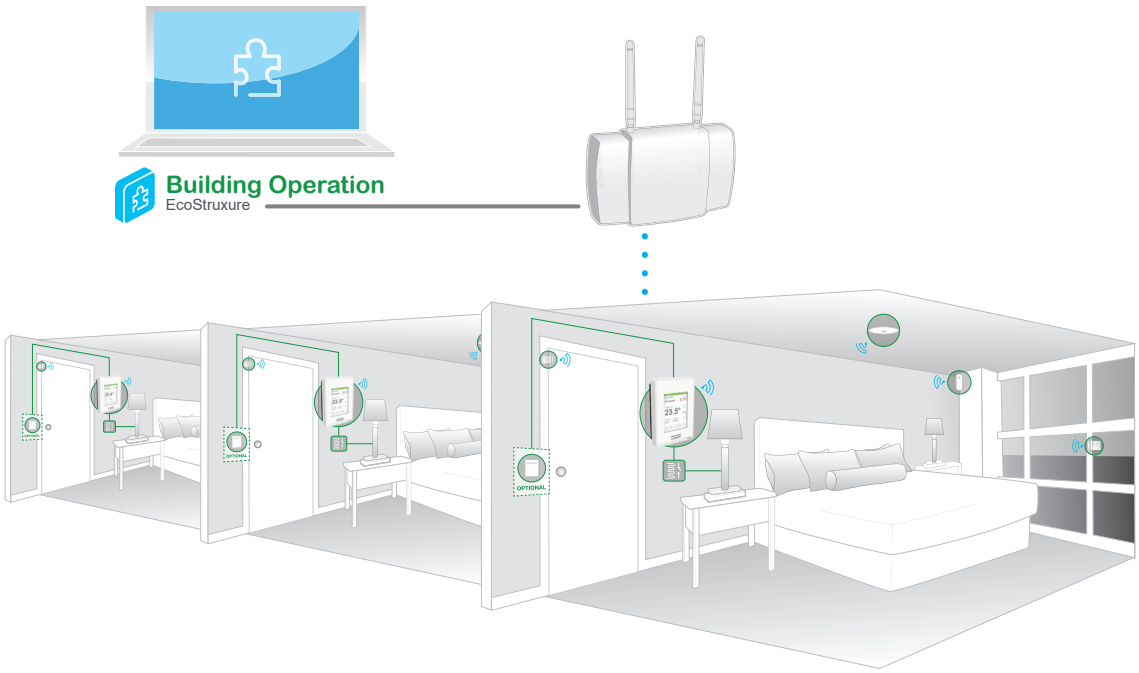
Hotel Guest Room Management - Limited Service Integrated Solution

Application Specific Integration Guide



Schneider Electric

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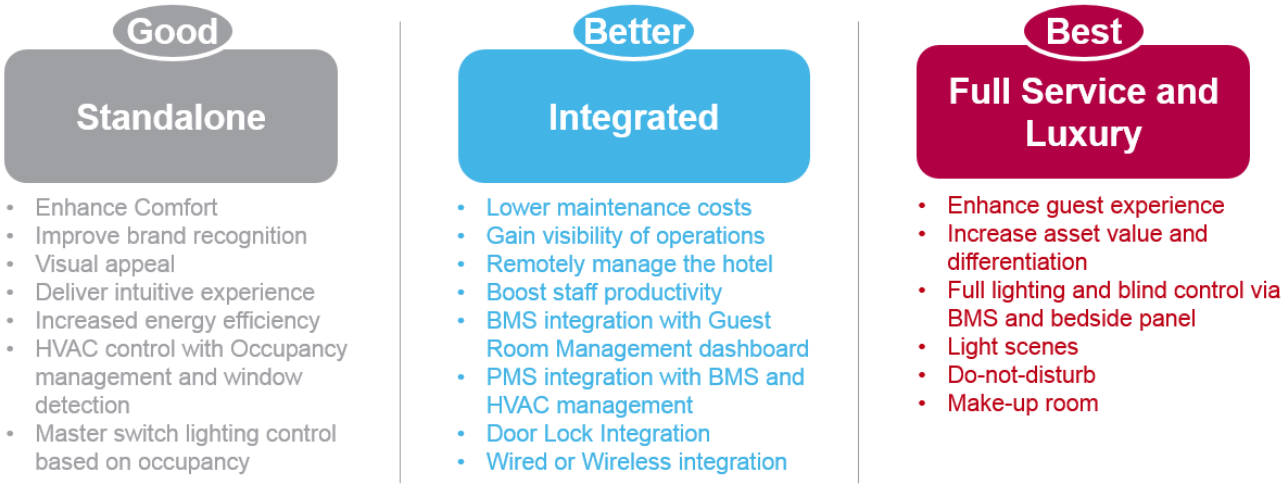
Introduction

This document provides step-by-step instructions on how to integrate the Limited Service Standalone to EcoStruxure™ Building Management Systems (BMS). The solution includes integrating multiple SE8000 Series Room Controllers to Multi-purpose Managers (MPM), as well as integration to an Automation Server and/or Enterprise Server. For more details on the Full Service & Luxury, refer to the Application Specific Guide.

Guest Room Management Value Propositions.



Room Controller to MPM to Automation Server

This document provides step by step integration of the Schneider Electric Guestroom Management solution which includes integrating multiple SE8000 Room Controllers to MPMs, as well as integration to an Automation Server and/or Enterprise Server.

