



# HARMONY

## EcoStruxure Building

Solution Overview  
May 2018

Confidential Property of Schneider Electric

Life Is On

**Schneider**  
Electric

# Table of Contents

## Megatrends driving opportunity

### EcoStruxure™ Building

- **The Open Innovation Platform of Buildings**

### Innovation At Every Level

- **Edge Control Software:** EcoStruxure™ Building Operation and SmartX Edge Servers (AS-P & AS-B)
- **Connected Products:** SmartX IP Controllers and accessories
- **Apps, Analytics & Services:** EcoStruxure™ Building Advisor

### Architectures

- **Schneider-Cisco® Partnership**



# Mega trends

World urban  
population migration

**+2.5B** by 2050

**Our cities are getting bigger:**

- By 2025: global building stock to grow by >13%
- By 2040: electricity consumption in buildings to grow by 80%
- By 2050: 65% world's population to live in urban areas

# Buildings are getting more connected

Number of connected devices in buildings:

1.7B  
2014

5.5B  
x3  
2020

By 2020: >30% connected devices in each building



Desks



Trash cans



Lighting



Occupancy

New disruptive technologies are catalysts for  
huge efficiency gains.

# Digitization presents tremendous opportunities to tackle the growing urban population's need for more comfort

## Simplified

Standardization, reusability, and mobile technology mean **less effort in engineering and deployment**

**30%** possible reduction

Confidential Property of Schneider Electric | Page 5

## Re-energized

Buildings have the highest untapped energy efficiency potential by sector

**82%** untapped potential

## Digitized

Predictive maintenance enabled by IoT and artificial intelligence

**20%** savings per year

## Re-engaged

A more personalized, comfortable experience drives productivity

**11%** increase with better ventilation

Life Is On | **Schneider**  
Electric

# Schneider Electric is reinventing buildings to be...



**More  
engaging**

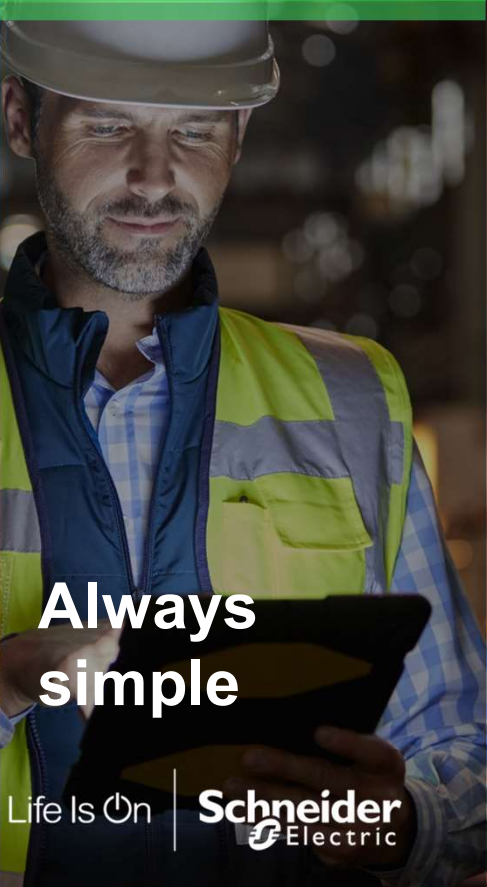
Confidential Property of Schneider Electric | Page 6



**Hyper-  
efficient**



**Truly  
sustainable**



**Always  
simple**

Life Is On | **Schneider**  
Electric

# The Open Innovation Platform of Buildings

## Scalable | Secure | Global

**EcoStruxure™** Building  
Innovation At Every Level

### EcoStruxure™ Architecture



# Building | What's New

## EcoStruxure™ Architecture



on premise or on cloud

## Open Innovation Platform of Buildings

A single solution for innovative, sustainable buildings:

Scalable | Secure | Global



cybersecure

Life Is On

**Schneider**  
Electric

Maximize  
Efficiency of Buildings



Optimize  
Comfort & Productivity for Occupants



Increase  
Value of Buildings



on premise or on cloud

### The Open Innovation Platform of Buildings

Scalable | Secure | Global



cybersecure

Life Is On

**Schneider**  
Electric

## EcoStruxure<sup>™</sup> Building Innovation At Every Level

### Unlock building value, unleash productivity

Next-generation EcoStruxure Building from Schneider Electric is **The Open Innovation Platform of Buildings** – a collaborative Internet of Things (IoT) solution that features a scalable, secure and global architecture to create future-ready **smart buildings**.

EcoStruxure Building securely connects hardware, software, and services over an Ethernet IP backbone to:

- Maximize building efficiency
- Optimize comfort and productivity
- Increase building value



## Real Smart

Streamline integration across your enterprise to drive efficiency

### Deploy scalable, open and secure architecture

- Integrate any building management application or system
- Leverage native support for open protocols including LON®, BACnet™, Modbus® and Web Services

### Breakdown traditional information silos

- Monitor and manage building systems and devices on one network
- Easily incorporate Web Services to access external data – such as weather and utility costs
- Integrate and optimize across multiple enterprise domains with Schneider's Power, Data Center and other offers

### Protect against the most malicious attacks

- Protect investment with best-in-class cybersecurity to keep building systems up and running

EcoStruxure™ **Building**  
Innovation At Every Level



## Real Simple

Access the right information when, where and how you want it

### Gain 24/7 access to building information

- Manage your facility on-the-go with intuitive mobile user apps and a full-function, browser-based WebStation user interface

### Allow users to personalize their workspace

- Organize interface by individual users to suit assorted needs and roles; preferences and favorites stay with users

### Simplify day-to-day operations with user-friendly functionality

- Optimize building operations with drag-and-drop trending, one-click reporting, interactive graphics, calendar-like scheduling and easy-to-use alarms

EcoStruxure<sup>™</sup> Building  
Innovation At Every Level



## Real Performance

Optimize building performance to maximize energy efficiency

### Realize significant savings

- Speed installation and enhance building operation and maintenance

### Create a comfortable, productive environment

- Attract and retain employees and occupants
- Ensure your facility meets government efficiency requirements and qualifies for tax-based incentives

### Turn data into actionable intelligence

- Leverage out-of-the box reporting and trending tools that provide actionable intelligence

**EcoStruxure** Building  
Innovation At Every Level



  
Save up to  
**30%**

on energy costs

Life Is On

**Schneider**  
Electric

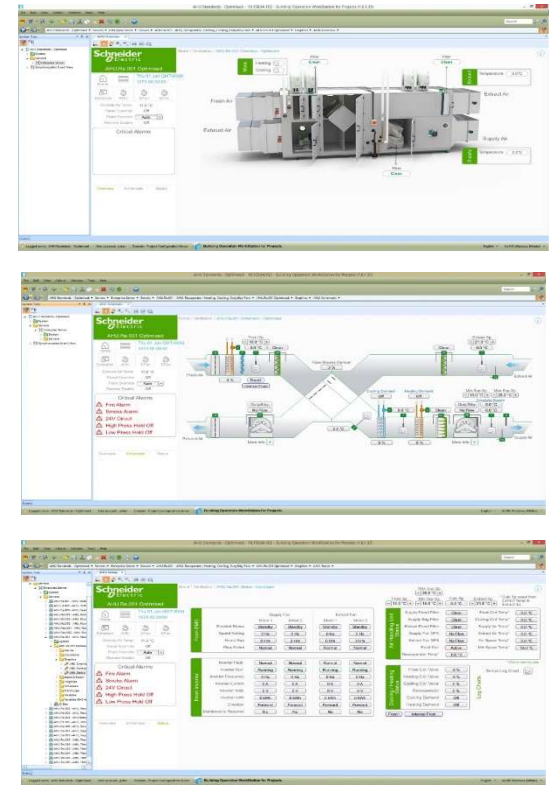


# Edge Control: EcoStruxure™ Building Operation

Software features and benefits highlights

**EcoStruxure™ Building Operation** software is the edge control heart of the system to create future-ready smart buildings

- An **open integration platform** that integrates multiple systems and devices to collect, analyze and manage data across the enterprise
- **Monitor, manage and control** building operations on one network to increase efficiency
- Turn system data into actionable intelligence to **optimize building performance** and **create productive environments**



# A truly open, end-to-end IP solution

Maximize opportunities in today's data-intensive modern buildings

Edge Control Software

## Open

- Go beyond HVAC and get simple integration across complex third-party systems
- Create limitless custom solutions through developer APIs with Smart Connector Framework

## Future-ready

- Leverage IP to ease adoption and implementation of future technology expansions

## Insightful

- Take advantage of cloud-based analytics and predictive services to improve building performance

## Connected

- Enable data transmission from connected equipment to diagnose and resolve issues faster
- Conveniently monitor, manage and even commission buildings from mobile devices



# Schneider Electric-Cisco® Partnership

Two technology leaders, one best-in-class solution

Edge Control Software

EcoStruxure Building modern building management solution merges IT and OT systems in a single, easy to manage Ethernet IP network.

