Success Story: Kleinschmidt

Markets Served
Data Centers & IT

Efficiency, support lead customer to 9390

Location:
Deerfield, Ill.

Segment:
Technology

Problem:
An aging, inefficient UPS coupled with a lack of manufacturer support led Kleinschmidt to seek a new power protection solution.

Solution:
Eaton® 9390 UPS, ESS, Connectivity, Service

Results:
The Eaton 9390 and ESS, coupled with Eaton support, have given the company the powerful, efficient, reliable solution it desired.

Background

A leading-edge supplier of company-to-company communication solutions for more than 100 years, Kleinschmidt's pioneering work in the field of electronic interchange of business information began with founder Edward E. Kleinschmidt, who worked with the telegraph and opened his own experimental shop in 1898.

Today, Kleinschmidt specializes in a full range of Electronic Data Interchange Value Added Network (EDI VAN) solutions, including in-network translation, real-time processing, online visibility, VAN migration, and trading partner rollout. The firm is the only EDI VAN with two production sites providing 24x7 customer service.

The company's recent endeavors include the development of a kEDI Mobile EDI app for the Apple iPhone and iPad. The powerful, on-the-go solution enables customers to view, track and audit B2B documents as they are received, processed and sent to trading partners.

Challenge

Supporting a large data center filled with servers and a multitude of networking equipment, Kleinschmidt requires the highest level of availability and reliability. In the wake of unplanned downtime, the consequences would be grave, according to Sean Parmley, vice president of quality assurance. "We could lose customers," he says. "Critical equipment could be damaged."

Yet two years ago, the firm was growing increasingly frustrated with the uninterruptible power system that was tasked with safeguarding its data center. "It was a real energy hog," Parmley says. "Plus it was getting outdated and wasn't very supportable anymore."

Adding to the headache was the fact that the UPS's manufacturer was difficult to work with, notes Ed Bendickson, vice president of systems. "We were unhappy with the company," he acknowledges.

In addition to seeking a more service-friendly manufacturer, Kleinschmidt was also interested in acquiring an energy-efficient UPS, as well as a model capable of growing with the company's power requirements.

Although Kleinschmidt originally considered purchasing used UPS modules, a meeting with representatives from Eaton opened the door to a brand new, long-term solution offering unparalleled reliability and exceptional return on investment (ROI).

Solution

Eaton Sales Engineer Doug Mleczko was instrumental in showing Kleinschmidt the value of the Eaton 9390 UPS and Energy Saver System (ESS).

EATON
Powering Business Worldwide

"Kleinschmidt's budget was tight and they originally were looking to purchase used Eaton UPS modules and replace their previous unit," Mleczko recalls. "Our service group was contacted to discuss the cost of startup and I went along to talk about the option of purchasing new units. I was able to show them that the added cost of two new 9390 units was well worth it, due to the payback from ESS," he explains.

Indeed, Kleinschmidt opted to purchase a pair of 100 kVA 9390 UPSs, which were deployed to operate in parallel using Powerware Hot Sync® technology. This capability allows up to six UPS modules to operate in parallel without the need for inter-module connectivity, maximizing availability and eliminating the system-level, single-point-of-failure inherent in traditional parallel configurations. Each UPS module is configured with its own backup battery system, as opposed to standard systems that generally incorporate a common battery system.

"It's configured in a fault-tolerant configuration so we don't have a single point of failure," explains Parmley.

"If their system is down, it's a direct impact on their revenue and their customers," adds Mleczko.

In addition to its impressive level of reliability, the 9390 works with ESS to deliver a level of ROI unavailable from other UPSs — including helping Kleinschmidt save thousands of dollars per year in utility costs. That's because ESS enables the 9390 to attain an industry-leading efficiency level of greater than 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.

Because UPS inefficiency is a significant contributor to rising energy costs, data center managers face ever-increasing pressures to conserve. Yet while the efficiency of a typical UPS generally ranges from 94 to 95 percent, that rating plunges as the load decreases. And because the majority of IT systems use dual bus architecture to achieve redundancy, most UPSs are supporting loads of less than 50 percent, and often as little as 20 to 40 percent.