Prerequisites and Limitations

An Automation server is limited to 12,000 points. Therefore, the architecture should be planned taking into account one Automation Server for every 16 MPMs, each aggregating data from up to 25 SE8000 Room Controllers. Exact numbers may differ based on physical implementation.
Refer to architectural guidelines for more information: SSL Architectural Guidelines

HARDWARE REQUIREMENTS

Qty	Part Number	Description
1	SXWAUTSVR10001	Automation Server
16 (maximum)	MPM-UN-XXX-5045	Multi-Purpose Manager
480 (maximum)	SE83XXU5BXX	Room Controller
480 (maximum)	SE8350U5BXXP	Room Controller with integrated ZigBee

SOFTWARE / FIRMWARE REQUIREMENTS

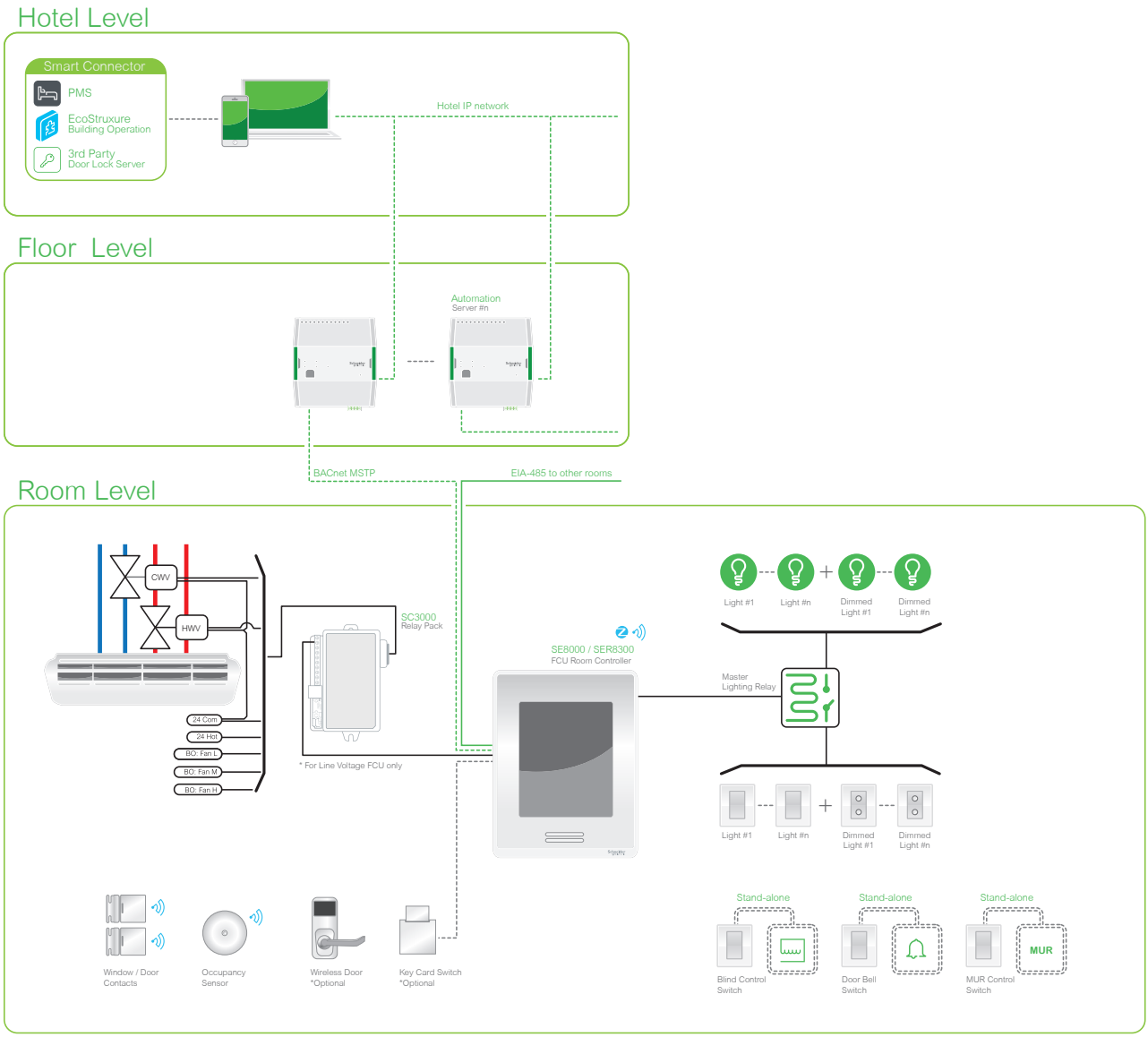
Software	Version	Comment
Building Expert	2.15 and newer	All MPMs must use this version
SE8000 Firmware	1.06 and newer	All Room Controllers must use this version
Building Operations Workstation	1.6.1 and newer	For Hotel dashboard integration