What's the benefit? For example, now data collected from IoT sensors in occupied spaces can be integrated to building systems connected to an Ethernet field bus. This enables facility managers to make real-time decisions to improve occupant comfort and safety.

Our partnership with Cisco, the recognized leader in networking and cybersecurity, allows customers to scale and secure building systems on an IP network with peace of mind. Gain confidence that SmartX IP Controllers will connect to an end-to-end IP network with a resilient architecture that is easy to manage. Optional Cisco IE Switches and routers can further enhance optimal system performance.

## Why choose an IP building management system?

- **Faster, more reliable communication**
- **Higher bandwidth for more data-throughput**
- **Easier to support, lower deployment and operation costs**
- **Leverage cloud and connected service offers**
- **Greater architecture design flexibility**
- **More resilient and secure systems**

# Enterprise Server

The core of the enterprise system

Edge Control Software

## Powerful

- Collects site-wide data
- Scalable to manage multiple SmartX Edge Servers

## Secure

- Fully secure integration into Windows® Domain user accounts
- One less IT admin tool
- Ensures policy adherence

## Traceable

- Complete audit trail

## Open protocol support

- Provides seamless gateway to extensive range of Schneider Electric and many third-party devices

## Store and archive alarm, trend and event data

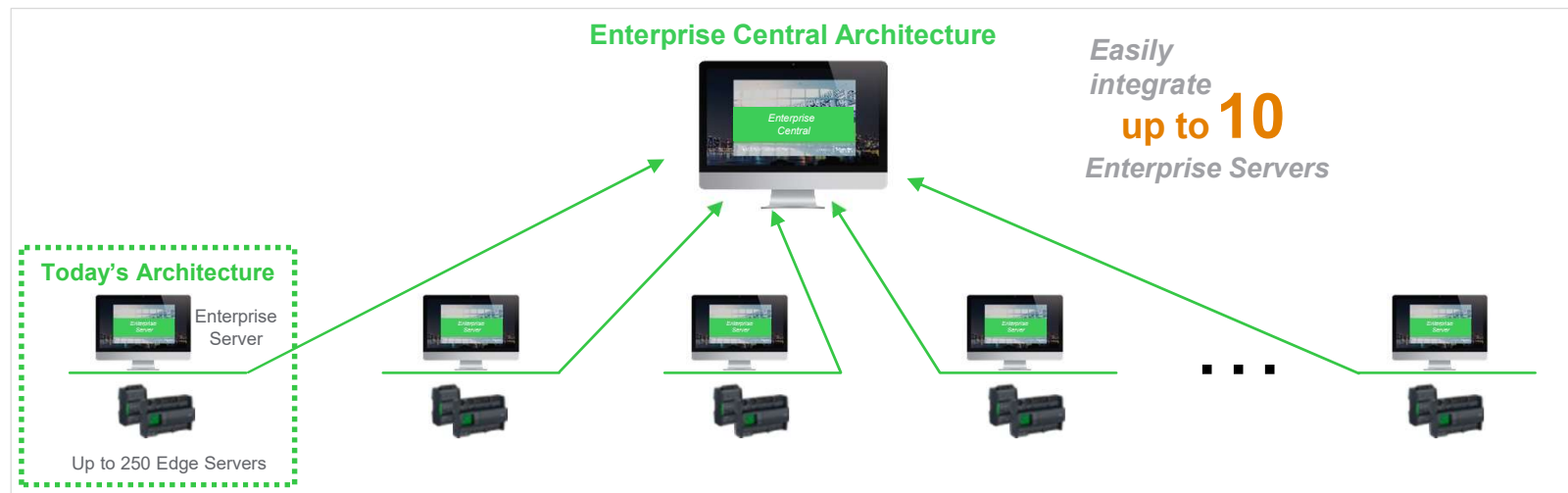
- Virtually unlimited data storage

# New Enterprise Central Supervisory Server

Edge Control Software

Now scale up to 10x more buildings or sites in your enterprise

- Integrates up to 10 Enterprise Servers
- Execute large-scale site expansions easily
- Complete transition of existing large and multisite enterprises with ease



Life Is On

Schneider  
Electric

# WorkStation

Dedicated machine software for programming, engineering and operation functions

Edge Control Software

## *New! Now save even more time*

- Includes tools for standard applications, mass change/mass update, custom types, libraries, offline engineering, and more

## User friendly

- Individual, personalized workspaces
- Simple alarms, events and schedule configuration
- Intuitive address bar contains simple screen navigation commands

## Efficient

- Mass change/multiselect functionality
  - Implement changes across many points with one click
  - Enforce policy site wide with one click

## Licensing based on number of concurrent users

## Powerful alarm management

- Prioritize, filter and group

## WebStation

Web browser operator interface for system access anywhere, anytime

Edge Control Software

### *New! Now get a truly mobile user experience*

- Get access to building data on-the-go with the same high-quality user experience for desktop, tablet and mobile devices

### **Direct access using a standard web browser**

- No additional software needed

### **Delegate responsibilities and perform everyday operations**

- View graphics, trends, schedules and reports
- Change values (e.g. temperature setpoints)
- Update schedules
- Manage alarms and users

### **Secure access**

- WebStation requires user name and password for log on
- HTTPS authentication using transport layer security (TLS)

# SmartX Edge Servers – AS-P & AS-B

Next-generation automation servers

## AS-P – Ideal for enterprise installation and transition simplification

- Network controller and server in one
- Faster dual-core processor for improved performance
- Large 512 MB RAM memory size
- Dual Ethernet ports, future-ready to elevate BACnet IP communication to the field controller level
- Communications hub: BACnet, LonWorks, Modbus, Web Services
- Centralized control, database, serving out to user interfaces (WorkStation, WebStation and apps)
- UL-864 certification for smoke control

## AS-B – Ideal for small-to-medium main plant applications

- Powerful, compact all-in-one BMS design



AS-P & AS-B conform to the BACnet® B-BC profile at protocol revision 12

Confidential Property of Schneider Electric | Page 22

Edge Control Software



Life Is On

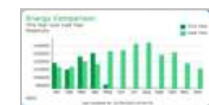
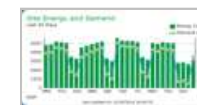
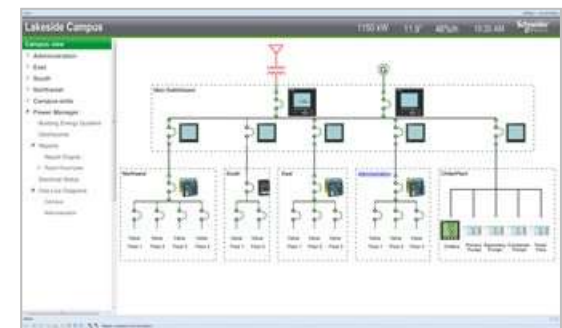
Schneider  
Electric

# EcoStruxure™ Energy Expert

Embedded software modules to integrate energy and power monitoring

Edge Control Software

- Monitor, measure and optimize your building's non-critical power in the same way as HVAC, lighting and fire safety systems – and gain insights through a single view to:
  - Ensure electrical network health
  - Increase power quality awareness
  - Improve energy accountability
- Content is accessible through WebStation and WorkStation
- Designed for non-electrical experts



# EcoStruxure™ Security Expert

Keep building occupants safe, assets protected, information available, and cyber risks minimized

Edge Control Software

## Access and intrusion security offer

- Best-in-class access control and intrusion detection from purpose-built field controllers, RFID Smartcard Reader technology and application software that meets regional certification and localization requirements
- An autonomous solution that integrates with EcoStruxure Building Operation software to deliver visualization and control of the entire building



A background image showing four business professionals in a modern office. Two men and two women are dressed in business attire. One man is holding a smartphone, and another is holding a tablet displaying a line graph. They appear to be in a collaborative meeting.

