



Customer Experience Centre



About Cisco Systems, Inc.

Cisco Systems, Inc. designs and sells broad lines of products, provides services, and delivers converged solutions to develop and connect networks globally. As the leader in communications and Internet solutions and services, Cisco supplies the networking foundation for some of the largest service providers, commercial businesses, and enterprise customers in the world, including corporations, government agencies, utilities, and educational institutions.

Cisco celebrates long-standing years of business in Canada and employs 2,000 people across 11 offices. The company is dedicated to changing Canada's innovation path by supporting research efforts with Canadian universities, investments in primary research, and establishing a world-class facility in Toronto to promote Internet of Things (IoT) innovation.

The IoT connects people, processes, data, and things. It helps deliver better customer experiences and create new revenue streams and operating models to drive efficiency and produce value. This connection allows Cisco to enhance efficiency and savings while establishing long-lasting customer partnerships, delivering to them solutions that support continued success.

PANDUIT[®]



Company

Cisco Systems, Inc.

Country

Toronto, Ontario, Canada

Industry

Telecommunications

Business Challenges

To provide a secure, scalable, and reliable network infrastructure that supports continuous growth while improving productivity and lowering expenses.

Panduit Solution

The Panduit Enterprise Solution consisting of Category 6A/6 Copper Cabling and Connectivity, Armored Fiber w/PanMPO™ Connector, FiberRunner® Cable Routing System, and PatchRunner™ Vertical Cable Management.

Business Benefits

A converged IP network infrastructure that can grow with company needs and easily respond to customer demands while increasing business operations and reducing capital expenses.

“With the appropriate network infrastructure to support our continuous growth, Cisco Canada can achieve more sustainable operations through increased network availability and productivity.”

– William R. MacGowan,
P.Eng., CEM, Cisco Canada

Enabling IoT Capabilities through a Single Converged IP Network

Panduit enables Cisco Systems to increase its network availability and productivity while enhancing the workplace experience for employees

Business Challenges

Cisco understands the importance of the IoT and shares a collective vision with many of its technology partners, focusing on solutions and outcomes when constructing a Smart & Connected and Digitized Building. When Cisco decided to occupy four floors in the newly constructed Oxford Properties building in Toronto, it envisioned a facility that incorporates many in-building technologies to make it one of the world’s smartest buildings, demonstrating leadership in the industry.

The Oxford Properties high rise (RBC Waterpark Place III) was a prime location for Cisco’s new Canadian headquarters. The entire base building infrastructure was equipped with a converged backbone network which the Cisco Canada Smart & Connected Real Estate team previously worked on with Oxford Properties. The four floors accommodating the new headquarters would occupy over 100,000 sq. ft. of employee office space, meeting rooms, system engineer and testing labs, solution demo rooms, and an executive briefing facility for customers.

Prior to relocating, Cisco IT and the Smart & Connected Real Estate team collaborated to determine the challenges in the current building as they related to employee workplace mobility, efficiency, and productivity. The Cisco teams developed a plan to incorporate traditional and non-traditional technologies to greatly enhance the workplace experience for employees. Non-traditional technologies included IP Power over Ethernet (PoE) lighting, environmental monitoring, IP PoE heating, ventilation, and air conditioning (HVAC) controls, automation, and energy management. Traditional technologies included Voice over IP (VoIP), IP security, IP door access control, and wireless access points (WAPs).

Cisco required a robust physical infrastructure that enables all of these technologies and lowers capital expenses. In addition, Cisco required adequate space to keep pace with future growth of the company.

Strategic Objectives

It was important for Cisco to enhance communication for its employees by delivering more data rapidly and efficiently. To achieve this goal, Cisco wanted to leverage the base-building converged network, provided by Oxford Properties, and the state-of-the-art telecommunications room and data centers designed by Cisco IT.

A secure, converged IP infrastructure would enable Cisco to use real-time information across converged building systems to centrally manage resources more effectively, enabling greater risk management and increasing overall performance. It would also replace siloed networks, achieving savings in both capital expenses and operational expenses.

In addition, Cisco needed to gain more visibility to its operations to streamline in-building and IT processes while controlling most IP-related utilities on each of the four floors.

Another important goal for Cisco was to apply an expansive PoE system to deliver power to various devices in the space, including climate control and lighting. This would allow for simplified installation, flexibility, and improved reliability for powered devices. The PoE implementation would include the following PoE components to enable new IP devices: IP lighting, variable air volume (VaV) controllers, security cameras, environmental sensors, VoIP phones, and door access controls. Cisco also wanted to deploy high speed wired and wireless access.

Finally, an aesthetically appealing location was important for Cisco to enhance its employees' user experience in the workplace while showcasing its ability to help implement such technologies with customers.



Panduit Solution

"Panduit was influential in helping us decide which technology components should be a part of our converged backbone," said MacGowan.

Along with Panduit's solution, selected partners for this project were EllisDon, who served as the Smart Building Integrator, and Guild Electric, who served as the prime electrical and structured cabling contractor.

Cisco deployed the Panduit Copper and Fiber Cabling System to address its need for improved flexibility and consistent network reliability to support its growing and changing network requirements.

The company implemented several thousand OM4 and OS1/OS2 single-mode fiber connections for the converged backbone, including support for 40 Gb applications. There are 2500+ PoE ports running on Category 6 cabling with some Category 6A copper cabling connecting several of Cisco's higher band switches internally.

The deployment also includes the Opti-Com® QuickNet™ rack mount fiber cassette enclosures and pre-terminated cable trunks to protect fiber optic cables and connectors, ensuring end-to-end signal integrity.

Cabling is routed through the FiberRunner® Cable Routing System to improve cable management for copper data cables, fiber optic cables, and power cables, while minimizing installation time within Cisco's data center. *(continued)*

Panduit's PatchRunner™ High Capacity Vertical Cable Management System is in the main distribution and horizontal areas of the data center to help manage Cisco's networking equipment. The system allows for visually pleasing, efficient organization, and protection of the high performance cables, enhancing network reliability and reducing operational expenses.

Panduit's Mini-Com® Modules provide flexibility for Cisco across the installation, simplifying moves, adds, and changes, and reducing operational expenses.

The PanMPO™ Connector attaches the connecting switch gear with fiber optic transceivers to the server equipment. It easily converts between male and female gender, and polarity of the fiber connector in the field, improving operational efficiency, and saving time and costs. The small interconnect cables minimize waste, optimize cable management, speed deployment, and improve flexibility and manageability.

Business Benefits

"Panduit sees firsthand the value in investing time and research and development in the Smart and Connected real estate business and how it benefits our customers," said Bob Hickey, Strategic Account Manager, Panduit. "To enhance user experience, specifically in Canada, Panduit is collaborating with Alliance partners and the consultant community to help promote converged technologies in the commercial space."

The new, converged IP network provides a flexible migration path for future growth and allows Cisco to respond to customer demands easier and faster.

The secure converged IP network also allows real-time monitoring of external daylight levels, temperature, and occupancy. All equipment operates on one network, allowing building tenants to easily connect devices such as lighting to access control to heating, which provides personal comfort control. This empowers tenants to be more innovative and achieve next generation experiences within a comfortable setting.

According to MacGowan, "Through its converged network infrastructure system, Panduit is helping Cisco transform the way buildings are designed, built, managed, and experienced. Placing all devices and equipment onto a single IT infrastructure increases Cisco's business operations while reducing capital expenses to achieve a secure, scalable facility."



PANDUIT®

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