Section 1 - General Architecture

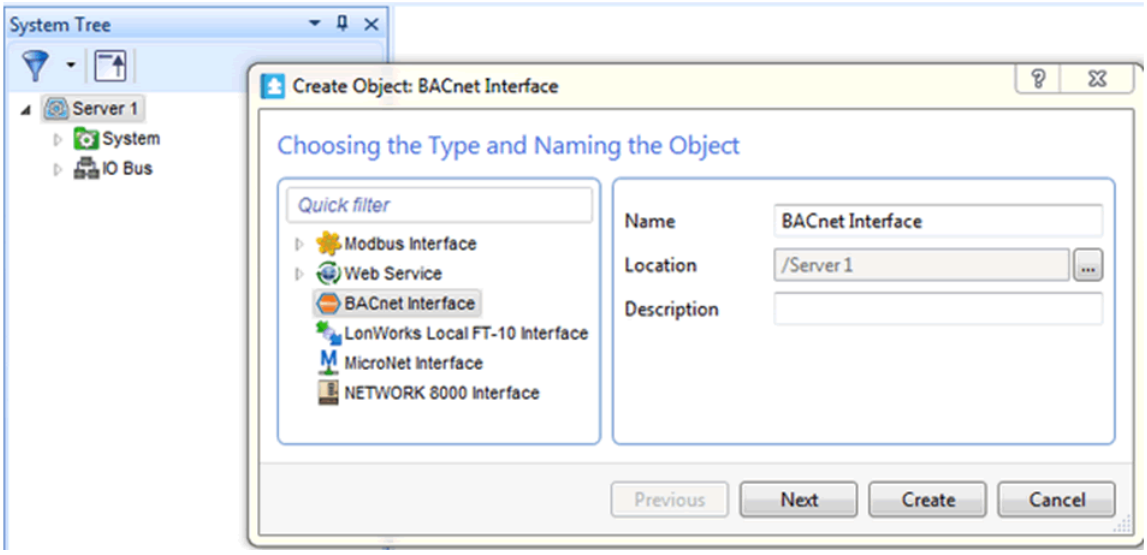
This section provides an overview of the general system architecture for integrating a network of multiple Guestroom using MPMs and Room Controllers with a wired or wireless network infrastructure.

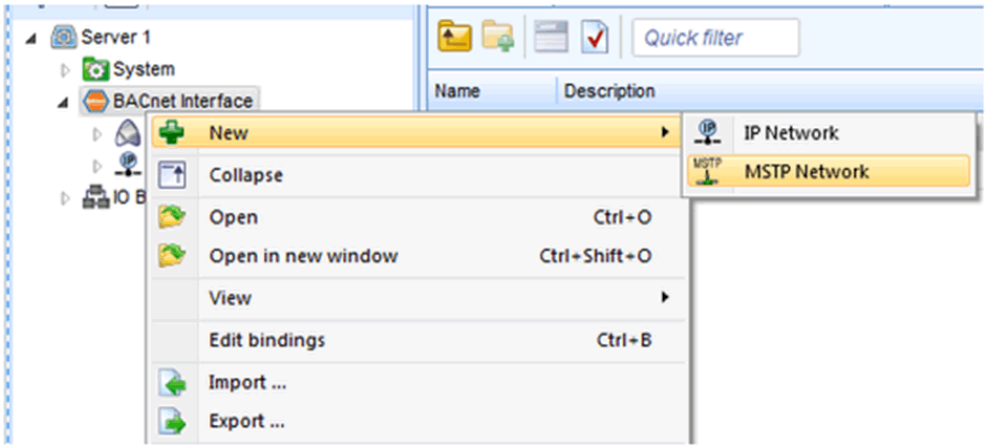
Wired Configuration

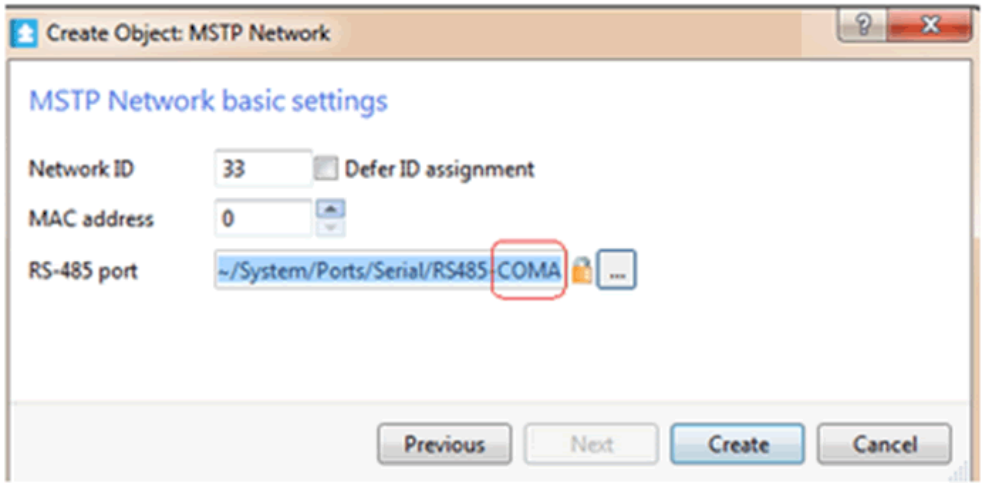
For a wired network configuration, all Room Controllers are connected over a BACnet interface to an Automation server. The Automation Server can accept up to 12 000 BACnet points. SmartStruxure Building Operation software running on the Automation Server provides access to all BACnet points of the Room Controllers. A BACnet interface and a MSTP network must be created if one does not already exist.



SmartStruxure Building Operation software running on the Automation Server provides access to all BACnet points of the Room Controllers. A BACnet interface and a MSTP network must be created if one does not already exist as shown below.



