



Eaton solution helps university make the grade in uptime, efficiency

Location:

Washington, DC

Segment:

University

Problem:

Campus-wide network renovation with energy efficiency goal

Solution:

Rely on products from Eaton to supply UPS with easy manageability and flexible monitoring capabilities.

Results:

Continuous uptime to its critical network/communication systems, monitor the power status at remote locations, and expand as equipment needs grow.

"Eaton is a large company with a lot of resources. They have a very good reputation and product line."

Jim Kuhar, Senior Manager,
Integrated Network Operations,
Georgetown University

Background

Founded in 1789 – the same year the U.S. Constitution took effect – Georgetown University is the nation's oldest Catholic and Jesuit higher education institution. A major international research university that embodies its founding principles in the diversity of students, faculty and staff, Georgetown is comprised of four undergraduate schools, three graduate schools, professional development programs and certificates, medical residencies and other programs predicated on the liberal arts tradition at the heart of the institution.

The university's information systems (IS) department helps keep Georgetown on a "green" path by providing IT sustainability resources to faculty and staff. The university even installed meters in each dormitory to track power utilization and sponsors a contest between dorms to see which can consume the least amount of energy.

Challenges

Considering Georgetown's commitment to green initiatives, it's not surprising that when the university initiated a campus-wide network renovation in

2007, energy efficiency was a prime consideration in the selection of equipment, including a power protection solution.

"Any way that we can improve efficiency is always a value here," acknowledges Jim Kuhar, senior manager, integrated network operations.

Beyond efficiency, the university sought uninterruptible power systems (UPSs) with easy manageability and flexible monitoring capabilities – a far cry from Georgetown's previous solution, which Kuhar says was not only difficult to manage, but also presented a number of reliability challenges. "The batteries and equipment would wear out and cause outages," he explains.

While researching power protection options, Kuhar discovered a new generation of centrally managed UPSs from Eaton. "They offered much better management tools than we ever had before," he says.

After the first few Eaton models were successfully deployed on campus, Georgetown was quickly sold on the brand. "Eaton is a large company with a lot of resources," Kuhar explains. "They have a very good reputation and product line."



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Solutions

Eaton 5130 UPS

To keep its networking and voice communications systems up and running campus-wide, the university first deployed the Eaton 5130 UPS in dozens of communications closets inside renovated buildings, classrooms, administrative offices and the library. Georgetown plans to ultimately have 300 installed across campus.

The Eaton 5130 rack/tower UPS delivers more performance in less space, thanks to a compact 2U form factor that includes internal batteries. Providing line-interactive backup power and scalable run-times with 2U extended battery modules, the 5130 is designed with a 0.9+ power factor to deliver more real power.

For Georgetown, the 5130s not only provide emergency backup power in the event of an unplanned outage, but also bridge the gap during the campus' routine power breaches, which are triggered by mandatory testing of emergency generators located in many of the university's buildings.

"Each time a generator is tested, we lose power briefly," Kuhar explains. "So the UPS does two things: it prevents periodic network outages caused by generator testing, and it also prevents temporary network outages if utility power is lost to the building, because it takes a little while for the generator to kick on."

Kuhar says the university selected the 5130 for its compact size, efficiency and SNMP capabilities. "We have the ability to remotely manage the units and to receive SNMP alerts, so we know environmentally what's going on with the power. We really like the remote monitoring capabilities and the number of different interfaces you can get with the unit. Plus they provide conditioned power to our equipment to prolong the life of our power supplies."

Eaton ePDU

Attached to the majority of Georgetown's forty 5130 units is an Eaton Monitored ePDU, which facilitates easy management and monitoring. Ideal for high-density, missioncritical

applications, the ePDUs reduce enclosure space requirements, improve installation flexibility and significantly shorten reset time with a fuse-less design. Of particular importance to Georgetown was the ePDU's connector type.

"They give us network-based monitoring and control, but most importantly, they provide the uncommon connector type C-19, which makes it very difficult for anyone to get into our closet and connect other equipment," Kuhar explains.

Eaton 9390 UPS

Georgetown once again turned to Eaton when the university needed a UPS to keep operations flowing within its new School of Business. Installed in 2009, the three phase Eaton 9390 has been earning top honors with its best-in-class combination of efficiency, power performance, battery management, scalable architecture, flexibility, power density, and warranty and service.