# Cybersecurity Features

EcoStruxure™  
Innovation At Every Level

# Building

Built-in market-leading cybersecurity for peace of mind

# Enhanced cybersecurity features

Reduce cyber threat risk as technology evolves

## Secure Development Lifecycle (SDL) policy

- Processes assure resilience and formal customer response

## Advanced encryption and authentication

- Secure communications throughout system

## Secure by default features

- Assure out-of-the-box protection

## IT system integration

- Enable IT management of user and password policies
- Enable IT monitoring of system events

## Full system backup, recovery and reconstitution

- Minimize downtime

## Technology highlights:

- TLS 1.2 support
- CA Certificates
- Secure email
- Password policies
- Change password on first use
- Auto logoff timers
- Role-based access control (RBAC)
- Object level security
- Active Directory integration
- Audit logs
- System information and event monitoring (SIEM) integration

Edge Control Software





## User Experience Features

EcoStruxure™  
Innovation At Every Level

Building

Monitor, manage and control your facilities to simplify day-to-day operation

# Graphics

Get attractive and user-friendly graphics that make the system easy to use and manage

User Experience Features

## Scalable vector graphics

- High quality in all sizes and on all devices – supports HTML5 (WebStation only) for graphics and trend charts

## Quickly and easily create, modify, replicate and edit graphical elements

- Graphics Support Services also available

## Graphics can change color for intuitive views of temperature variation and/or alarm status

*Use a wide variety of high quality graphics to create different schematics*



## Personalized user interface

Organize workspace views to meet your individual or project needs

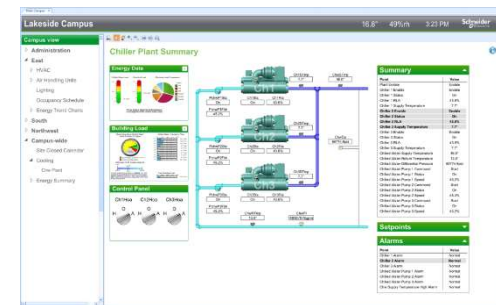
Create an individualized view for each user or group of users

Focus on what is important to different users

- CEO
- Facility Manager
- Occupants

Preferences, favorites and settings follow the user so they see their layout wherever they log in

## User Experience Features



# Alarms and events

Immediately identify issues to mitigate risks and gain insight to the source of system concerns

User Experience Features

## Active alarm and event management

- SNMP alarming notification option
- Integrated email notification, scheduled assignments, notes and checklists
- Virtually all services can be flagged for early detection and warning capability
- View and manage values, alarms, schedules and trend log lists

## Graphical alarms

- Attach graphics to alarms for a picture-perfect display of system status during and leading up to the alarm

## Protection

- Choice of single or double acknowledgement of alarms, per company policy



# Alarms presentation and notifications

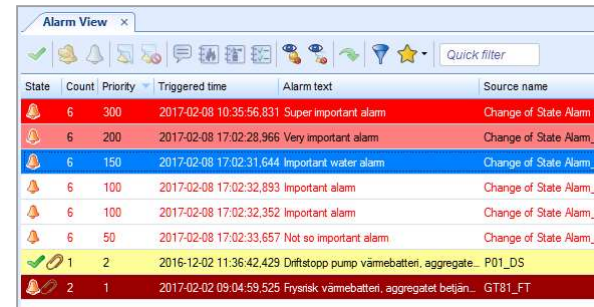
Make your most important alarms pop with color!

User Experience Features

## Instantly recognize alarms with messages that are clear and specific

- Alarm Decoration Rules – override alarm presentation including:
  - Message text, font color, cause note, checklist, required user actions, etc.
- Expanded alarm text substitution codes – now over 60 options!
- Apply sort order to any view
- Optional millisecond timestamps in alarm and event views

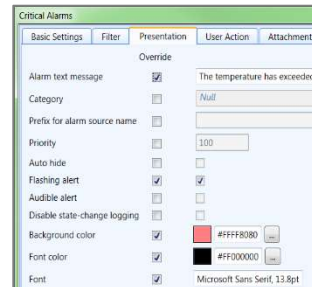
Dynamic alarm decoration and text



State	Count	Priority	Triggered time	Alarm text	Source name
🔔	6	300	2017-02-08 10:35:56,831	Super important alarm	Change of State Alarm...
🔔	6	200	2017-02-08 17:02:28,966	Very important alarm	Change of State Alarm...
🔔	6	150	2017-02-08 17:02:31,644	Important water alarm	Change of State Alarm...
🔔	6	100	2017-02-08 17:02:32,893	Important alarm	Change of State Alarm...
🔔	6	100	2017-02-08 17:02:32,352	Important alarm	Change of State Alarm...
🔔	6	50	2017-02-08 17:02:33,657	Not so important alarm	Change of State Alarm...
✅	1	2	2016-12-02 11:36:42,429	Driftstopp pump värmebatteri, aggregate...	P01_DS
🔔	2	1	2017-02-02 09:04:59,525	Frysisk värmebatteri, aggregatet betjän...	GT81_FT

## Deliver timely messages via email, client messages, files and SNMP

- Notification report templates now support Events, Search and Watch data types



Critical Alarms

Basic Settings Filter Presentation User Action Attachment

Override

Alarm text message ☒ The temperature has exceeded th

Category ☐ Null

Prefix for alarm source name ☐

Priority ☐ 100

Auto hide ☐

Flashing alert ☒

Audible alert ☐

Disable state-change logging ☐

Background color ☒ #FFFF8080

Font color ☒ #FF000000

Font ☒ Microsoft Sans Serif, 12.8pt

60 alarm text substitution code options!

Alarm text @(AlarmText)  
Assigned to ID @(AssignedID)  
Assigned state @(AssignedState)  
Assigned to name @(AssignedTo)  
Assigned to domain @(AssignedToDomain)  
BACnet alarm type @(BACnetEventType)  
BACnet notification type @(BACnetNotificationType)  
Basic evaluation state @(BasicEvaluationState)  
Category @(Category)  
Command value @(CommandValue)  
Confirmed notification @(ConfirmedNotification)  
Count @(Count)

# Schedules

Conveniently manage sites 24/7 by building or floor based on your specific needs

User Experience Features

## Master schedule

- Manage multiple buildings effectively

## Easy to use

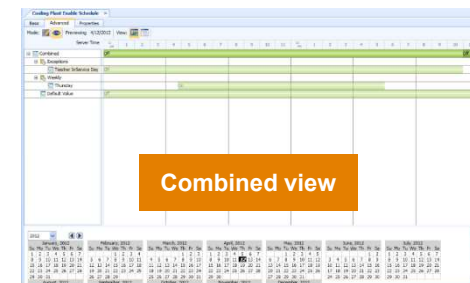
- Text- or graphic-based functionality
- Simple to configure special events using Microsoft® Outlook-like recurrence
- Change setpoint values directly from the schedule

## Prioritize events

- Assign priority level to events
- Use “combined view” to see resulting schedule

## Calendars

- Holiday exceptions entered once and then reflected in all schedules



# Reports

Understand building data to glean insights and to share with stakeholders

User Experience Features

## Powerful graphical reporting tool

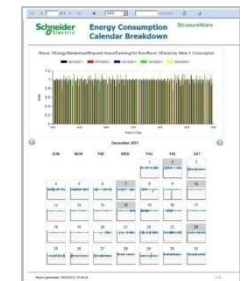
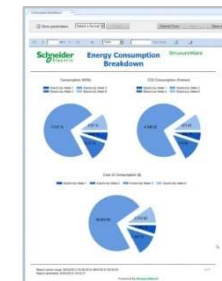
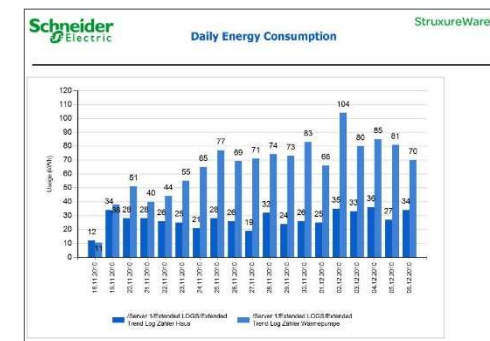
- Customized reports
- Out-of-the-box reports
  - Energy consumption reports
  - Alarms and trends comparison