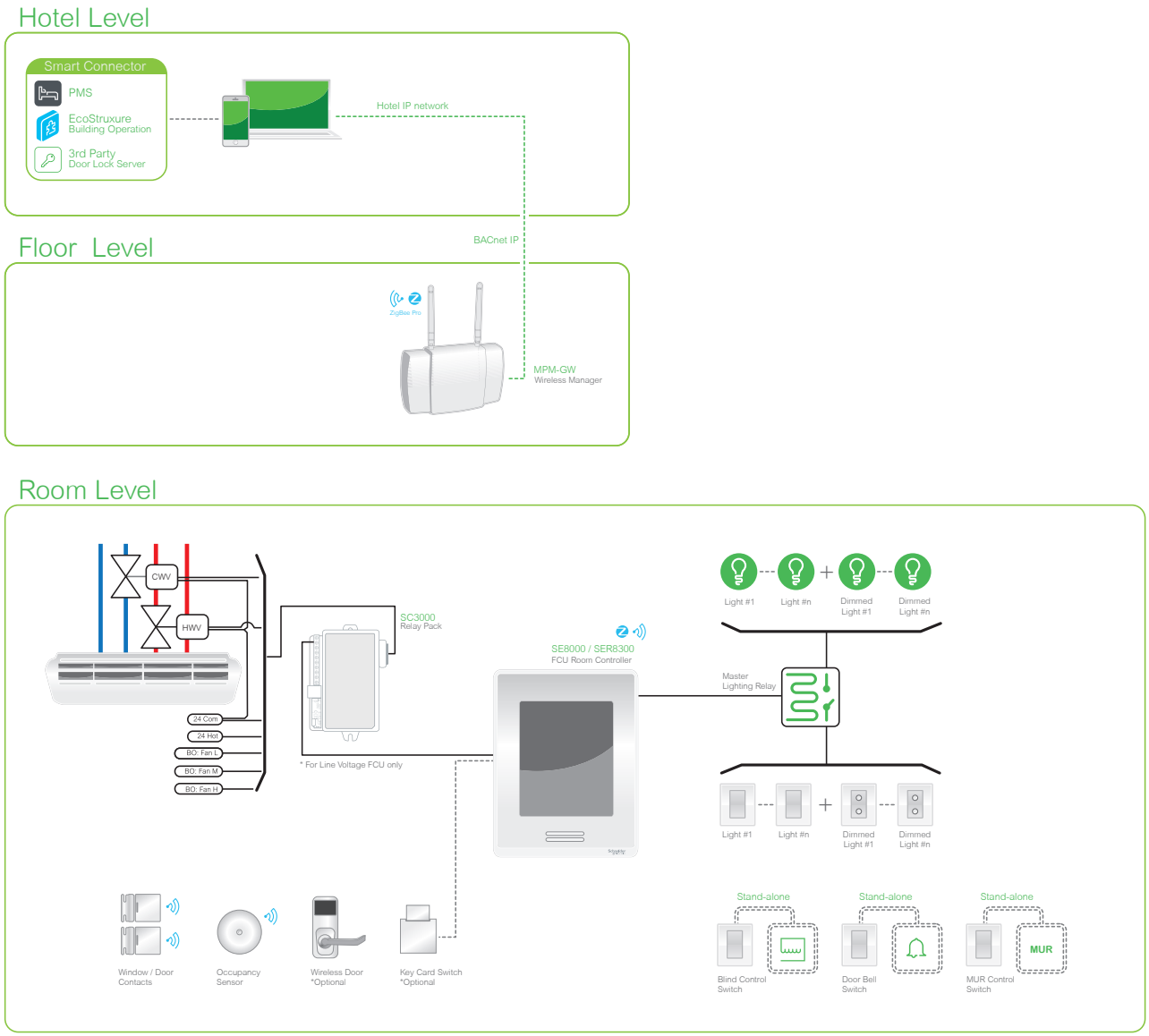




Once the network is created, devices can be dragged and dropped and discovered on the network as all BACnet points are now accessible.

Wireless Configuration

When using a wireless network infrastructure, a Multi-purpose Manager (MPM) is used to aggregate all Room Controller data over a ZigBee network. The MPM, via Building Expert Software, serves as a Building Management System (BMS). It can also be connected via BACnet to an Automation Server for integration with EcoStruxure Building Operation (EBO). When using an Automation Server with EBO, multiple MPMs can be networked together using wired BACnet connections, each controlling a separate ZigBee wireless network of Room Controllers.



Section 2 - Room Controllers

Guestroom installation guidelines are provided in the following document: Guest Room Control Application. Once the Guestroom equipment is installed, the Room Controllers must be integrated to an MPM-UN.

Network Configuration

In a wireless network integrated to an MPM-UN, the MPM acts as the ZigBee coordinator. Also, if each Room Controller has its own COM address, the PAN ID and channel number must be the same for all devices integrated to a specific MPM.

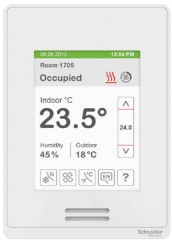
Setup Parameters

Parameter	Value	Details
COM Address	1 - 254	Unique for each Room Controller in the network.
ZigBee PAN ID	1 - 500	Same value for all Room Controllers in the network.
ZigBee Channel	11 - 25	Set based on regional recommendations. Same value for all Room Controllers in the network.

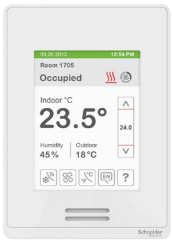
Example of Implementation

Floor 1 (MPM 1)

COM:100
Channel: 25
PAN ID: 500



COM: 101
Channel: 25
PAN ID: 500



COM 102
Channel: 25
PAN ID: 500

Floor 2 (MPM 2)

