

Success Story: Stewart

Market Served
IT



Stewart successfully engineers continuous uptime with Eaton solution

Location:
Raleigh, N.C.

Segment:
Engineering

Solution:
Eaton 5PX and 9PX UPS,
Environmental Monitoring Probe,
Intelligent Power Manager software

Problem:
As part of relocating its headquarters, Stewart sought a robust power protection solution capable of providing high reliability, scalability and manageability

Results:
The Eaton solution delivered everything the firm needed to ensure its critical servers and other equipment would remain protected at all times

“The Eaton units definitely keep things up and running, while the alerting allows us to be notified of any condition as it’s happening, which is typically off-hours.”

Mike Brecht, senior systems administrator

Background

Stewart is a design, engineering and planning firm with five locations throughout North Carolina in the cities of Raleigh, Durham and Charlotte. Founded in 1994, the company works with clients throughout the southeastern U.S., with a current staff of approximately 240 employees. Providing services to both the public and private sectors, Stewart’s customers include those in education, healthcare, municipalities, the department of transportation and the federal government, as well as commercial, retail, residential and mixed-use developers.

In 2017, Stewart was engaged to provide engineering and design services for The Dillon, the first mixed-use, high rise development of its kind in downtown Raleigh’s rapidly expanding Warehouse District. Early in the process, Stewart wanted to preserve the historic value of The Dillon—originally a warehouse for the Dillon Supply Company built in 1914—while renovating and modernizing the building to meet today’s commercial and residential needs, as well as assume a monumental presence in downtown Raleigh’s skyline.

The firm played a pivotal role in the construction of the new building, with almost all of its practice areas collaborating to bring the space to life, including Planning & Design, Structural Engineering, Geomatics, and Geotechnical & Construction

Services. After working so diligently on the project, Stewart opted to relocate its own headquarters to The Dillon, taking over the entire eleventh floor as its first commercial occupant in June 2018.

Challenge

While Stewart was designing its new, open office space with areas for collaboration, discussion, and team meetings, the firm’s information technology (IT) leaders were also focused on deploying a comprehensive power protection solution capable of safeguarding the company’s servers and other critical devices.

High reliability, scalability and manageability were key elements that Stewart desired in an uninterruptible power system (UPS). Although Stewart had previously relied primarily on APC UPSs, in 2016 the firm had sought to standardize on a single UPS model and was attracted to the Eaton® brand for its reliability. “As we began to explore different options, we realized that one of the biggest things that was missing from our UPS infrastructure was manageability,” explains Matthew Price, director of technology.

Pointing out that a competitive company requires pricey upgrades in order to integrate power management software and network connectivity cards with its UPSs, Price says that Eaton’s bundled solutions were

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A meeting room with views at Stewart's new office at The Dillon in Raleigh, N.C.

extremely appealing. "As we looked at Eaton, we discovered it was an all-inclusive deal, so that was a big selling point," he explains. "Not to mention, Eaton came in less expensive than comparable models from other manufacturers."

As a result, prior to relocating its headquarters, the company had already rolled out Eaton 5PX UPSs at its other locations. "In our process of continuous improvement and standardization, we started looking at having the same components at each of our office sites, with the ability to scale up and down based on the individual office size," says Price.

While Stewart was extremely satisfied with its existing fleet of redundant Eaton 5PX 2200 RT units deployed across its offices and labs, the new facility at The Dillon required a larger, more robust unit to protect the additional lineup of equipment.

Solution

Stewart didn't have to look far to uncover the perfect option: the Eaton 9PX UPS. Available in models ranging from 700 VA to 11 kVA, the 9PX offers an ideal solution for both rackmount and stand-alone installations, delivering premium backup power and scalable battery runtimes. Since installing four 6 kVA units in the server room of the new facility, Stewart has experienced an unparalleled level of availability and uptime for its vital systems.

"These units protect every bit of critical internal infrastructure at our sites, including our servers, switch gear, firewall, file controllers and the phone system," confirms Mike Brecht, the firm's senior systems administrator.

Even the smallest amount of downtime has the potential to cripple Stewart's operations in The Dillon, which rely on a number of unique applications specific to engineering design and analysis. "If one of those servers go down, people cannot get into the app to do their job," explains Brecht.