## Easy configuration

- Based on any pre-configured or ad hoc criteria including date range, cost, consumption and CO<sub>2</sub> emissions

## Viewable through WorkStation or WebStation

*Simplify user experience while providing an additional level of control to help improve operational and energy efficiency*



## Trends

Turn building data into actionable intelligence for better system performance and insight

User Experience Features

### Historical data

- Business performance data based on history, people, locations, etc.
- Internal, External, Implicit and Meter Logs

### Export logs

- Variety of standard reporting formats including .csv and .xml

### Flexible

- Data presentation in table or chart view
- Create an ad hoc trend chart from any point
- Drag and drop points onto trend chart
- Roll over to highlight values



# Localization

Accommodate global enterprises with versatility across geographies

## Flexible

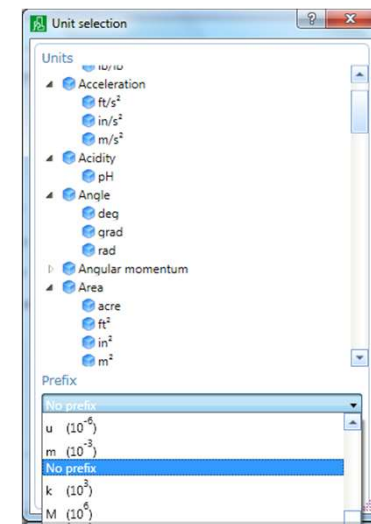
- Seamless unit conversion across multiple geographic locations and measurement systems
  - Example: User can log into the application in France and see U.S. measurements

## Supports multiple time zones for servers and clients

## Standardized support for 10 languages

- Chinese (simplified), Danish, Finnish, French, German, Italian, Portuguese, Russian, Spanish and Swedish
  - Translation tool available for others
- Easily change language from WorkStation

## User Experience Features



## Efficient copy, paste and find

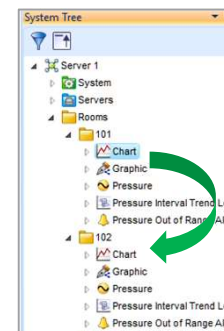
Save time during system configuration and expansion

User Experience Features

### Copy and paste objects without configuration changes

- Enhanced Search Objects with relative search path
- Trend Chart “Title” property permits relative binding path
- Works with WorkStation and WebStation

Copy/paste – relative bindings and paths

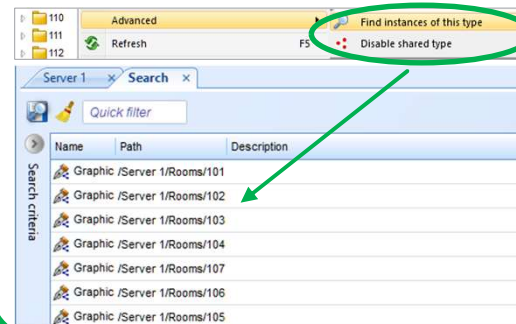


Copy ☒

### Find all instances of a given object type

- Simply click on one object and see all the other instances so you know which are affected
- Very useful with shared graphics

Find all instances



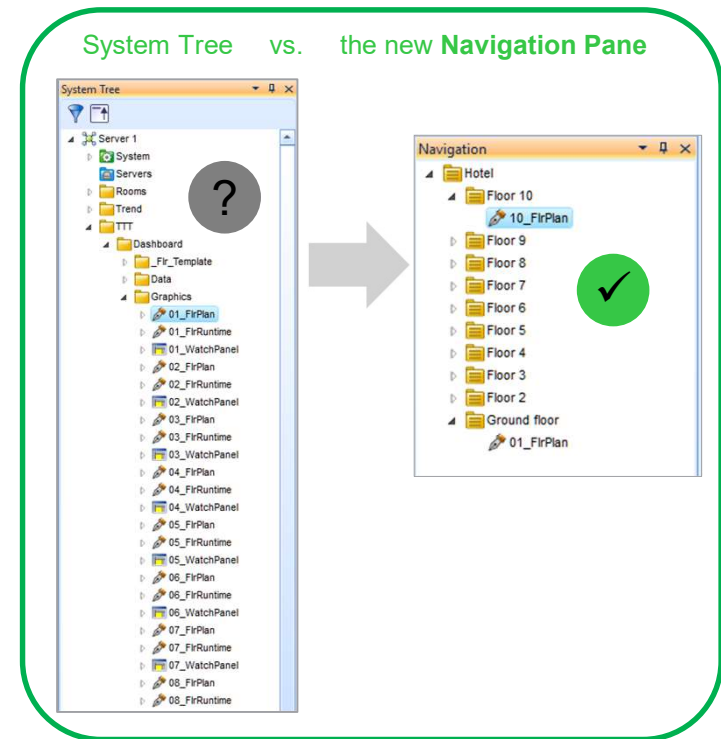
# Navigation panes and panels

Personalize views to see important information clearly and quickly

User Experience Features

## Custom tailor Navigation Panes improve usability and system views

- Display only the preferred paths as an alternative to the system tree
- Easily add new Navigation Panes types to a workspace or panel
- Works with WorkStation (WebStation coming in future version)
- Re-use existing Menu configuration to save time



## List View default and favorites

Customize access and delivery of system information and reduce risk of user error

### Easily accessible custom List View default and favorite layouts

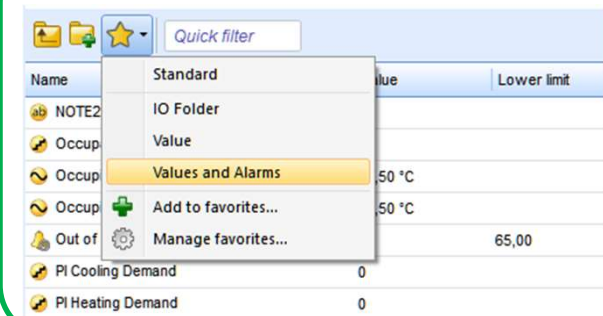
- Similar to feature introduced with alarm and event views
- Save a List View configuration as a default “content type” or favorite
  - Defaults for all Workstation users
  - Favorites follows the user
  - All layouts preserved during upgrades

### Time Force Utility provides temporary service overrides

- Automatic timed “unforce” eliminates risk of customer forgetting the override
- Overrides can be set for a specific duration or until a specified end date and time
- Available for paths that support Utility objects
  - Value property of Analog, Digital and Multistate objects


#### User Experience Features

##### Favorite List View layouts



Name	Value	Lower limit
NOTE2		
Occup		
Occup	50 °C	
Occup	50 °C	
Out of		65,00
PI Cooling Demand	0	
PI Heating Demand	0	

##### Time Force Utility objects



Value: Unforce 10

Force type select: Force duration

Force duration (min): 10

Force until: 3/16/2017 11:18:12 AM

## WebHelp

Get convenient, secure, intelligent online help for users

**WorkStation machines with Internet access automatically link to up-to-date information**

**Powerful search and filtering capabilities**

- Context specific search menus
- Linked to where you ask for help

**Rank and comment on WebHelp**

**Linked to community portal**

- Find and share resources

**Create, store and email PDF files**

User Experience Features





## Connected Products

EcoStruxure™  
Innovation At Every Level

# Building

Extend the functionality of the open innovation platform of buildings with an end-to-end IP system