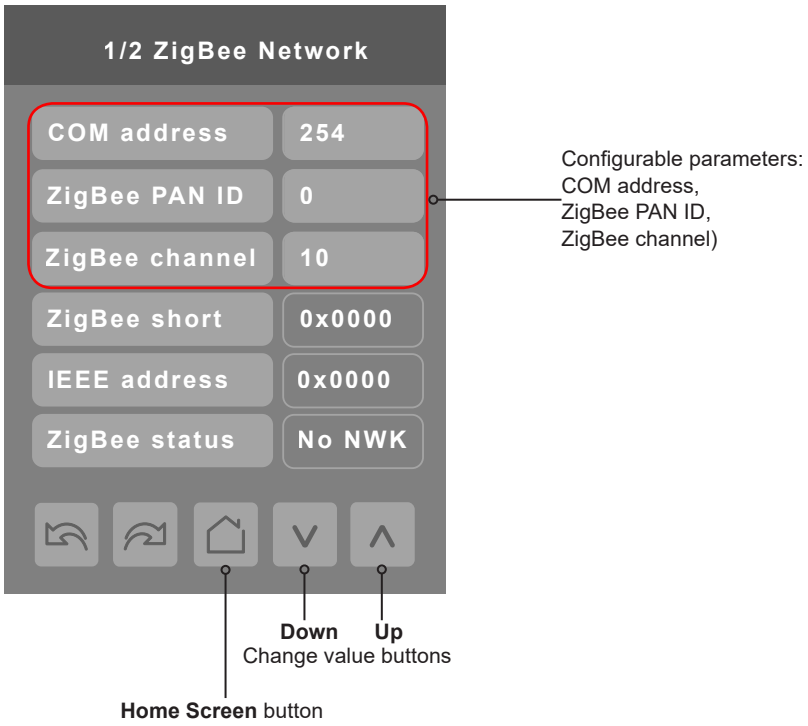
COM:200
Channel: 20
PAN ID: 400

COM: 201
Channel: 20
PAN ID: 400

COM 202
Channel: 20
PAN ID: 400

Configuration Steps

1. Enter **Setup** menu of Room Controller.
2. Select **Network.**
3. Use **Up** and **Down** (change value) to set required values for the three parameters.
4. Tap **Home Screen** button twice to return to home screen.



Limitations on Multiple MPMs

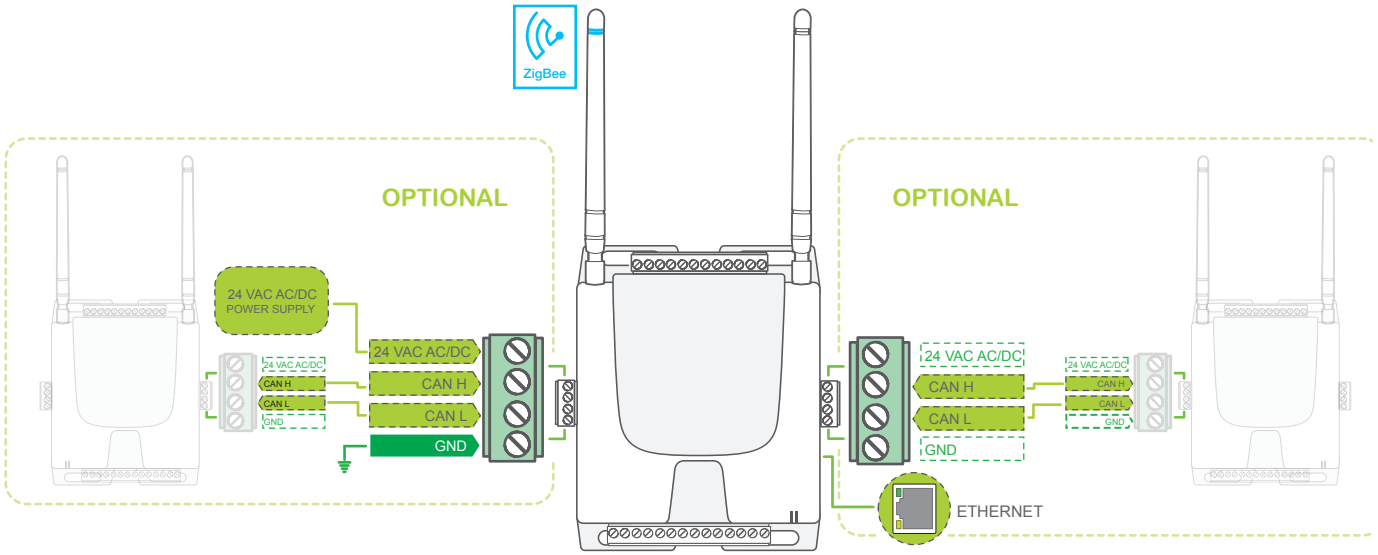
When pairing a ZigBee sensor with a Room Controller that is part of a network involving multiple MPMs, it is necessary for all MPMs to be networked using IP/Ethernet (UDP) or Canbus, as well as function as a coordinator for their local ZigBee network of Room Controllers.

When binding ZigBee sensors to a Room Controller in a multiple MPMs scenario, binding can only be done when only 1 MPM within range of the Room Controller is set as a coordinator. In this condition, all other MPMs must be set to either 'Off' or 'Router' for the duration of the procedure. In-room sensors, such as door and window contacts, may also need to be bound to the Room Controller.

Section 3 - MPM-UN & MPM-GW

Wiring Diagram

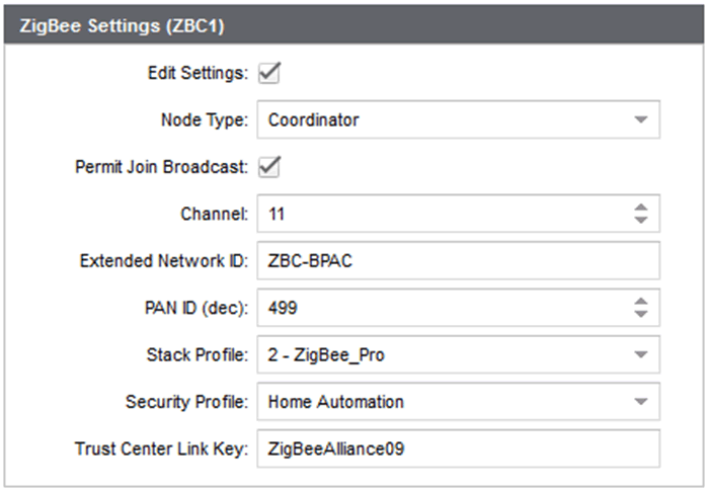
The required MPM wiring for a wireless integration is project dependent. As noted earlier, if multiple MPMs are required, a wired BACnet connection is mandatory between the MPMs. In addition, the MPM must be configured as the ZigBee coordinator, and must have the same network parameter configuration as the Automation Server.



