



Eaton solution proves knowledge is power for college district

Location:

Los Angeles, Calif.

Segment:

Higher Education

Solution:

Eaton® BladeUPS, ePDUs, PDU, IPM, Flex Busway, Paramount Enclosures, Cooling, Airflow Management, Hot Aisle Containment

Problem:

The community college district required a partner that could deliver a comprehensive range of premium data center solutions at an attractive price point, all the while meeting stringent construction deadlines.

Results:

The Eaton solution enabled LACCD to meet—and exceed—all of its goals during the refresh of its data center, including reliable, scalable, affordable and flexible products, delivered exactly when needed.

"Eaton created a win-win situation and really streamlined the process ... Having partners in technology that can deploy on demand is very helpful."

Jorge Mata, chief information officer for LACCD

Background

For more than 75 years, the Los Angeles Community College District (LACCD) has made higher education affordable and accessible to more than 3 million students, 80 percent of whom come from underserved populations. The largest community college district in the United States—and one of the biggest in the world—LACCD currently serves more than 235,000 students at nine colleges that span an area of 882 square miles. Buoyed by a mission to provide its students with an excellent education that prepares them to transfer to four-year institutions, LACCD offers workforce development programs designed to meet local and statewide needs, while encouraging students to pursue opportunities for lifelong learning and civic engagement.

Challenge

Because LACCD recognizes the significant impact that technology has on students and the community as a whole, it takes investment in that area very seriously. "With limited funds, you have to buy the very best and invest for the long-term," emphasizes Jorge Mata, chief information officer for the college district. "We don't want more; we want to do more."

That goal was at the forefront of a two-year construction project to refresh LACCD's data center, which began in 2013 and was part of a \$6 billion construction program across all nine colleges and the District Educational Services Center. "We evaluated a host of technologies, identified things that were valuable in our performance specifications, and created a master agreement that would enable us to achieve very competitive pricing, great terms and conditions, and exceptional warranty coverage before we ever spent a penny," Mata explains.

The deployment of a superior power protection was essential to the success of the endeavor, and LACCD needed a partner it could trust. Unparalleled reliability, excellent pricing, and scalable, flexible uninterruptible power system (UPS) were all key requirements. Furthermore, the ability to quickly and easily supply equipment during the construction process was vital.

"Customers tend to buy products early, but that wasn't really appropriate for us because we didn't want something sitting on the shelf for a year," Mata says. "On the other hand, if we didn't have a particular piece at the right moment, then it could end up delaying construction."



Powering Business Worldwide

Solution

Following an extensive bid process extended to multiple vendors, LACCD awarded Eaton a government-supplied, master agreement contract. "We are able to buy the right technology, just-in-time, at great pricing with the best warranty possible," Mata enthuses. "Plus Eaton met one of our biggest pain points—the ability to match the construction process and not impact our timeline. The master agreement sidestepped all of those problems and gave us access to the entire Eaton portfolio."

LACCD took advantage of a wide array of data center solutions, deploying two 60 kVA BladeUPS UPSs with maintenance bypasses and Intelligent Power Manager® (IPM) software; 22 Paramount Enclosures with Airflow Management; 44 ePDUs; a 150 kVA PDU; Track Busway; cooling and Hot Aisle Containment System; and Eaton load bank services.

Specifically designed for high-density computing environments, the BladeUPS has proven to be the ideal solution to safeguard LACCD's data center, which oversees all shared services for the nine colleges, as well as payroll, student registration and information systems, finance, compliance reporting and human resources.

Delivering 12 kW of efficient, reliable power in each of its modules, the BladeUPS preserves valuable data center real estate by occupying just 6U of standard rack space, including the batteries. Even more, the UPS delivers the highest level of reliability using patented Powerware Hot Sync® paralleling technology, which allows each module to operate independently—yet completely synchronized with the others—to eliminate any single point of failure. The unit's capability of growing with expanding IT applications is one benefit that LACCD values most.

"Data center needs change, and your design should be able to change too," Mata points out. "We wanted a solution that

could scale up and out as our needs evolve."

