Integrate Building Automation Systems, Enterprise Solutions for Optimized Performance and Greater Floor-Level Control

The Telecommunications Room (TR) is increasingly enabling the integration of building automation systems with the Enterprise IT network, providing a secure environment and consolidation of all network physical connectivity. In the past, the TR served as a location where lower level switching and patching resided, with the majority of switch and server equipment that supports IT and building system applications located in the data center. Now, both small businesses and large enterprises are starting to deploy decentralized equipment hubs, with the TR becoming a preferred location for IT managers to store active equipment such as distribution layer switches, storage, and servers.

This trend is enabling IT managers to shift an increased workload from the data center to the TR, in order to enable floor-level network control and avoid potential processing bottlenecks in the data center. This shift is also providing the opportunity for IT managers to take a fresh look at how building automation systems are deployed across the enterprise, with the most progressive managers taking an open-systems approach to extend an intelligent infrastructure across the entire enterprise.
A Connected Building Solution enables the deployment of converged applications throughout the enterprise by extending the reach of both IP- and non-IP network devices within a building. This convergence allows building systems to be considered a true business asset, enabling developers and owners to reduce costs and enhance workplace experiences for their tenants and employees.

Several key strategies exist at the physical layer to achieve a flexible, scalable solution that can accommodate all physical connectivity among controllers, management servers and across building systems:

- **Leverage Power over Ethernet (PoE) technologies.** PoE extends the capabilities of Ethernet by delivering both data and reliable data center power over the same cables to endpoint devices such as VoIP phones, access controls, surveillance cameras, and wireless access points. Because PoE converges data and power together over the same cable to each device attached to the local area network (LAN), devices can be installed without the need for a dedicated AC outlet. This potentially saves money by eliminating the cost and time associated with AC outlet installations, while providing the flexibility to locate PoE devices where performance is optimum.

- **Converge enterprise networks and building automation systems within common pathways.** With traditional structured cabling approaches, multiple lengthy and redundant cabling routes along disparate pathways lead to inefficiencies in specification, installation, and maintenance. A converged multi-technology backbone is comprised of copper, optical fiber, coaxial, and fieldbus cabling.

- **Deploy a zone architecture.** Zone architecture differs from dedicated cabling runs typically used in building systems, by running all system networks from the TR to overhead or underfloor zone consolidation points, with a final termination from consolidation point to the device endpoint (i.e., laptop, sensor, etc.). Multiple zone enclosures are distributed throughout each building floor, enabling easier location, management, and maintenance of both network and building automation system cabling. Such zones can be passive with low voltage only or may include active components. Panduit offers a comprehensive portfolio of zone products including in-ceiling, raised floor, wall mount, and wireless enclosures.

The end result is a consolidated and organized environment for floor level active equipment that optimizes space and provides for floor level control of all networked assets for easy system scaling and troubleshooting.
Article:
Enable Building Automation with Panduit Enterprise Solutions

Panduit Enterprise Solutions provide a physical platform for deployment of secure, scalable and interoperable building automation systems throughout an enterprise, from the data center and TR over the “last mile” to IP-enabled endpoints. A wide range of endpoint devices that can be efficiently connected and managed at floor-level include:

- Surveillance Cameras
- Climate Controls
- Energy Management
- Access Controls
- Wireless Communications
- AV devices
- Fire/safety controls

Open protocols are available for all traditional building control systems (lighting, HVAC, and electrical, etc.) that can easily coexist and interact with IP-based technologies. Although not all building systems are natively IP, all non-native IP systems should have a logical migration path for connecting to an IP network. By connecting and integrating critical systems and devices, owners can optimize building assets and manage risk into the future.

As a global leader in the physical enterprise network, Panduit offers integrated solutions to empower an enterprise’s IP network to reduce cost and enable better management of data for strategic decision making. Panduit copper and fiber optic structured cabling solutions meet or exceed all applicable standards to ensure the integrity of your critical data transmission. A complete Enterprise Solution also includes racks, cabinets, enclosures, and cable managers, with a full line of bonding and grounding products to provide safety for your valuable equipment assets in the telecommunications room. Panduit solution offerings are end-to-end turnkey systems that include all of the fundamental components for your vital network transmission.
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Producing innovative solutions of the highest quality, and at the lowest total cost of ownership is what drives Panduit to constantly seek out and implement the best design and manufacturing technologies available – a key component to the Enterprise Solution offering.

By developing and implementing the latest manufacturing techniques and processes such as Computer Aided Design/Computer Aided Manufacturing (CAD/CAM) systems and state-of-the-art Rapid Modeling equipment, Panduit engineers have the ability to take new product designs from art-to-part in a matter of hours. Additionally, computerized engineering tools such as Finite Element Analysis (FEA) and Mold Flow Analysis assure robust, high quality product designs from the start.

Together with our Business Partners, Panduit can help your company take the right steps to assess, design, implement, and manage the physical infrastructure to enable an integrated building architecture that converges building automation systems with the IP-based enterprise network. With a proven reputation for excellence and technology innovation, Panduit is a valuable, trusted partner offering strategic vision and real-world solutions to ensure the success of our customers.

Panduit is a world-class developer and provider of leading-edge solutions that help customers optimize their physical infrastructure through simplification, agility, and operational efficiency. Panduit's Unified Physical Infrastructure℠ (UPI)-based solutions give enterprises the capabilities to connect, manage, and automate communications, computing, power, control, and security systems. With eleven worldwide manufacturing facilities and support in over 120 countries, Panduit's world class products, coupled with industry leading technology create a smarter, unified business foundation.