Set ZigBee Settings

The following procedure shows how to configure the MPM.

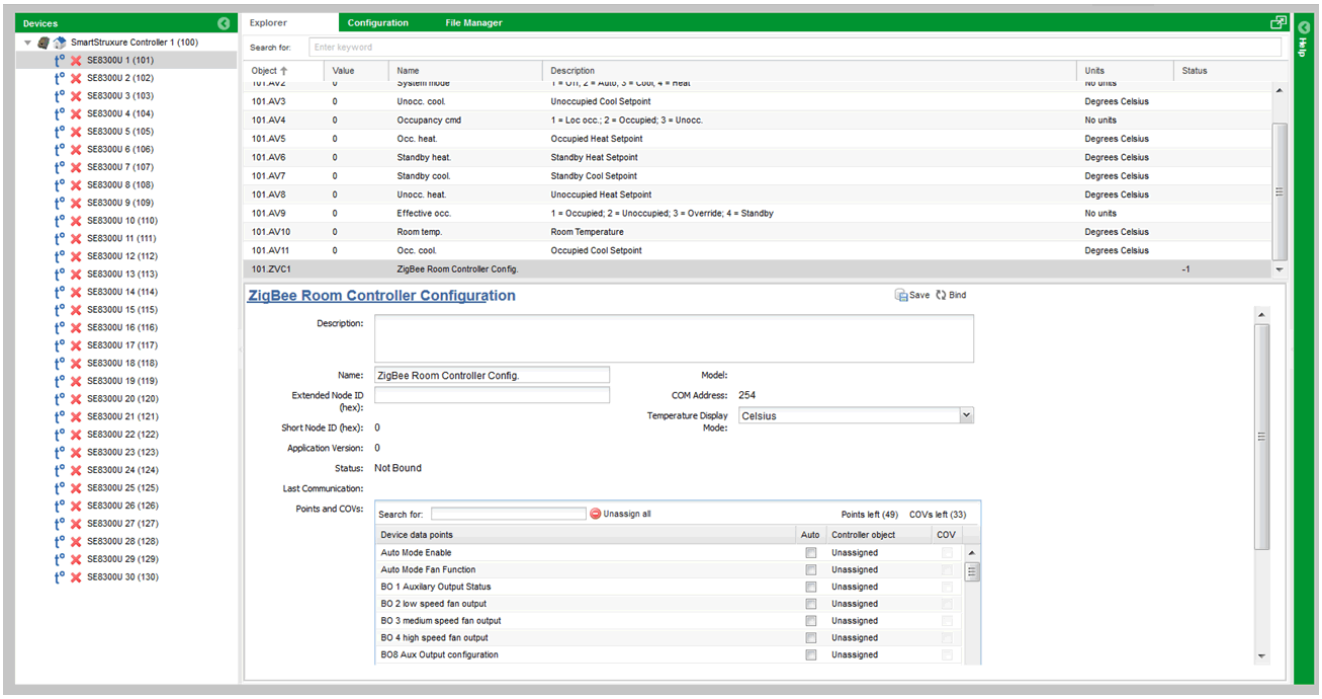
1. Connect to MPM and log in to Building Expert Software.
2. Select **Configuration** tab.
3. Make sure Ethernet settings match settings of Automation Server network.
4. Edit ZigBee settings (if necessary) so they match network requirements.
   Note: Extended Network ID must be unique for every ZigBee zone.



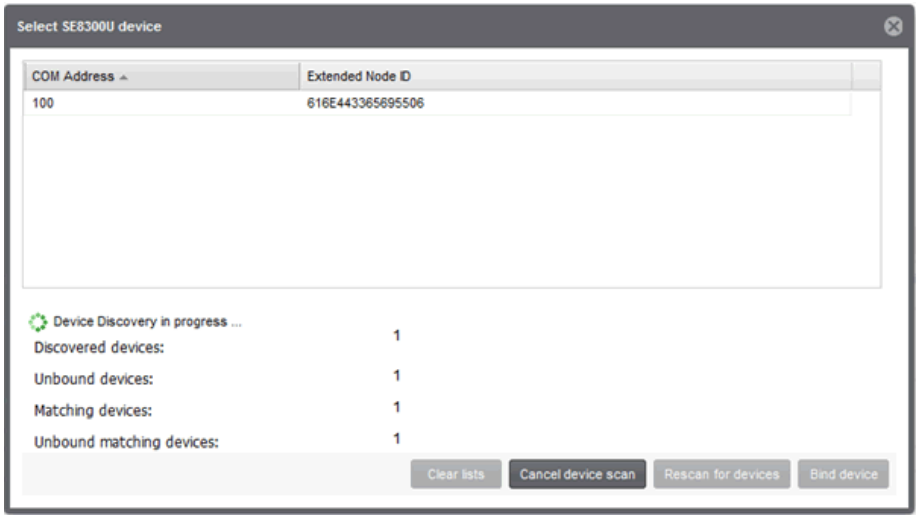
Binding SE8000 Room Controllers with MPM

Libraries have been created with pre-loaded SE8300 or SER8300 Room Controllers containing the required objects for integration to Automation Server. The provided default library includes 25 Room Controllers. However, it is not necessary to use this file if fewer Room Controllers are used in the project. Users have the option to add Room Controllers individually if the default library is not loaded.