LACCD has been equally impressed with the unit's high efficiency. Initially designing the system to operate at N+1 at 100 percent load, the college district reduced its energy consumption so significantly that the UPS can now operate at N+3, Mata reports. "There are three nodes on standby," he explains, "and we have the system running at peak efficiency regardless of the load, which saves us money. On top of that, we have increased reliability and we can grow on demand with additional capacity. Not every vendor can offer that."

Mata also offers high praise for Eaton's Paramount Enclosures, which exceeded LACCD's expectations for a scalable, modular approach to enhance overall investment. The cabinets' building-block design ensures quick reconfigurations and enhanced airflow management features. Furthermore, electrical power distribution was flawlessly executed within the enclosures by pairing Eaton ePDUs with Pow-R-Flex Busway, which provides a durable, flexible, secure, and easy-to-install design. A STULZ cooling solution was also integrated with Eaton's Hot Aisle Containment System, thanks to a cooperative agreement the company has with Eaton. The streamlined design produces greater efficiencies and enables data center operators to better manage thermal requirements regardless of the facility size.

"We have achieved a real architectural elegance," Mata says of the complete package. "We have under-floor cooling, and a clean path in the racks to deliver data and power distribution."

Rounding out the solution is the IPM software, which delivers all of the tools needed to monitor and manage power devices within a physical or virtual environment. The innovative software solution ensures system uptime and data integrity with remote monitoring, management and control of UPSs and other network devices.

Just as important as the quality and reliability of the product lines was the company's ability to satisfy LACCD's stringent lead time and logistics requirements. "It was difficult, because we had to procure very quickly, we didn't have room for storage, and there were a lot of variables to the construction process," Mata explains. "Eaton created a win-win situation and really streamlined the process. Everything was all ironed out ahead of time. Having partners in technology that can deploy on demand is very helpful."

With the Eaton solution in place, LACCD data center now operates on what Mata refers to as "nonstop infrastructure."

"To stay productive, your infrastructure must be very transparent," he explains. "We wanted a solution that would ensure no business disruption, address the bottom line, and help our students and employees meet their bottom lines."

Indeed, ensuring student success is a mission Mata and LACCD take very seriously. "Every organization has a responsibility to protect its data, and having the right infrastructure to do so is due diligence," he emphasizes. "Much of that data is the blood, sweat and tears of countless students' hours of work to reach their dreams, and if we lose that data, we could destroy or delay those dreams. And those are unacceptable outcomes. That's why we are always looking for the best technology—and the best pricing. But it's hard for one vendor to deliver all of that."

Going forward, LACCD will continue to optimize its Eaton partnership, with plans already underway to activate a second, backup data center on its Valley campus using much of the same Eaton equipment.

"All of our campuses are watching what we achieve," Mata reports. "This data center is becoming our standard for best practices. We don't have a lot of resources to do all of this, so we have to invest wisely," Mata acknowledges. "I need to know the solution will last and people won't have to be looking at it all the time. If you give people the right tools, you will get really good ROI."

Results

On the other hand, the CIO knows all too well that cutting corners with any part of a data center design can yield disastrous consequences. "If I give my people the wrong tools, they may temporarily get the job done, but eventually we won't be where we should be and the work will not be optimized," Mata cautions. "It's like laying a mine field, and you never know when one of those things might blow up. But by using Eaton, we can set it and forget it."

With its comprehensive Eaton data center solution, LACCD is able to:

- Safeguard critical equipment, achieve continuous uptime and gain exceptional efficiency with the BladeUPS
- Easily scale UPS power capacity or backup time as needed
- Deploy high quality, well-built, easy-to-access and properly cooled enclosures
- Increase cooling efficiencies with integrated airflow management design and Hot Aisle Containment.
- Gain cutting-edge power distribution with ePDUs and busway
- Ensure all components work seamlessly, thanks to Eaton's professionalism and coordination

For more on Eaton's dedication to uptime, visit Eaton.com/powerquality

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