"We already had Eaton products that we were very happy with, and we wanted to develop an enterprise monitoring system for all of our UPSs," Kuhar explains. "This unit had the SNMP capabilities to do that."

The 100 kVA model was installed in the building's main distribution closet, where it protects a wide variety of equipment including critical network communication data switches, voice switches, video security surveillance cameras and door access alarms.

Boasting the highest level of reliability and availability – as well as inherent redundancy – the 9390 safeguards Georgetown's business school against potentially devastating downtime. "If we didn't have the UPS and the power went out, we would lose both our wired and wireless networks, our voice communications and the video camera surveillance," Kuhar says.

Furthermore, the 9390 contributes to Georgetown's green focus by delivering an industry-leading 94 percent efficiency rating. Even more, when deployed with Eaton's groundbreaking Energy Saver System (ESS), the 9390 operates at 99

percent efficiency across all load levels – paying for itself in just three to five years with savings on electricity.

"Efficiency was definitely a consideration in the selection process," notes Kuhar, "as was scalability. One of the selection criteria was that the UPS could be field-upgraded."

Indeed, with the 9390's scalable architecture, the unit can easily adapt as the university's power needs increase, with the ability to grow to up to 160 kVA simply by adding additional power modules. Another advantage is the unit's small footprint, which is up to 50 percent smaller than competitive units.

Eaton 5115 UPS

Georgetown also ventured beyond its main campus – installing Eaton 5115 UPSs at 20 outlying offices to safeguard the remote sites' communications systems.

"We go through periods of time when power is not as regular as we would like it to be," Kuhar acknowledges. "We sometimes have power outages at various locations and they can take down our remote sites."

The 5115 offers surge protection and line-interactive backup power, while protecting networked equipment from "back door" surges coming over LAN or telephone lines. The unit minimizes downtime with hot-swappable batteries, while significantly extending battery service life with Eaton's ABM® technology. Of particular importance to Georgetown was the unit's SNMP capability, which has proven to be a significant time-saver for the university's IT personnel.

"In the past, we'd just lose a site and have to go scrambling around trying to figure out why," Kuhar explains. "Now when the UPS kicks on, it sends us a message that utility power has been lost at that site. Often the outage is short enough that the communications equipment stays on. But more importantly, we know that there's been a power outage. We don't have to spend a lot of time trying to figure out why a site went down."

Note: Features and specifications listed in this document are subject to change without notice and represent the maximum capabilities of the software and products with all options installed. Although every attempt has been made to ensure the accuracy of information contained within, Eaton makes no representation about the completeness, correctness or accuracy and assumes no responsibility for any errors or omissions. Features and functionality may vary depending on selected options.

Intelligent Power Manager

Later this year, the university intends to deploy Eaton's Intelligent Power Manager, which is ideal for monitoring and managing multiple power and environmental devices.

"Implementing the Eaton central management software will be a tremendous value to us," Kuhar reveals.

Delivering a global view across the network from any PC with an Internet browser, the versatile software is compatible with devices supporting a network interface, including other manufacturers' UPSs, environmental sensors, ePDUs and other equipment. Intelligent Power Manager also offers the ability to organize a management table by customized views, centralize alarms and maintain event logs for preventive maintenance of the entire installed equipment base.

Results

By relying on a power protection solution that's at the top of its class, Georgetown University is making the grade in uptime, efficiency and manageability.

"As it turns out, reliable power has a lot to do with the reliability of your network," Kuhar emphasizes. "And ours is a lot better than when I started here in 2007. We've made significant improvements."

With the comprehensive Eaton solution in place, Georgetown University is now able to:

- Maintain continuous uptime and high availability to its critical network and communication systems
- Contribute to sustainability efforts with high-efficiency UPS solutions
- Easily monitor and manage its overall power protection solution
- Eliminate downtime during mandatory generator testing
- Monitor the power status at remote locations
- Expand its 9390 solution as equipment needs grow

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Eaton Corporation
Electrical Sector
8609 Six Forks Road
Raleigh, NC 27615
800 356-5794
Eaton.com/powerquality

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