

## Lantronix PoE+ Switches and NIDs Provide Power and Connectivity for Fiber Optic Backbone as Part of Smart Energy Management System in Toronto High Rise

**Company Type:** Residential Property Management

**Headquarters:** Toronto, Canada

**Lantronix Products Deployed:** [SM24TAT2SA](#), [S3290 Series](#)

### Summary

By 2030, Canada hopes to [reduce its greenhouse gas](#) (GHG) emissions to be 30% below 2005 levels. The country's buildings represent 11% of its greenhouse gas emissions, making commercial buildings an important improvement sector. In 2007, the City of Toronto set an ambitious city-wide goal to reduce GHG emissions by [80 percent of 1990 levels](#) by 2050.

While tremendous progress has been made for improving the environmental quality and energy efficiency of new commercial buildings, retrofitting existing buildings is difficult as it often requires significant capital investments. This could include complete replacement of the buildings' mechanical HVAC systems, windows, lights, insulation, and much more.

In 2007, one of the most iconic skyscraper buildings in the heart of Toronto's financial, entertainment, and shopping districts completed a \$100 million transformation of luxury condominiums. As one of the most exclusive residences in the city, this modern Renaissance-style building offers over 600 spacious high-end suites along with private penthouse living areas with amazing views and luxury amenities.

Keeping in mind the city of Toronto's energy goals, the building management team, beginning in 2018, wanted to implement a smart energy management platform to enable tenants and property managers to control energy usage and costs. Due to the distance between all the floors, a new fiber-optic backbone network was necessary for each high-rise floor.



To complete the installation, consulting engineers and project management services company [Platek Services Inc.](#), turned to Lantronix, formerly Transition Networks, to provide network design solutions and products to bring this historic building into the future.

## The Solution

Working closely with Platek Services Inc. engineers, Lantronix provided a detailed fiber network design along with network equipment specifications and application requirements. The new network was designed to ensure a highly available and resilient fiber network and to power and connect wireless access points throughout each floor.

A fiber-optic backbone for each floor extended from the top floor to the first-floor server room to enable the smart energy management system. Wireless access points were installed on each floor, supporting a redundant wireless mesh network for connecting individual room thermostats integrated into the new energy management system.

Installing new AC electrical conduit and cabling on each floor to power the WAPs was too time-consuming and cost-intensive and would be especially difficult to install in the riser system.

However, with Power-over-Ethernet Plus (PoE+) switches from Lantronix, each WAP was powered by PoE, thus eliminating all AC electrical costs. The redundant mesh network of WAPs connecting individual tenant HVAC thermostats with occupancy sensors is fully operational and networked by Lantronix PoE+ switches.

In addition to powering the WAPs connecting individual tenant thermostats to the network, Lantronix switches also provided the network communications for a new innovative ASSA Abloy electronic door locking system for private tenant living areas.

## Lantronix Solutions

The Lantronix Smart Managed Gigabit Ethernet PoE+ Switch ([SM24TAT2SA](#)) features 52Gbps switching capacity and provides (24) 10/100/1000Base-T copper ports with IEEE 802.3at PoE+ capability and two additional 100/1000 dual-speed SFP slots.



The embedded Device Management System (DMS) software provides time-saving features enabling network administrators to establish and document a baseline deployment and automatically discover and remotely configure attached IP-powered devices (PDs). The software offers simplified management of devices through various views, such as a graphical topology view, floor view, or Google Maps™ mapping service, allowing users to easily locate and keep track of these devices.

The switch also features Auto Power Reset (APR) to monitor and automatically restart edge devices, saving technician dispatch for simple rebooting of the attached PDs.

A Lantronix remotely managed Network Interface Device (NID) with a built-in traffic generator ([S3290](#)) provides advanced packet performance metering and service creation directly at the customer premises. The S3290 is optimized for business Ethernet and mobile backhaul



deployments. SFP ports support 100Mbps, 1000Mbps, or SGMII SFPs, and CWDM and Bi-Di SFPs are also supported, allowing for flexible network architectures.

## Results

With the PoE+ switches and NIDs from Lantronix, Platek Services Inc. successfully completed the network installation of an intelligent energy management platform designed to reduce energy costs and significantly increases property owner satisfaction.

"Lantronix, with its 30+ years of network experience, provided expert customer-centric services and built-to-last TAA compliant smart-managed network products," said Vlad Platek, General Manager of Platek Services Inc. "This was key to the project's overall success. We now have a model reference for one of the first smart energy management buildings ever installed in Toronto through various installation phases. This is a significant accomplishment."

For more information on Lantronix, visit [transition.com](http://transition.com) or connect with our experts:



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