

Customer Success Story: Hurricane Electric

Market Served
Internet backbone and colocation provider



ESS exceeds expectation for colocation provider

Location:
Fremont, Calif.

Segment:
Data center

Challenge:
When expanding its multi-tenant data center, the company needed a UPS offering the highest level of reliability and efficiency, with a low total cost of ownership.

Solution:
Power Xpert™ 9395 UPS, Energy Saver System (ESS), service.

Results:
The Power Xpert 9395 with ESS has exceeded all expectations, providing the highest uptime and efficiency at the lowest possible cost.

The efficiency and total cost of ownership were the biggest factors in our decision to go with this unit. Not only is this unit greener than other units by being more efficient, but it saves us money in the long run.

Benny Ng, director of infrastructure

Background

Hurricane Electric is a leading colocation provider serving clients with a wide array of technology needs. The company, which operates its own global IPv4 and IPv6 network and is considered the largest IPv6 backbone in the world as measured by number of networks connected, is ranked in the top five for IPv4 and is No. 1 for IPv6.

Within its global network, Hurricane Electric is connected to 75 major exchange points and exchanges traffic directly with more than 3,300 different networks. Employing a resilient fiber-optic topology, Hurricane Electric has no less than four redundant paths crossing North America, two separate paths between the U.S. and Europe, and rings in Europe and Asia. In addition to its vast global network, the firm owns and operates two multi-tenant data centers in Fremont, Calif.

Challenges

Responding to a high customer demand for space, in 2010 Hurricane Electric completed an expansion of its 208,000-square-foot Fremont 2 data center. To ensure maximum availability within the new space, the company sought a large, rugged power protection solution

capable of keeping pace with all of its new clients and their multitude of servers.

Beyond the capacity requirements, superior reliability topped the company's list of prerequisites for a new solution. "Uptime is absolutely critical," emphasizes Benny Ng, director of infrastructure. "Each and every one of our clients relies on the uptime that we afford them."

Other key factors included a UPS that could offer outstanding efficiency, a low overall cost of ownership and a small footprint.

Solution

Hurricane Electric discovered a whirlwind of advantages within a pair of 550 kVA Power Xpert 9395 UPSs. Offering unprecedented power performance, reliability and efficiency, the 9395 delivers the highest level of reliability and availability on the market.

"When we built out our other data centers and phase one of this data center, this product didn't exist," Ng says, noting that each UPS is tasked with safeguarding as many as 3,000 servers. "We did a fairly exhaustive search when picking out the new UPSs. The 9395 with the various efficiency features just stood out for us, and the price was right."

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And just three years after installing the first two units, Hurricane Electric is so pleased with the performance of the 9395s that the company recently purchased 10 more. Needed to meet the firm's continued explosion of new customers, the UPSs will be installed in the Fremont 2 data center by the end of 2014. "We are so happy with these 9395s that we just ordered 10 more units!" Ng confirms.

Indeed, the high efficiency of the 9395 reduces utility costs, creates cooler operating conditions, enhances reliability and extends the overall life of the UPS components. "Our target was to achieve 99 percent efficiency," Ng emphasizes. "And we found that in the Eaton UPS with Energy Saver System."

Hurricane Electric paired its 9395 units with Eaton Energy Saver System (ESS), which enables the UPS 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.

"This was one of tipping points for us," Ng acknowledges. "ESS is a great system, and it's one of the main reasons we decided to go with this solution. If we are going to keep these units for 10-plus years, a few percentage points in efficiency really add up."

However, the director of infrastructure admits that the company was initially a bit concerned about the UPS's transfer time and whether ESS would deliver as promised. "It is, after all, a different mode of operation," Ng explains. Initially with demo units, the firm was able to test the product's

pledges firsthand — and couldn't be more pleased with the results. "It definitely works!" Ng says enthusiastically, noting that the company reaps tremendous savings in utility and cooling costs. "There's also a lot less heat in there."

