IP-based Building Systems Network from Cisco and Schneider Electric

Cybersecure and Efficient Network Technology Solution

Many building management systems (BMS) rely on older technology, which can make it challenging for operations staff to extract critical performance information efficiently and cost-effectively. With few management and diagnostics tools, these legacy protocols and communication networks are also difficult to maintain and do not protect against threats to security, putting companies and their property at greater risk. Now get a cybersecure and efficient solution from industry leaders, Cisco and Schneider Electric™.

Today's Smart Buildings

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

Benefits

Secure

- Securely transmits vital operations data
- Protects against cyber threats targeting building systems

Rely on a single solution for IT and OT security, enforce security policies, and monitor and control building systems anytime, anywhere. Securely transmit data from IoT sensors and devices to the cloud for analysis.

Resilient

- Predicts an impending failure before it happens
- Provides a highly resilient network architecture
- Increases availability of building systems

Increase building system availability and minimize network failures. Identify and resolve issues quickly and efficiently through increased system visibility using standard network diagnosis tools.

Easy to Manage

- Simplifies building systems management
- Simplifies network management
- Offers smart building insights that reduce maintenance costs

Reduce costs and simplify building system management with a converged network for IT and OT systems. Commission hardware with zero-touch configuration—no IT experience required.

Making Buildings Smarter

What if it were easy to make buildings smarter? Connect systems, integrate applications and services, and secure the environment against cyber security threats. Use space more efficiently, while reducing energy and other operating costs. Give occupants a comfortable, productive, services-rich place to work and meet customers. Maximize the enormous opportunities from digitization and high-volume data available in new connected systems.

Now, you can. The solution from Cisco and Schneider Electric brings IT and operational building control together in a secure and efficient IP network solution.

Managing Building Operations with Confidence

The Cisco-Schneider solution is unlike other building automation offers because it is built on IP protocols and an open integration platform. This allows it to gather information from a broad range of sources—connected room sensors and third-party building services, for example—and send it to a cloud analytics platform and workplace management applications.

This advanced, yet user-friendly solution is secure, resilient, and easy to manage.
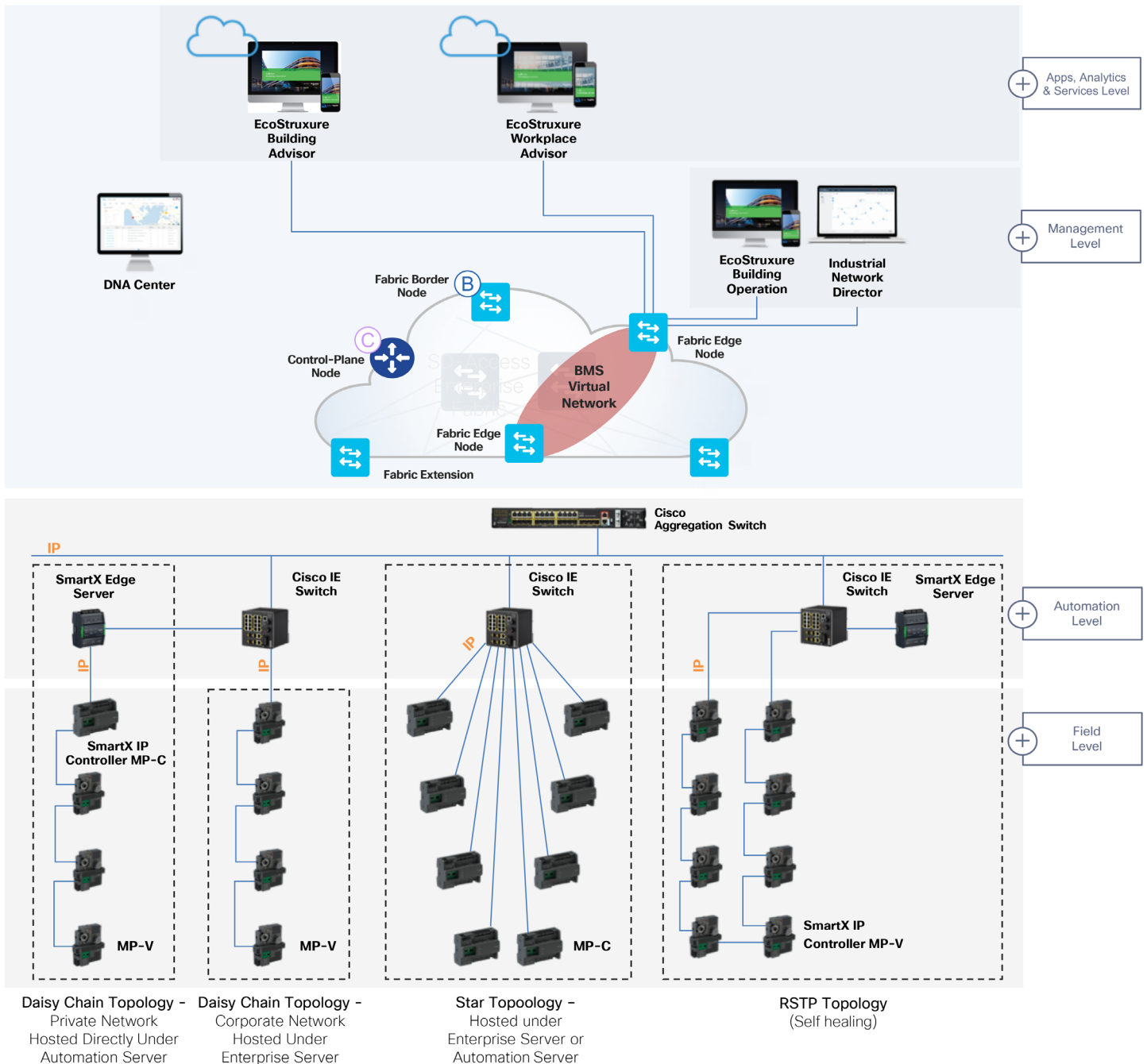