Even small increases in efficiency can translate to thousands of dollars in savings, resulting from the ability to achieve more real power while lowering cooling costs — outcomes that Kleinschmidt has experienced since deploying ESS.

"They utilized our online ESS energy saver calculator and discovered that the addition of ESS would be paid for in about three months, and the cost of their two units in about eight years from the energy savings alone," Mleczko reveals. "Assuming electricity cost will climb moving forward, this payback period will continue to drop. ESS gave them the incentive to initially pay more upfront, but have the security of factory-fresh, energy-efficient Eaton 9390 modules that would ultimately pay for themselves."

In fact, the energy savings from Eaton's ESS typically recovers 100 percent of the cost of the UPS cost over just a three- to five-year time period. At a 250 kW load, for example, the savings represents $4,000 per year per point of efficiency gain.

"It's definitely saving us money," Parmley confirms of the solution.

While the exact savings have not been calculated, Bendickson estimates that Kleinschmidt is saving at least $300 per month in utility costs alone.

The efficiency of the 9390 units is contributing to an increased companywide focus on sustainability, as well. "We are deploying new systems that are more energy-efficient, from servers to better lighting," Parmley reports.

Beyond the clear energy savings and financial rewards, Kleinschmidt also values the scalability of the UPS, with its 100 kVA units capable of growing to support loads of up to 160 kVA. The unit's scalable architecture enables up to six 9390 modules to be paralleled for additional capacity or redundancy, without having to utilize a central bypass cabinet.

"We are expanding," Parmley says of the company. "In fact, we have two new servers on order; it's happening as we speak."

To stay apprised of UPS and power quality issues, the company relies on Eaton's Power Xpert® Gateway UPS card, which provides Web-enabled, real-time monitoring of select three-phase Eaton UPSs for power quality status and fast response to power-related events.

"The old system would just beep, but the 9390 enables information to be distributed to people out in the field," Parmley says. "Even if I'm out fishing and not at work, I immediately know if there is a problem. It's all automated now. I don't have to wait to figure it out. We like the Web interface."

Another advantage is the unit's modularity and ease of maintenance. "If there's a problem, the tech doesn't need to tear the whole thing apart," says Parmley. "We can just replace modules, which are drop-shipped directly here."

"It's constructed without complex, hard-to-maintain parts," Bendickson adds. "On our old system, there were very large customized components that even a highly trained person would have a difficult time replacing. With the 9390, the design is very maintainable."

All of which translates to increased uptime. "If there's any problem, the sooner it can be 100 percent operational, the better," Parmely points out.

For ultimate peace of mind, Kleinschmidt has invested in an Eaton service plan, which includes regularly scheduled preventive maintenance visits. "We like knowing it's operating at 100 percent and we can count on it," explains Parmley.

The 9390 units have already proven that they won't let the company down. "There have been outages and the UPS has picked up the load," Parmley confirms. "It's definitely doing its job."

In fact, Kleinschmidt has been so impressed with its 9390 solution that the company opted to purchase four more Eaton UPSs to protect several new servers that have been ordered.

"We were very happy with the Eaton support and sales staff," Parmley emphasizes.

Results

With the 9390 units and ESS in place, Kleinschmidt is now able to:

- Ensure high availability and uptime to its critical data center equipment
- Pay for its power protection investment within a matter of years, thanks to energy savings from the UPS and ESS
- Easily upgrade its solution as power requirements increase with the scalability of the 9390
- Monitor and manage the solution with Eaton's Power Xpert Gateway UPS card
- Preserve the ongoing health of the units with an Eaton service plan

To see how much ESS can save you, use our UPS efficiency calculator: Eaton.com/ESS.

Eaton Corporation
1000 Eaton Boulevard
Cleveland, OH 44122
United States
Eaton.com

Publication No. CS153020EN
August 2013

Powering Business Worldwide