# NEW SmartX IP Controllers – MP Series

Next-generation controllers for future-ready investments

Connected Products

*Open, efficient to engineer, flexible to adapt to any application*



*Reliable operation and zero impact upgrade*



*Speed and throughput to support growing demand for data*



*Built-in cybersecurity to bring peace of mind*



## 7 NEW field-controller models



SmartX MP-C  
24 & 36 points



SmartX MP-C  
15 & 18 points



Add-on override  
modules for MP-C



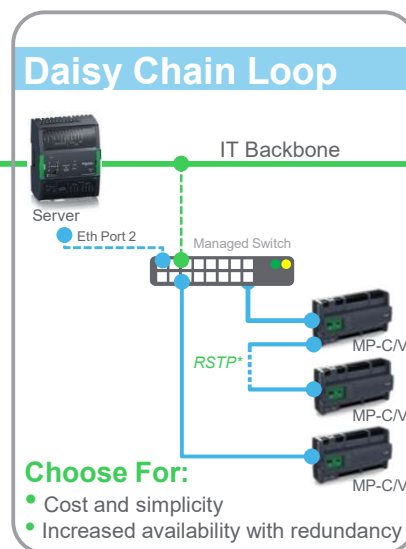
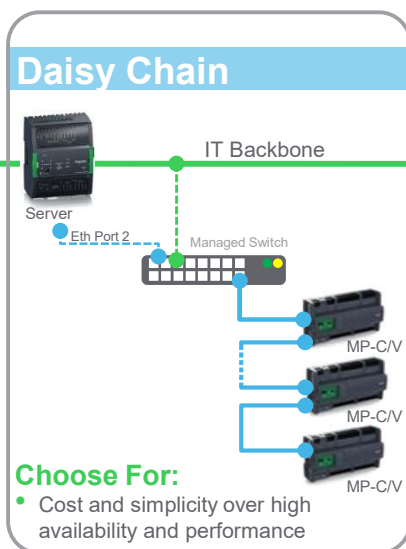
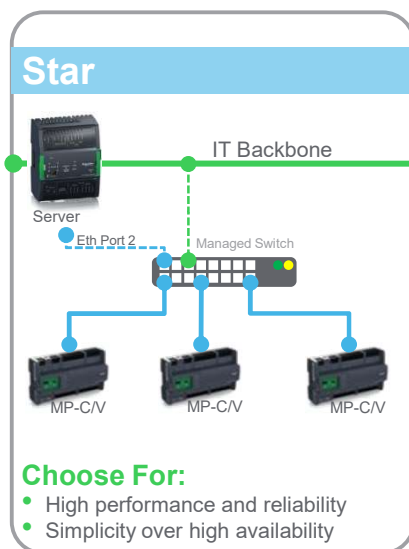
SmartX  
Living Space Sensor



SmartX MP-V  
7 & 9 points

# System Topology Examples

Connected Products



## Two Options:

- **Isolated Field Bus** – Field Bus on independently configured Ethernet port 2 (of SmartX Edge Server) or a dedicated network card on an Enterprise Server
- **Field Controller on IT backbone**

\*RSTP: Rapid Spanning Tree Protocol  
[requires managed switch, MP-C/V only, not AS]

## Network topology support

- Daisy chain supports up to **50** controllers
- RSTP (loop) supports up to **39** controllers

## System scale

- ES supports up to **600** MP-C/V controllers
- AS-P supports up to **200** MP-C/V controllers
- AS-B supports up to **50** MP-C/V controllers

# NEW SmartX Living Space Sensors

Future-proof investment with customizable flexibility in three models

Connected Products



**4 in 1**

Integrated Sensors

- Temperature
- Relative Humidity
- CO2
- Motion

## Modular Design



## Key Benefits

- Customizable models to best fit application
- Replacement ease for repair or upgrade
- Service port access for commissioning tool

*Over 24 combinations meet varying application needs; fewer SKUs simplify ordering.*

# Seamless end-to-end network connectivity solutions

Connected Products

## Network Cables



Cables

- **Upto 3x quicker to connect** with crossfiller: cut just one foil instead of four
- **Less electromagnetic interference** thanks to 3x shielding

- **Total Cost of Ownership reduction up to 10%** thanks to installation time savings
- **Reliable** thanks to 100% pre-testing



Pre-terminated Cables

## Connectors



Connectors

- **30% quicker & easier** to connect thanks to tool-less, one-piece design

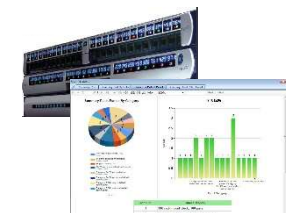
## Panels



Panels

- **Simple** to install and upgrade
- Excellent cable management with **clear marking**
- **Space optimization** with angled solution

- **Reduce downtime risk by 10%** through real-time monitoring
- Scalable: **Save up to 50% of installation time** from upgrading a standard cabling



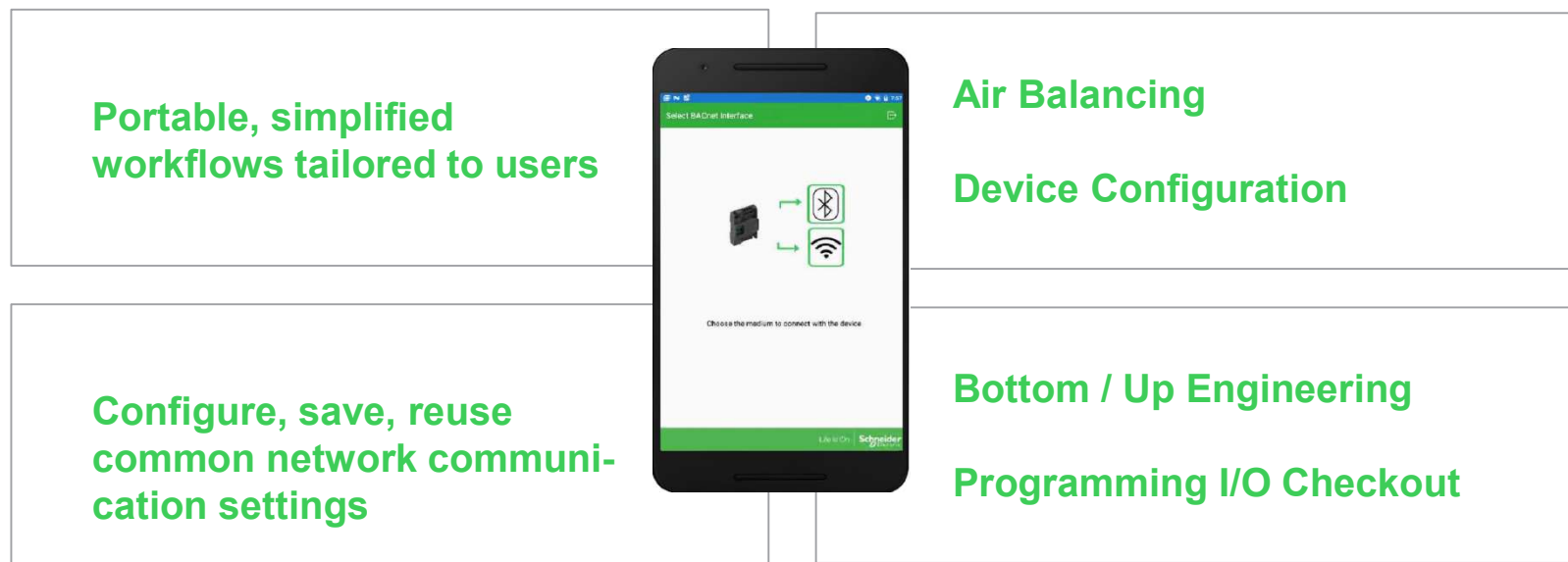
Smart Panels

# NEW eCommission SmartX IP Controller Mobile App

Improves productivity and lowers labor costs

Connected Products

Configure SmartX IP Controllers without a server connection; commissioning up to 20% faster



# SmartX Edge Server I/O modules

Modular and scalable footprint to meet your specific needs

## Each SmartX AS-P server supports up to 32 I/O modules

- Includes AS-P, Power Supply and associated I/O modules
- Extension cable for multiple row installations (max 5 per automation server)
- Can control up to over 400 I/O points (depending on configuration)

## 17 different I/O modules allows for centralized control of large mechanical systems

- A variety of digital and analog inputs and outputs to ensure each installation is customized

## Power Supply

- 24V power across a common bus

Connected Products



# SmartX Edge Server I/O modules

Key hardware features

## Easy to install

- DIN rail or wall mount
- Hot swap / plug and play

## 2-piece design with patented locking handles

## Separate wiring base

- Backplane built-in
- Auto addressing

## Field marking feature with protective windows

- Factory or custom label

Connected Products



## SmartX Controller – AD

Advanced Display empowers more users to interact based on their roles

Connected Products

### Dedicated operator interface; goes beyond a traditional HMI

- Hi-res 10” touch screen display
- Passcode-protected Kiosk mode ensures the AD stays on designated interface
- No special software to configure; no special user training required
- Functions are based on simple, easy-to-use apps and web interface