Enhancing the reliability of both the 5PX and 9PX units, Eaton's exclusive ABM® technology uses sophisticated sensing circuitry and an innovative three-stage charging technique to extend the useful service life of batteries while optimizing recharge time. In addition, ABM technology provides up to 60 days' notice of the end of useful battery service life, allowing ample time to hot-swap batteries without ever having to shut down the connected equipment.

"This has been a great feature with the Eaton UPSs that really sets them apart," Brecht emphasizes. Noting that several of Stewart's previous non-Eaton UPSs had batteries die, "We had no notification that they were going to fail, other than walking into the server room and hearing the beeping noise," Brecht says. "We really value the alerts in the Eaton units so we can stay on top of things and replace batteries on a regular schedule."



Two Eaton 9PX UPSs protecting Stewart's servers and other critical devices.

Both the 5PX and the 9PX further bolster dependability with hot-swappable batteries, optional extended battery modules (EBMs) for scalable runtimes, and an exceptional power factor rating that provides up to 28 percent more wattage than comparable UPSs, enabling more devices to be connected. In addition, the models are available in a convenient bundle that includes a network card and power management software, a package that was especially appealing to Stewart.

The firm depends on Eaton's Intelligent Power Manager (IPM) software to provide graceful, automatic shutdown of network devices during a prolonged power disruption, preventing data loss and saving work-in-progress. "Our ability to tier different components so we can prioritize our shutdown and startup order has been extremely valuable," Brecht reveals, noting that the Eaton network card enables the team to remotely and sequentially power down equipment, check server room temperatures and perform other key functions.

Complementing the ease of monitoring and management is the software's customizable alert feature. "It's been a big benefit having the ability to set up email alerts so we can be informed if there are power fluctuations at our offices," Price says, noting that the software has worked flawlessly within the company's virtual networks.

Stewart has gained additional protection and functionality by installing Eaton Environmental Monitoring Probes (EMPs) at each of its sites. The device enables personnel to remotely collect temperature and humidity readings in rack enclosures and monitor environmental data. The EMP came in especially handy during Stewart's first few weeks in The Dillon building, when some of the facility's HVAC issues were still being ironed out.

"We had some issues with cooling in the server room, but the alerting from the Eaton Environmental Monitoring Probe was extremely valuable," Price recalls. "It allowed us to immediately contact our property manager and get the problem resolved. This was extremely important considering there is a very critical, short window of time before heat can cause things to go terribly south."

While the new headquarters facility hasn't yet experienced any electrical cuts or serious power anomalies, some of Stewart's other locations aren't as fortunate. But thanks to its Eaton UPSs, even in the face of complete blackouts, all of the firm's critical equipment remains online — and completely unscathed. "In our uptown Charlotte location and Raleigh lab office, we typically lose power with a big storm or strong winds," Brecht acknowledges. "The Eaton units definitely keep things up and running, while the alerting allows us to be notified of any condition as it's happening, which is typically off-hours."



The server room at Stewart's new office.

In addition to the unsurpassed quality of Eaton products, the Stewart team gives high praise to Eaton engineers, who worked with the firm to specify the proper solutions for its various office locations. "They were very helpful," Price says, "especially making sure we had the correct specs in the electrical drawings so we didn't run into any issues."

Ultimately, what Stewart values most about Eaton is the absence of anxiety. "It's peace of mind more than anything else," Price acknowledges.

"We simply get the UPS in place, establish notifications and a shutdown schedule, and then set it and forget it," Brecht adds. "They just work."

Results

With The Dillon already making its name as an iconic property in downtown Raleigh, Stewart finds itself at the center of an entrepreneurial and pioneering atmosphere that matches its company culture. Thanks to its commitment to power protection and forward-thinking approach, the firm can rest easy knowing its systems are protected as it continues to usher in a new era of economic development in the city.

With the Eaton 9PX and 5PX UPSs safeguarding equipment at all of Stewart's facilities—plus a recent order for another 5PX for the downtown Durham location—the company is able to focus on its own business, without having to worry about downtime, equipment damage or data loss. With the Eaton solution in place, Stewart is now able to:

- Provide high availability and uptime to the servers and other critical devices at its headquarters and multiple office locations
- Maintain the highest level of reliability with features such as ABM technology
- Remotely monitor and manage the system using bundled power management software and connectivity
- Gain scalable runtimes with the addition of optional EBMs
- Protect more equipment with the UPS high power factor rating

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