

We are the only facility in Ottawa that has been able to maintain 100 percent uptime since we opened, and we attribute a large part of our success to the reliability of Eaton and its products.

Jason van Gaal, co-founder and chief operating officer

Data center firm achieves 100% uptime with 9395 UPS

Location:

Ottawa, Ont. Canada

Segment:

Colocation

Problem:

As the company constructed a brand new Tier 3 data center, it required a UPS with the highest level of availability, redundancy and efficiency.

Solution:

Power Xpert™ 9395 UPS, ESS

Results:

The 9395 delivered on all fronts, helping the company achieve the honor of being only facility in Ottawa that has maintained 100 percent uptime since opening.

Background

Canadian-based Granite Networks is a data center operator focused on delivering flexible colocation, managed services and cloud hosting to business and government clients in Eastern Ontario and Western Quebec. Operating within the first and only data center in Ottawa designed to meet industry-leading Tier 3 and LEED standards, Granite Networks' carrier-neutral facility features multiple certifications.

Challenge

As one of the fastest growing data center companies in Canada, Granite Networks opted to build a brand new facility from the ground up, beginning in 2011. The world-class data center was designed to Tier 3 standards with redundancy in cooling, UPS, generators and vendor-neutral connectivity. Each space is provided with redundant power and optional redundant networking uplinks.

With a broad customer base that includes a wide variety of clients — from technology to industrial to health care — there is one common denominator among them all. "They have a requirement for high reliability services," explains Jason van Gaal, Granite Networks' co-founder and chief operating officer.

Considering the company's stringent uptime requirements, Granite Networks required an uninterruptible power system (UPS) that could also provide the highest level of reliability.

"It is a mission-critical environment, so the UPSs are used to provide 100 percent uptime and high reliability services to our customer base," van Gaal emphasizes.

High efficiency, scalability, small footprint and quality service were additional factors the company sought in a power protection solution.

Solution

Having worked with Eaton® representatives on numerous projects in the past, van Gaal was not only familiar with the manufacturer, but impressed with both the product line and the level of support provided.

"They always did a fantastic job offering support to both me and my clients," van Gaal reports. "Eaton was a natural fit for us."

So in February of 2012, Granite Networks deployed a pair of 275 kVA Power Xpert 9395 units to operate redundantly. Installed in a designated UPS room along with a variety of other Eaton equipment — including electrical distribution panels, transformers and breaker panels — the 9395s ensure continuous uptime to the company's array of servers, SANs, network gear and IT infrastructure.

"We are the only facility in Ottawa that has been able to maintain 100 percent uptime since we opened," van Gaal reveals, "and we attribute a large part of our success to the reliability of Eaton and its products."

Indeed, the 9395 delivers unprecedented power performance and efficiency, while delivering the highest level of reliability and availability on the market — thanks in part to its inherent redundancy option. The UPS can be configured so uninterruptible power modules (UPMs) automatically act as N+1 redundant systems, further enhancing reliability. Traditional UPS manufacturers cannot deliver this supplemental availability without adding a more costly second UPS.

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Furthermore, unlike some other UPS technologies, the 9395's double-conversion design completely isolates output power from all input power anomalies and delivers 100 percent conditioned pure sine wave output — regulating both voltage and frequency.

"The units provide exceptional reliability," van Gaal confirms.

The 9395 also boasts the highest efficiency rating in its class, resulting in lower utility costs. "The intent of our data center design was to be as energy efficient as possible," van Gaal says, "so we wanted to select a UPS that offered high efficiency, as well."

Granite Networks also values the option of deploying Eaton Energy Saver System (ESS), which enables the 9395 to attain an industry-leading efficiency level of 99 percent, making it the only technology on the market capable of yielding such results. Using ESS, the UPS intelligently adapts to utility power conditions while supplying clean power to the connected equipment. Even more, because UPSs using ESS maintain 99 percent efficiency even when lightly loaded, the technology can deliver gains of up to 15 percentage points in efficiency over traditional models in the typical operating range.

"I definitely like the ability to choose which mode I want to operate in," van Gaal says. "Running the UPS in ESS mode would save us about \$10,000 per year in utility costs."

Another advantage the 9395 offered Granite Networks was the ability to expand its power protection solution, thanks to the unit's multi-module, scalable architecture. The model is able to adapt to future changes in load demands and new requirements for high reliability without requiring the purchase of an additional UPS.

"It offered excellent modular growth capabilities for Granite," notes van Gaal.

Furthermore, the fact that the 9395 boasts the smallest footprint and lowest weight of any UPS in its class — 50 to 60 percent less than competitive units — was yet another key selling point for the high-density facility.

"The footprint was definitely a factor," van Gaal acknowledges. "When we compared four manufacturers, Eaton definitely had the smallest footprint, and that was certainly compelling."

Beyond the impressive list of features afforded by the 9395, Granite Networks has also been able to achieve the unparalleled level of service it was seeking in a UPS provider.

"If the unit breaks and you can't get it fixed for a week, that really puts you at risk," van Gaal points out. "For us, it's very important that any problem is repaired as quickly as possible. We're most exposed when we have an issue because we run everything in 2+N. But with Eaton, we have always had great response times."

Case in point: when the company experienced a problem with a rectifier, an Eaton service engineer was on site within hours completing the needed repair. "Another advantage to the 9395 is the way it's designed to be modularly repaired," van Gaal says. "So rather than having to spend a lot of time troubleshooting on site, the service guy can just bring a new module. The unit's mean time to repair is excellent."

Granite Networks also relied on Eaton to help outfit the company's UPS room with a variety of power distribution and electrical equipment, from switch gear to input panels to breakers.

"One nice thing about the breaker frames is I can use them in all of the panels, so from a maintenance perspective, I have fewer parts that I need to stock," van Gaal shares.

Ultimately, the fast-growing company intends to have five similarly sized 9395 units overseeing its power protection needs as it scales the data center to full capacity through several phases.

"At build out, we plan to have 1.25 megawatts of UPS power," van Gaal explains. "We will be adding additional 9395s as we grow over a three- to four-year period, in order to accommodate customer growth."

Results

"Eaton has done a great job for us from a support perspective and the UPSs have performed very well," van Gaal sums up. "Using the equipment we have been able to achieve rapid growth for our organization."

With the pair of 9395 units in place, Granite Networks is able to:

- Ensure continuous uptime and high availability within its data center
- Reap tremendous utility savings with the unit's high efficiency plus ESS option
- Preserve valuable space with the 9395's small footprint
- Easily grow its power protection solution, thanks to the 9395's scalable design
- Maintain the ongoing health of the units and ensure quick resolution of any problems with Eaton service



Power Xpert 9395 UPS

For more information about the 9395, visit Eaton.com/9395.

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