### Uses standard solution interfaces

### Versatile for different mounting locations

- Reception areas, conference rooms, plant rooms

**AD Link enables direct connection to SmartX Edge Server – AS-P or AS-B – no WiFi required**



## Additional field controllers and devices

Ensure Schneider quality and reliability throughout the building

Connected Products

### Field devices

- Sensors and thermostats
- Valves and actuators
- Lighting control
- Energy metering
- Variable speed drives



### Room controllers



SE7000 Series



SE8000 Series

### Field controllers

- b3 Series
- Xenta Series
- MNL Series
- MNB Series



## Apps, Analytics & Services

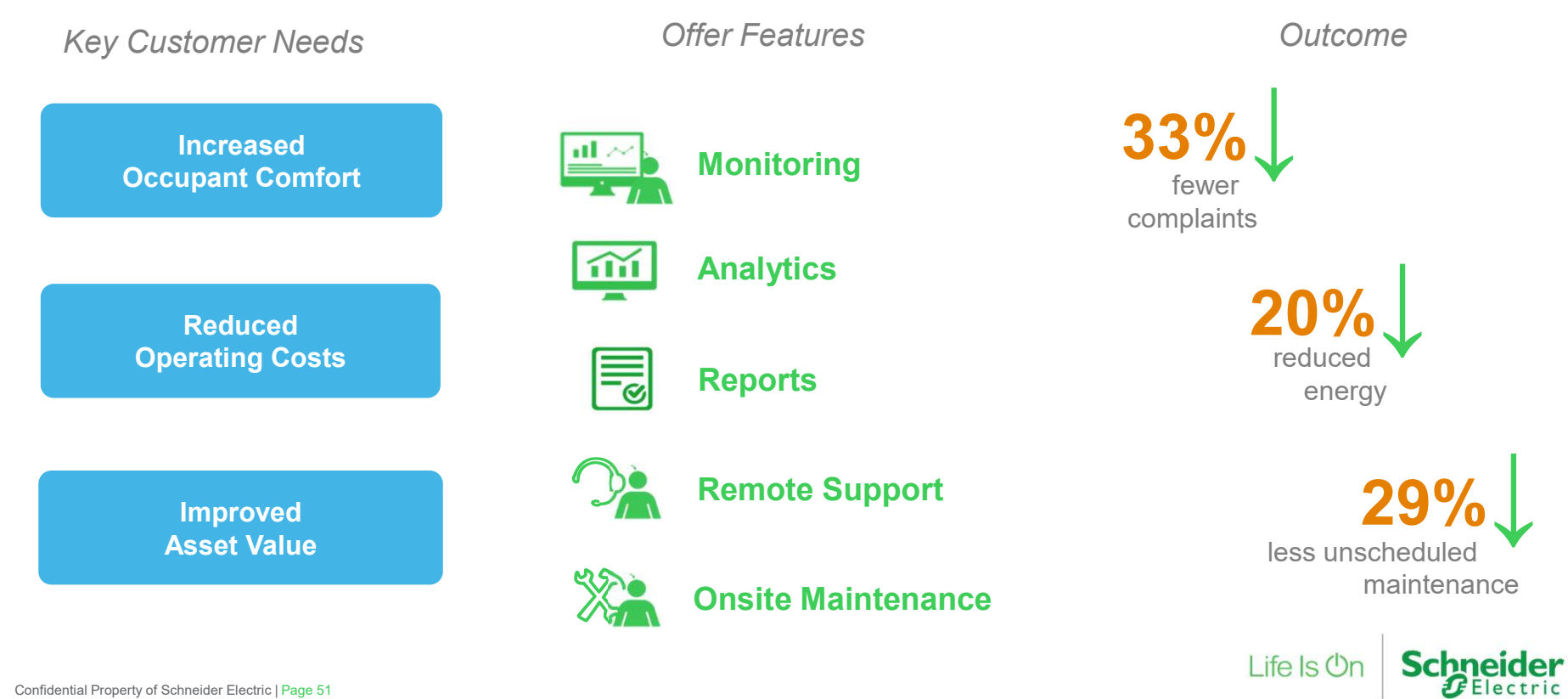
EcoStruxure™  
Innovation At Every Level

Building

EcoStruxure™ Building Advisor

# EcoStruxure Building Advisor provides real impact

Reduce energy costs while increasing operational efficiency and occupant comfort



# EcoStruxure Building Advisor provides real impact

How it works



- Get property overviews
- Simplify benchmarking
- Recommend prioritized actions
- Quickly identify root causes
- Put recommendations into action



Architectures

EcoStruxure<sup>™</sup>  
Innovation At Every Level

Building

EcoStruxure Building Operation v2.0

## Two technology leaders, one best-in-class solution

## Schneider Electric-Cisco Partnership

Schneider Electric's technology solution partnership with Cisco® bridges the OT and IT worlds and maximizes the connectivity in smart buildings.

Together, the two companies have tested- and validated- designs for building systems that provide customers with confidence that SmartX IP Controllers will securely connect to an end-to-end IP network with a resilient architecture and that is easy to manage.