The 9395 with ESS not only limits heat loss, but enhances total cost of ownership and saves on maintenance for Hurricane Electric. Ng is especially impressed with the unit's concurrent maintenance design, which further contributes to high availability and uptime. Technicians are able to service key components in a redundant module while the other module carries the load.

"Cost is always a concern for us — not just the initial costs, but the ongoing costs," Ng acknowledges. "We looked at the efficiency of the unit, along with the maintenance of the system. We wanted something that would cost us the least amount of money in the long run. When we can save money now and every month on our utility costs, we can be more aggressive with our pricing and that helps us attract more clients."

And clearly, the high availability of the 9395 units has kept smiles on the faces of Hurricane Electric customers. "When there is any kind of interruption, clients are not happy," Ng emphasizes. "When clients are not happy, they tell their friends, who tell their friends. It's a pretty bad snowball effect."

The 9395's ability to deliver unparalleled reliability can be attributed in part to its inherent redundancy option, which allows the unit to be configured so its uninterruptible power modules (UPMs) automatically act as N+1 redundant systems, a benefit that Hurricane Electric opted to engage. Traditional UPS manufacturers, on the other hand, cannot deliver this supplemental availability without adding a more costly second UPS.

"One of our requirements was the ability to obtain maximum

efficiency across all load patterns," Ng says. "Our load may only be 60 percent, but with the Eaton system, we have the redundancy and efficiency going on."

This level of uptime is a necessity that cannot be underscored for a company such as Hurricane Electric. "These UPSs have done exactly what I bought them to do since the day they were installed," Ng reveals. "They give me peace of mind. If my utility ever provides me anything less than perfect power, I know I don't have to worry about it."

Even more, the colocation provider relishes the 9395's small footprint — a boon for the company's server-laden data center facilities. With the smallest footprint and lowest weight of any UPS in its class — 50 to 60 percent less than competitive units — the 9395 doesn't consume valuable real estate that Hurricane Electric can instead profit from.

"The footprint was one of our concerns, because who wants to waste rentable square footage on infrastructure items?" Ng points out. "I would rather be able to rent that space."

Deployed in a dedicated electrical room housing various switch boards, the slight footprint of the 9395 made installation a breeze, as the UPS fits easily through doors and onto freight elevators with no need for dismantling. "It was very easy," Ng confirms. "Eaton came out for the startup, and it's been humming along ever since."

The company has chosen to safeguard the long-term health of the units with an extended service plan from Eaton. "People buy service plans for their cars and their refrigerators,

why would they not buy a service plan for their UPSs?" Ng says. "People don't 'buy' UPSs — they buy what the UPSs do for them. And for UPSs to continuously do that, they need to be serviced. I need this UPS to be up and working 100 percent, 8,760 hours every year. And because of that, I am going to be proactive and stay on top of any issues that may arise."

Ultimately, says Ng, "The efficiency and total cost of ownership were the biggest factors in our decision to go with this unit. Not only is this unit greener than other units by being more efficient, but it saves us money in the long run."

Results

"These units allow me to be more competitive in terms of being able to sell colocation," Ng sums up. "These units save me money every year; I can take those savings and adjust what I charge my clients accordingly."

With the pair of 9395 units safeguarding the thousands of servers that comprise the fabric of its business — and 10 more on the way — Hurricane Electric is now able to:

- Protect mission-critical customer servers with unparalleled reliability
- Ensure the highest level of uptime with ultimate availability delivered through the 9395's redundancy
- Achieve industry-leading 99 percent efficiency and save on utility costs with ESS
- Preserve space for other equipment, thanks to the 9395's small footprint
- Maintain the ultimate health of its units with easy serviceability of the UPS, plus an Eaton service plan

For more information about Energy Saver System please visit: Eaton.com/EAA

Eaton
1000 Eaton Boulevard
Cleveland, OH 44122
USA
Powerquality.eaton.com

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