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Cisco and Schneider Electric Consolidate IT and Building Control at University of Notre Dame

Customer summary

Customer name
University of Notre Dame

Industry
Higher education

Location
Notre Dame, IN

Number of employees
1309

Results

Secure, scalable, resilient, and easy to manage, the Cisco and Schneider Electric solution:

- Identifies, segments, and mediates performance anomalies or cyber attacks as they occur
- Scales easily while analyzing the increasing amount of data collected for IoT applications
- Leverages a single high-speed IP network to manage IT and building operations data

Known both for its legendary athletics and top academic ranking, University of Notre Dame has also distinguished itself by adopting building management technology that improves campus security, reduces operating costs, increases energy efficiency, and enhances the campus experience.

Business challenges and results

In 2019, the university launched a project focused on modernizing its building management systems (BMS) to increase operational efficiency. Earlier–in 2010–the university had set a goal of reducing its carbon footprint in half by 2030, making a sustainable BMS solution a priority. Perhaps equally important were Notre Dame's twin goals of improving cybersecurity and operational data visibility and control.

In meeting these goals, Notre Dame was challenged by the need to:

- Integrate the upgraded solution with existing building systems
- Continue to make progress toward its sustainability goal
- Deliver optimum levels of occupant comfort
- Save time and reduce resource use

Working with Havel and Schneider Electric BMS Master EcoXpert partner, the university decided to upgrade its existing Schneider Electric BMS to the company's EcoStruxure Building Operation platform. The solution enables higher levels of IP connectivity–jointly developed by Cisco and Schneider–and facilitates secure data exchange from Schneider and third-party systems. It features Cisco Industrial Ethernet switches and Schneider SpaceLogic Controllers, allowing facilities personnel without deep IP knowledge to easily install, commission, and integrate devices as buildings are added or updated. (See Figure 1.) In addition, the solution features EcoStruxure Building Advisor, which leverages new and legacy IP controllers to collect and analyze building performance data and EcoStruxure Energy Expert, which manages Notre Dame's water and energy use.

A critical element of the architecture is adherence to IT best practices–which dictate that a single, static IP address act as a secure point of connection to a converged IT-operational building control network. The architecture prevents separates building data from the IT network, enhances throughput, saves time, and reduces water and energy use.

Figure 1 Cisco network architecture and the Schneider Electric EcoStruxure Building Operation 3.0 solution
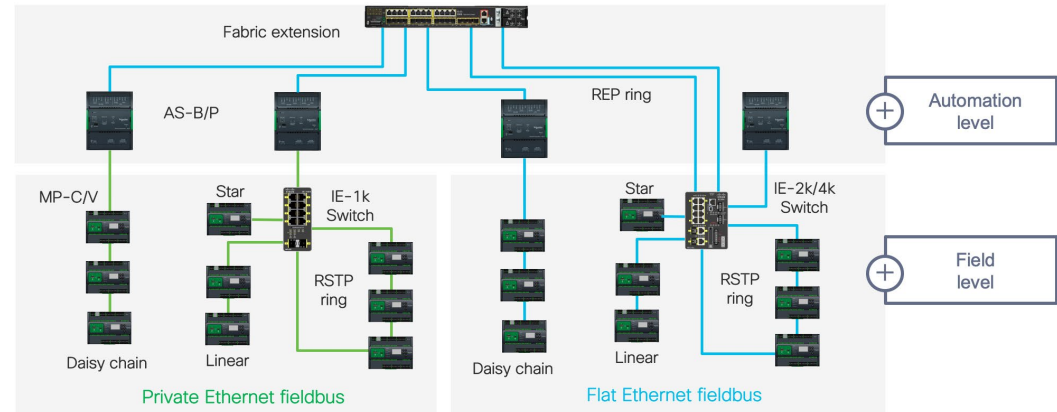
> "The need for separation between IT and OT networks is an important topic and was part of our decision-making process to proceed with the Cisco–Schneider technology partnership at UND."
>
> **Whitey Reed,**
> Director of Automation & Integration at Havel