## Three Differentiators

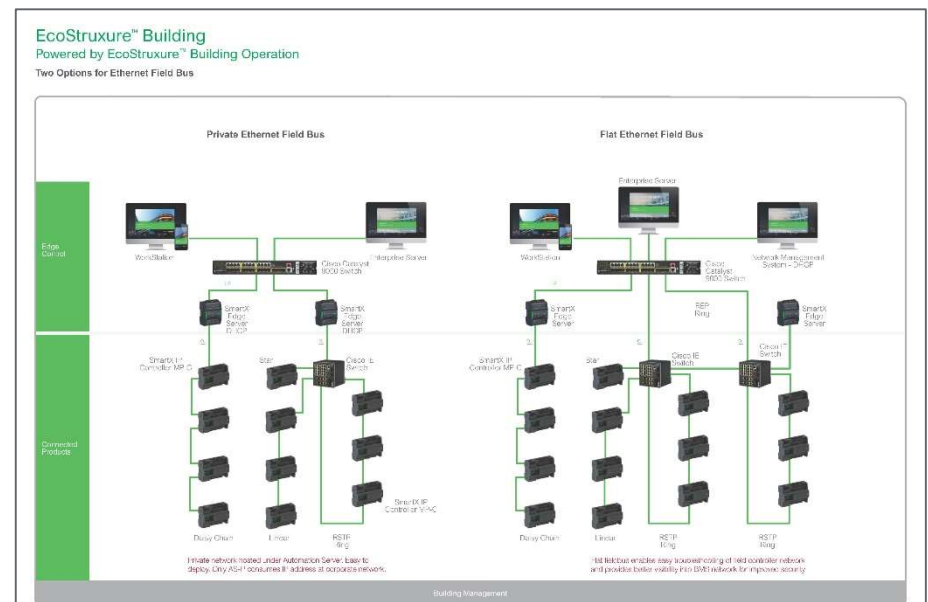
## Secure



## Resilient



## Easy to manage



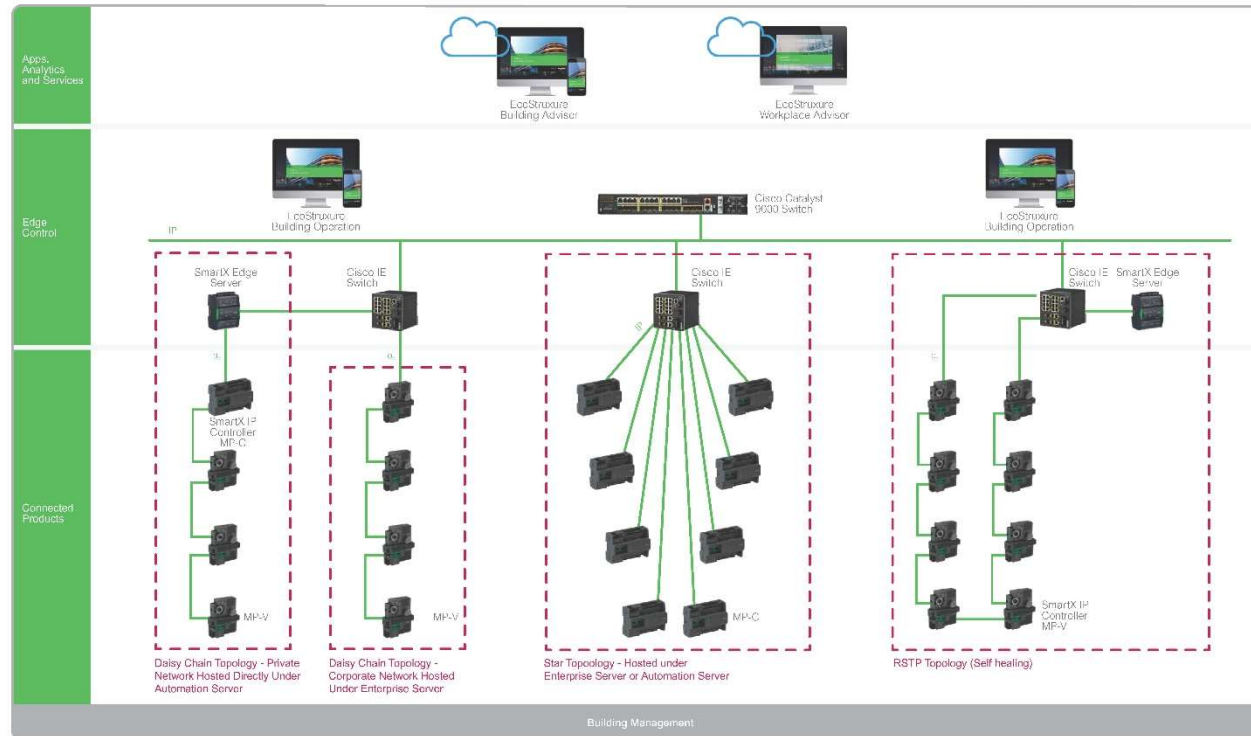
Life Is On



## EcoStruxure™ Building

Powered by EcoStruxure™ Building Operation

Evolution to IP Topology Options



Schneider Electric and Cisco® together have developed, tested and validated this building system design to provide customers with confidence in knowing that their systems will securely connect to an end-to-end IP network with a resilient architecture that is easy to manage.

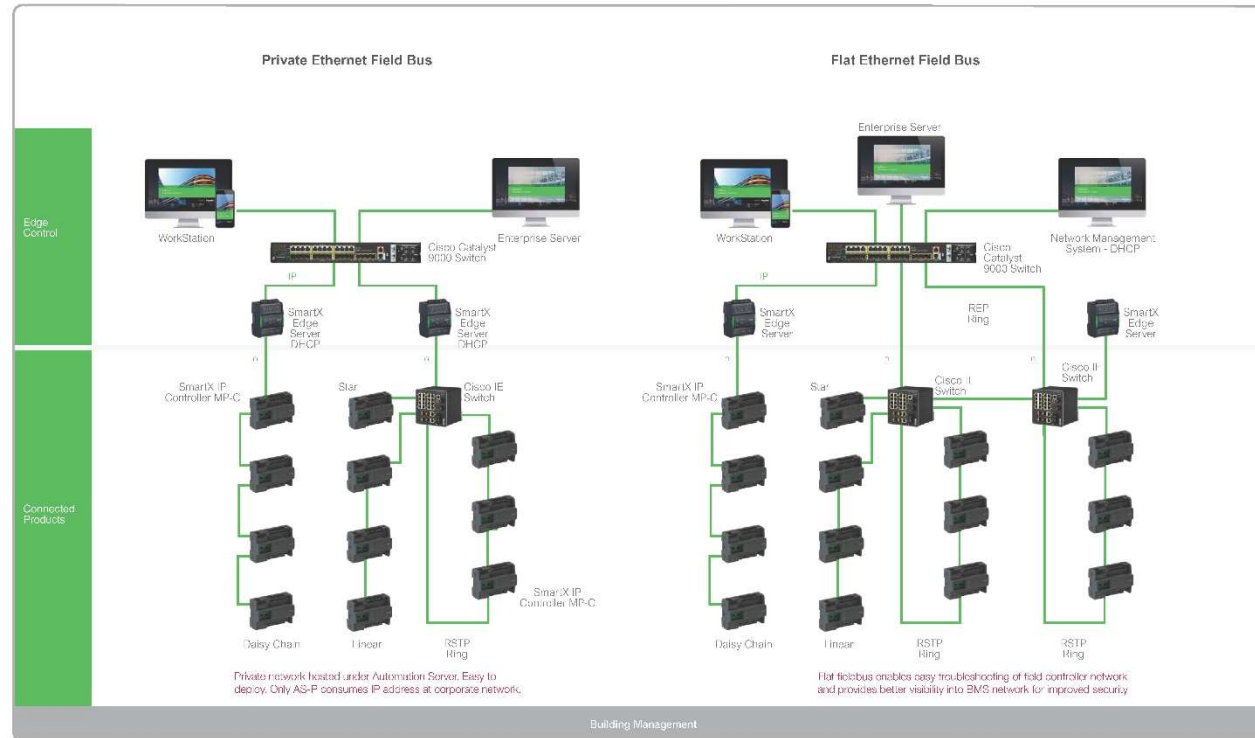
Life Is On

**Schneider**  
Electric

## EcoStruxure™ Building

Powered by EcoStruxure™ Building Operation

Two Options for Ethernet Field Bus



Schneider Electric and Cisco® together have developed, tested and validated this building system design to provide customers with confidence in knowing that their systems will securely connect to an end-to-end IP network with a resilient architecture that is easy to manage.