Build the BMS infrastructure up to 20 percent faster with plug-and-play commissioning.

Reduce building maintenance and energy costs up to 30 percent through predictive maintenance.

How it Works

The Cisco-Schneider solution supports multiple architecture topologies—star, daisy chain, and ring—to integrate with existing building layouts and meet system availability requirements. The tested and validated designs jointly developed by Cisco and Schneider make it possible to be confident that you can securely connect your building systems to an end-to-end IP network with an easy-to-manage, resilient architecture.

Apps, Analytics & Services Level

Management Level

EcoStruxure Building Advisor

EcoStruxure Workplace Advisor

DNA Center

EcoStruxure Building Operation

Industrial Network Director

Fabric Border Node — B

Control-Plane Node — C

Fabric Edge Node

BMS Virtual Network

Fabric Edge Node

Fabric Extension

Cisco Aggregation Switch

IP

Automation Level

Field Level

SmartX Edge Server

Cisco IE Switch

Cisco IE Switch

Cisco IE Switch

SmartX Edge Server

SmartX IP Controller MP-C

SmartX IP Controller MP-V

MP-V

MP-V

MP-C

Daisy Chain Topology –
Private Network
Hosted Directly Under
Automation Server

Daisy Chain Topology –
Corporate Network
Hosted Under
Enterprise Server

Star Topoology –
Hosted under
Enterprise Server or
Automation Server

RSTP Topology
(Self healing)

Life Is On | Schneider Electric

Key Solution Components

Choose from these offers to achieve your goals and objectives as your business needs evolve:

Schneider Electric	Cisco
SmartX IP Controllers – MP Series: Next-generation IP field controllers that extend the reach of the Open Innovation Platform of Buildings with IP-based open protocols, offering scalability, flexible topologies, and 20% faster deployment and commissioning.	**Cisco Industrial Ethernet (IE) switches:** Switches for the Ethernet fieldbus and automation networks, deployed as an extension to the Cisco Enterprise Software-Defined Access (Cisco SD-Access) network.
EcoStruxure™ Building Operation: Building management software that facilitates the secure exchange of data from Schneider and third-party energy, HVAC, fire safety, security and workplace management systems.	**Cisco Catalyst® 9000 switches:** Switches for the Enterprise SD-Access fabric edge that can provide Cisco Universal Power over Ethernet (Cisco UPOE®) for in-ceiling building systems such as lights, blinds, controllers, and sensors.
SmartX Edge Servers: Highly secure edge servers that coordinate multiple control strategies; consolidate field information; manage alarms and users; handle scheduling and logging; and communicates with other building components using standard building control protocols such as BACnet MSTP, BACnet IP, Modbus TCP, Modbus IP, LON FTP, and multiple serial protocols.	**Cisco IoT Threat Defense:** Cisco security architectures, products, and services to help defend IoT devices and keep the business running.
EcoStruxure™ Building Advisor: Service offer that includes cloud analytics, alarm aggregation software, and predictive maintenance to increase equipment performance, save money, and improve energy efficiency.	**Cisco Industrial Network Director:** Software that allows building technicians without IT experience to commission and troubleshoot the Cisco BMS Ethernet fieldbus.
	Cisco Digital Network Architecture (DNA) Center: A central dashboard to manage the Enterprise SD-Access network, providing visibility across the entire enterprise fabric and the BMS fieldbus extension.

The Cisco-Schneider Advantage

Cisco is laying the foundation for the next generation of digital buildings by converging standalone systems into one IP platform. Schneider Electric is leading the digital transformation of energy management and automation, making it possible for modern IoT-enabled solutions to seamlessly connect, collect, analyze, and act on data in real time—delivering enhanced safety, efficiency, reliability, and sustainability. Together, they are driving major advances in making smart buildings the standard.

Learn More

For more information, please contact your Cisco or Schneider Electric representative. To learn more, visit cisco.com/go/digitalbuilding or schneider-electric.com/ecostruxure.