1. Load provided default library containing 25 x SE8300 (or SER8300) Room Controllers and their associated objects.
2. Select the **File Manager** tab.
3. Click Import database.
4. Select one of the following files:
   MPM_2.15-hotel-25-SER8350-database.db
   MPM_2.15-hotel-25-SE8300-database.db
   MPM_2.15-hotel-25-SE8350-database.db



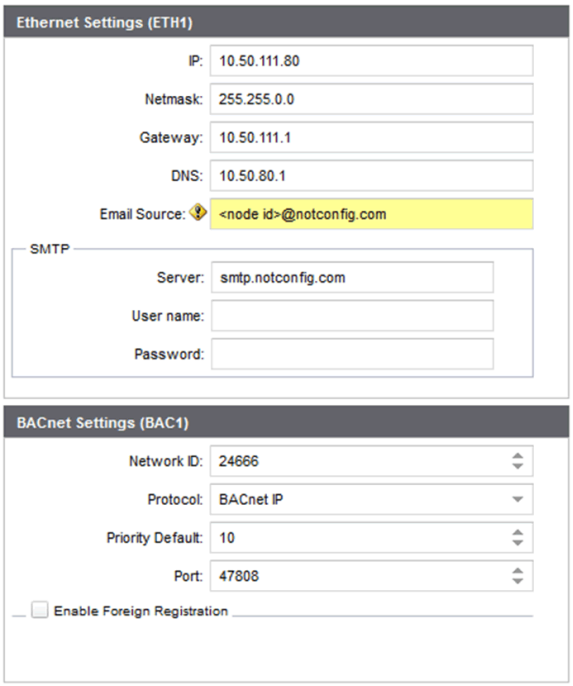
5. Click **Open.**
   NOTE: the left pane of Building Expert Software gets populated with SE8300 Room Controllers being added.
6. Select first Room Controller to bind.
7. Select ZigBee Room Controller config. object.
8. Click **Bind.**
   NOTE: A list of discovered devices shows. Select the Room Controllers to bind from the list and click **Bind device**. Delete any unused devices.



Section 4 - EBO Integration

To integrate the MPM to an Automation server, communication parameters of the MPM must be configured to match the Automation server settings. The following assumes integration over a BACnet IP interface.

Table of Configuration Parameters

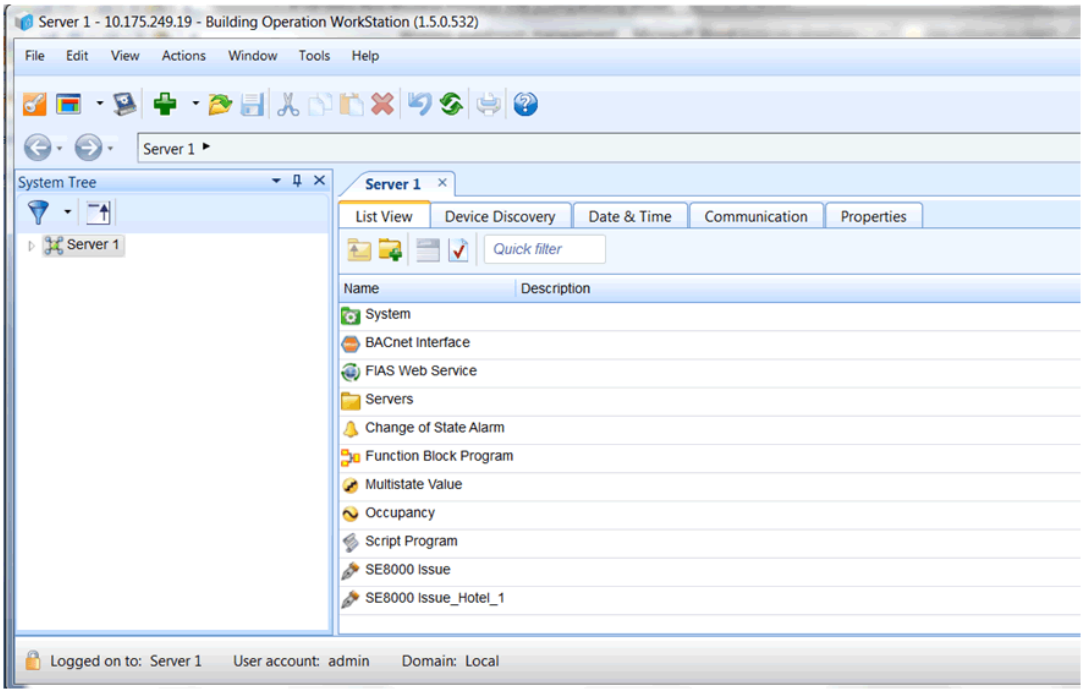


MPM Configuration Tab

Ethernet settings (ETH1)	
IP address	Unique and visible on Automation Server network
Netmask	Same as Automation Server
Gateway	Same as the Automation Server
DNS	Same as the Automation Server
BACnet settings (BAC1)	
Network ID	Unique value for network
Protocol	BACnet IP or BACnet Ethernet (network dependent)
Priority Default	10 (default)
Port	47808 (default)