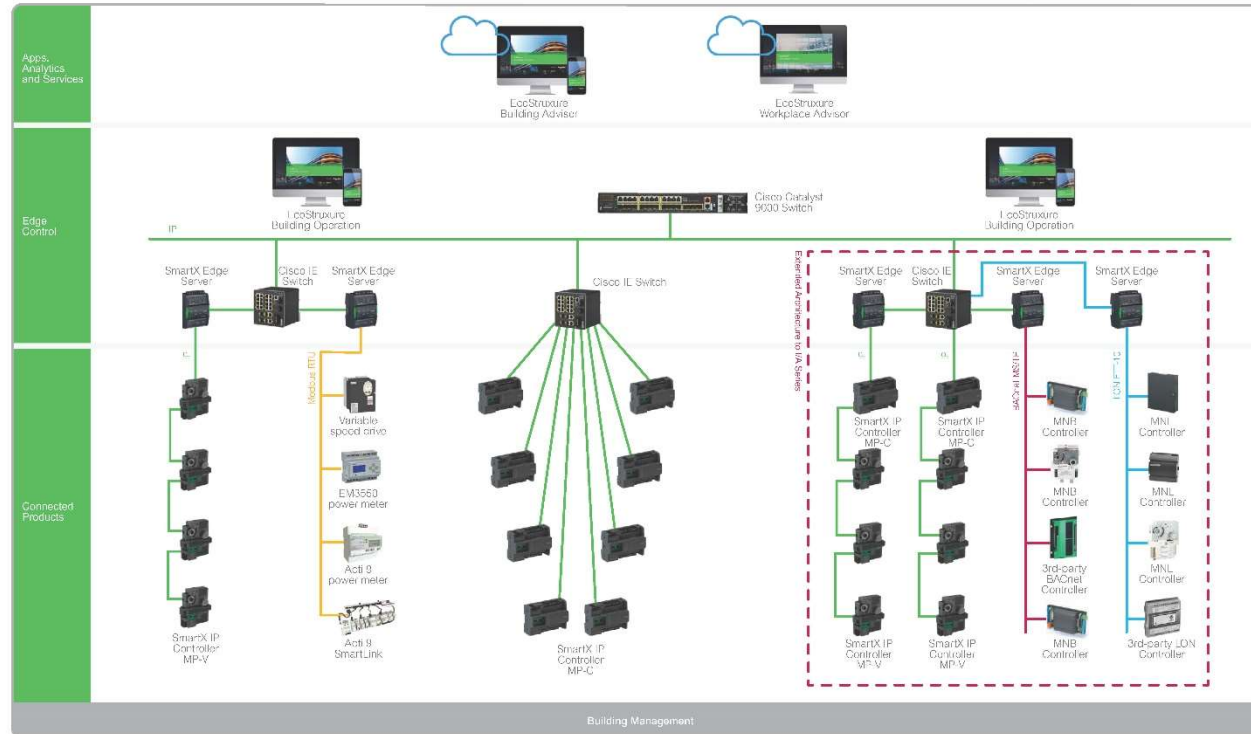
Life Is On | **Schneider Electric**



## EcoStruxure™ Building

Powered by EcoStruxure™ Building Operation

Evolution to IP with TAC IA Series™ systems

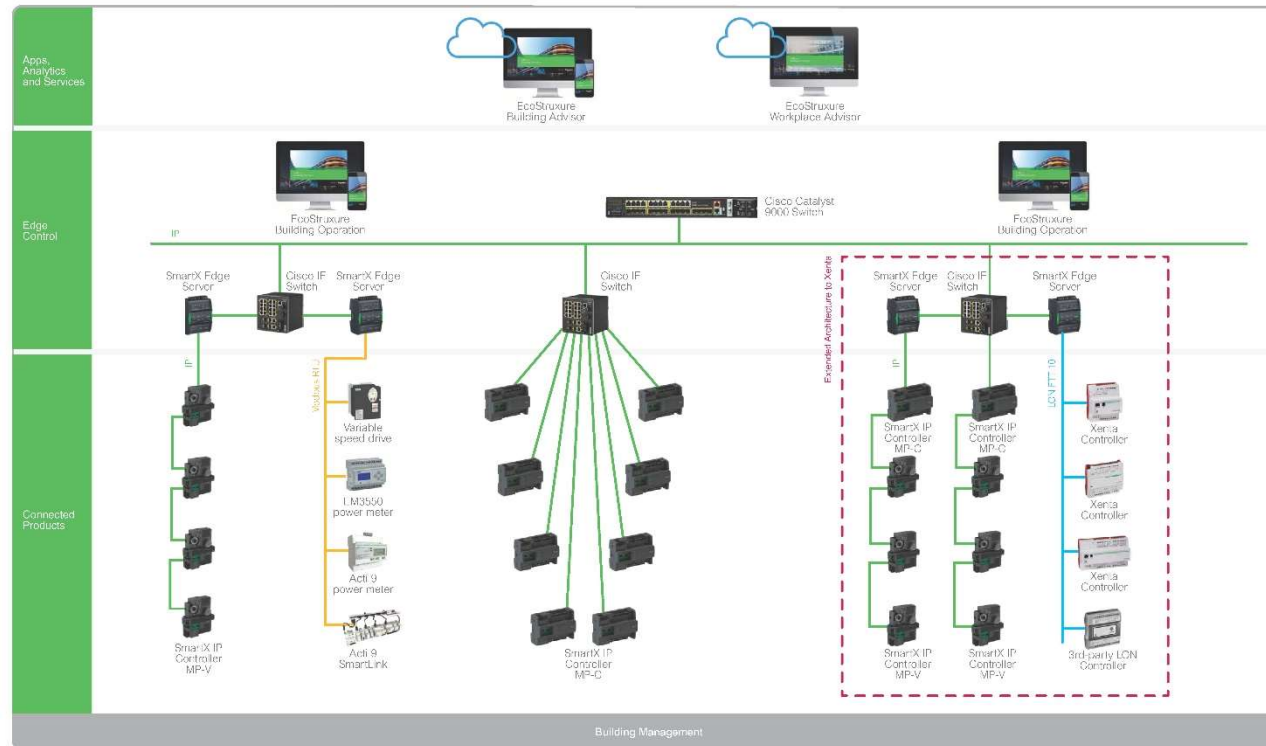


Schneider Electric and Cisco® together have developed, tested and validated this building system design to provide customers with confidence in knowing that their systems will securely connect to an end-to-end IP network with a resilient architecture that is easy to manage.

Life Is On

**Schneider**  
Electric

**EcoStruxure™ Building**  
 Powered by EcoStruxure™ Building Operation  
 Evolution to IP with TAC Xenta™ systems

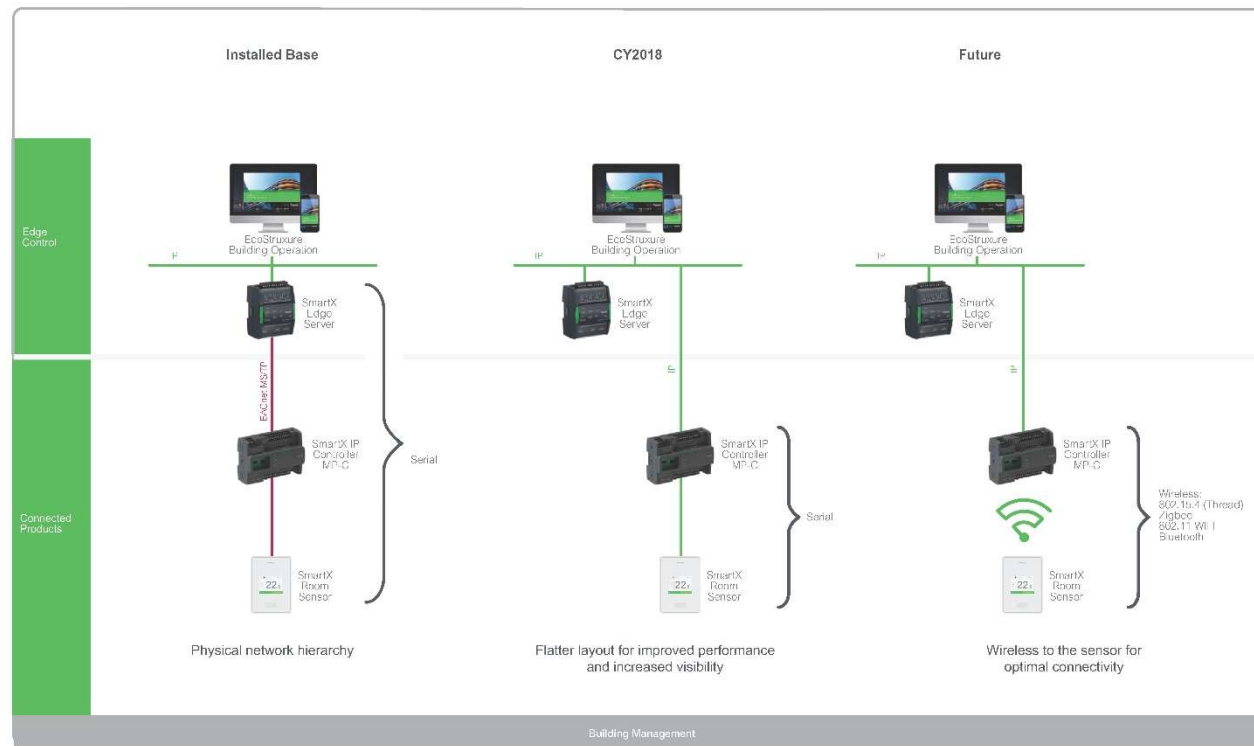


Schneider Electric and Cisco® together have developed, tested and validated this building system design to provide customers with confidence in knowing that their systems will securely connect to an end-to-end IP network with a resilient architecture that is easy to manage.

## EcoStruxure™ Building

Powered by EcoStruxure™ Building Operation

Evolution to IP Connectivity



Schneider Electric and Cisco® together have developed, tested and validated this building system design to provide customers with confidence in knowing that their systems will securely connect to an end-to-end IP network with a resilient architecture that is easy to manage.

# Building

Collaborative smart building IoT platform  
serving over **1 million buildings** globally

NAVIGANT

**No.1** in Navigant Leaderboard Report for  
Building Energy Management Systems, 2016

VERDANTIX

**No.1** in Green Quadrant for Building  
Energy Management Software, 2015;  
Top Facility Optimization Software, 2018



The Edge, Amsterdam



PM's Office, Malaysia



Gwanghwamun D-Tower,  
South Korea



T-Mobile Arena



Hilton Worldwide

Life Is On | **Schneider**  
Electric

Life Is On | **Schneider**  
Electric