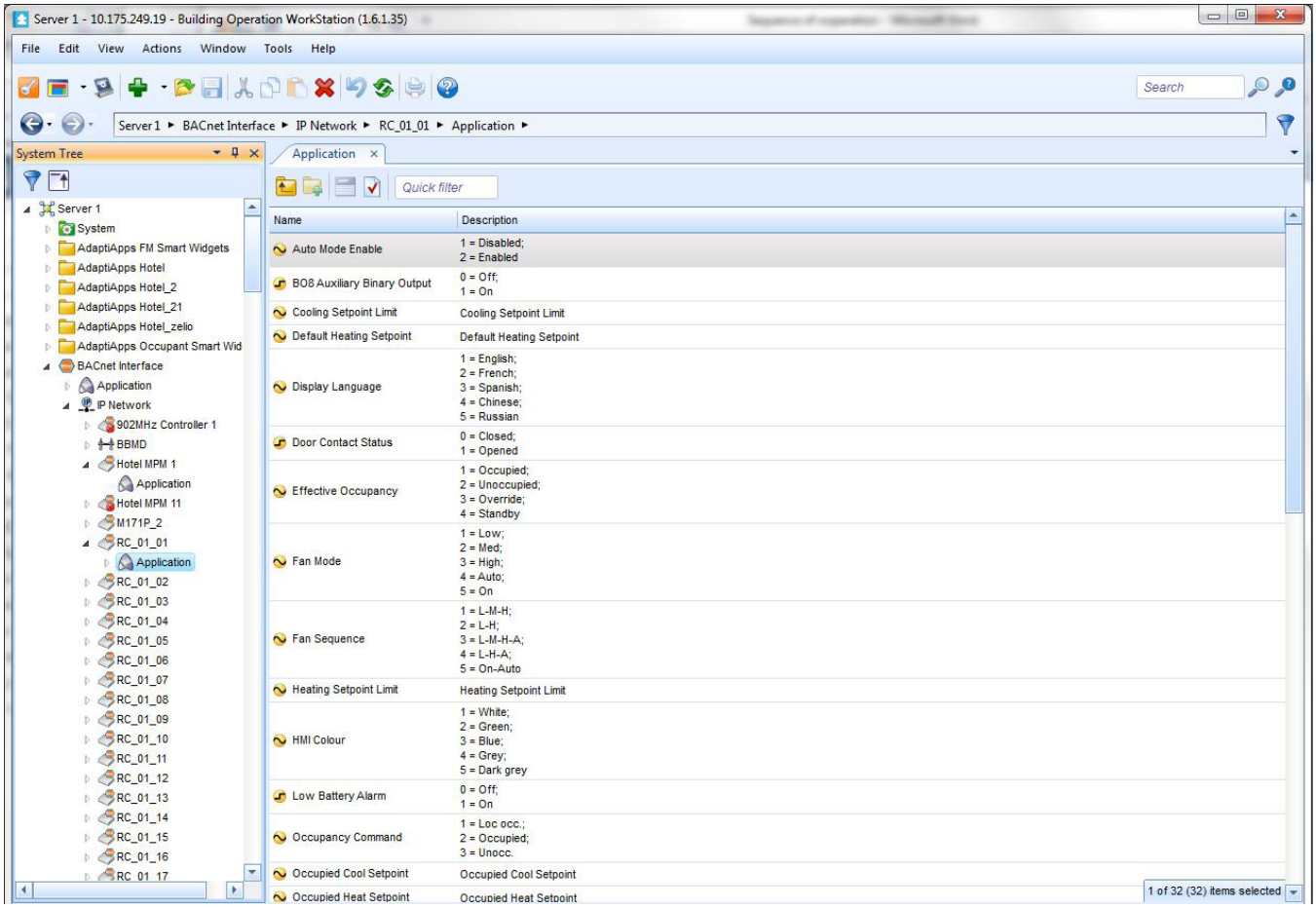
Building Operation Workstation

1. Start Building Operation Workstation session.



2. On left pane, click **Automation Server** or name of your Automation Server or Enterprise Server (server 1 on image above).
3. On right pane, click **Device Discovery** tab.
4. In drop down menu, select **BACnet devices**.
   Note: this launches discovery of BACnet devices accessible from this automation server.
   Note: when devices list appears, make sure SmartStruxure MPM to be integrated shows.
5. Click MPM to integrate and drag it to left pane in **IP Network** under **BACnet Interface**.
   Note: a message shows that reads “Upload is required to host objects in device”.
6. Click **OK**.
   Note: the MPM is now part of the IP network of the BACnet interface of the Automation Server. It normally appears in the left pane.
7. Right click on MPM and select **Upload**.
   Note: all objects on MPM get uploaded and become visible by double clicking on **Application** under MPM.
   Note: the same procedure applies to integrate/upload the Room Controllers and their associated objects. The Room Controllers bound to the MPM show in the MPM BACnet Network ID in the **Device Discovery** tab.
8. Click Room Controller and drag it to IP Network on left pane

9. Left click on MPM and select **Upload**.
   Note: all objects on Room Controller get uploaded and become visible by clicking on **Application** under MPM.



Technical Support

For any issues with EcoStruxure Solution, contact Schneider Electric Technical Support according to your region.

Level 1

- In-country support via SE Branches or SI Partners
- CCC / SRC / CSS

Level 2 - For product support, open ticket in BFO

- For Building Expert related issues*: PSS Advanced and Experts
- For EcoStruxure BMS issues: PSS Advanced

Level 2 - For solutions/application support

- Country Champion / Solution Architects / App Center

Level 3

- For Building Expert related issues*: SBS Support team
- For EcoStruxure BMS issues: PSS Experts

Level 4 - For solutions/application support

- For Building Expert related issues*: SBS Solutions, Offer Management and R&D
- For EcoStruxure BMS issues: Global Sustain Team

*Only for P1 issues (high impact, urgent and complex), country champion have the option of opening a ticket in Jira to escalate directly to Level 3

About Schneider Electric

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With global presence in over 100 countries, Schneider is the undisputable leader in Power Management – Medium Voltage, Low Voltage and Secure Power, and in Automation Systems. We provide integrated efficiency solutions, combining energy, automation and software.

In our global Ecosystem, we collaborate with the largest Partner, Integrator and Developer Community on our Open Platform to deliver real-time control and operational efficiency.

We believe that great people and partners make Schneider a great company and that our commitment to Innovation, Diversity and Sustainability ensures that Life Is On everywhere, for everyone and at every moment.

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