



Success Story:
Cray, Inc.

Market Served
Computer Technology

Super computing firm gains super protection with Eaton

Location:

Chippewa Falls, Wis.

Segment:

IT

Solution:

Eaton® 93PM, 9315, 9155, Eaton ConnectUPS Web card, Service

Problem:

To safeguard the systems associated with building supercomputers, the technology leader needed a UPS with unparalleled reliability, efficiency and redundancy

Results:

The Eaton 93PM delivered on all fronts, ensuring continuous uptime to critical operations

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Tony Belohlavek, Field service engineer

Background

For more than 40 years, Cray Inc. has developed highly advanced computing solutions for complex science, engineering and analytics challenges. Since introducing the world's first supercomputer in 1976, the company has expanded its product portfolio to encompass three lines: supercomputers, storage and data management systems, and data analytics solutions. Cray currently employs more than 1,000 people worldwide, supporting headquarters in Seattle, as well as multiple engineering and manufacturing facilities in California, Minnesota, Texas and Wisconsin.

Challenge

Supporting an IT environment Building supercomputers requires a power protection solution that is equally superior. For Cray, this translates to deploying uninterruptible power systems (UPSs) that are capable of delivering exceptional reliability, coupled with cutting-edge technology that tackles important issues such as power factor and efficiency.

That's why Field Service Engineer Tony Belohlavek, who has been at Cray for 30 years, trusts Eaton UPSs to safeguard the company's critical systems. "We are exclusively an Eaton facility," he reveals, noting that the organization's relationship with the brand dates back more than two decades. "As a company, Eaton is always improving its products," Belohlavek continues. "Whether it's making them more efficient, or smaller, or providing longer battery runtime — if there's any kind of formula to possibly add to the equation, they're addressing it."

With a variety of different Eaton UPSs protecting equipment throughout the company's sites, in 2016 Cray sought a new unit to facilitate unparalleled uptime within its Chippewa Falls, Wis., computer bays.

"We have a lot of disk file systems and if there's even a half-second interruption, it can take three to four hours and two to three people just to get back online," Belohlavek explains.

In addition to reliability, Cray also desired a UPS with a high power factor, built-in redundancy and an outstanding level of efficiency.

EATON

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Solution

Cray discovered all the requirements it was seeking—and then some—in the Eaton 93PM. The 400 kW UPS, deployed last year in the facility's mechanical room, not only delivers exceptional availability, but also boasts the lowest total-cost-of-ownership (TCO) in its class. This distinction is achieved, in part, through the unit's industry-leading energy efficiency, which is helping Cray to slash ever-escalating utility costs.

"Our data center is so big that my power and cooling bill is in excess of \$1.5 million a year," Belohlavek reveals. "I have to be very conscious about how much power I'm using; my finance people are always telling me to get that number down."

Mission accomplished, thanks to the 93PM's ability to achieve up to 97 percent efficiency in double-conversion mode—and 99 percent efficiency using Eaton Energy Saver System (ESS). In addition to this industry-leading efficiency, Cray receives further cost savings through the 93PM's built-in bypass.

"I really like the fact that when incoming utility power is clean, it doesn't have to pass through the UPS," Belohlavek explains. "The UPS goes into bypass and monitors for spikes and other power anomalies, but then quickly reacts if needed to keep clean power going to my devices. This really helps to reduce the cost of operating the UPS."

Also contributing to the UPS's low TCO is its vertical scalability, which conserves valuable data center floor space with a compact footprint and internal redundancy design. This also enables users to scale the solution as needed, reducing cost and unexpected future growth risks.

Another major selling point for Belohlavek was the power factor of the 93PM. "With a lot of the older products, I had to have almost a full load to get a .96 power factor, whereas the 93PM doesn't require that," he says. "I can be at 10, 20 or 30 percent of load and still be getting 98 percent efficiency."

The 93PM's modularity and built-in redundancy were also key factors in Cray's selection of the unit. "This was very important, because even if a module goes down, my whole UPS isn't dead and I can still run with the unit," Belohlavek points out.

Cray has been so impressed with the 93PM that the organization just purchased a second model for its new office complex inside Minneapolis' Mall of America, and is considering a third for its Australia facility. In addition to the 93PM units, the company also has five other Eaton UPSs deployed in Chippewa Falls, five in St. Paul, two in Seattle, two in Austin, one in San Jose, and one in Bristol, England.

Belohlavek stays apprised of any potential power issue with the help of Eaton ConnectUPS Web cards, which are installed in each UPS and alert him via text or email if there is ever an issue. The engineer is also in the process of configuring the 93PM with Eaton's Intelligent Power Manager (IPM), which provides all the tools needed to monitor and manage power devices across the network, even in virtualized environments. The software combines the most critical applications to ensure system uptime and data integrity, including graceful shutdown during an extended power outage and extensive notification capabilities. "I would like to use the software to initiate a sequential shutdown where servers and other equipment will gracefully power down," Belohlavek reveals.

When it comes to the ongoing performance of its UPSs, Eaton service plans provide Cray with ultimate peace of mind. With yearly service calls performed on the units, plus biannual battery inspections, "I have the assurance that the systems will be up and running when I need them to be," Belohlavek says.

Indeed, over the past couple of decades, the UPSs have not let him down. "Here in Wisconsin, we get lightning strikes all summer long, so the units get tested on a regular basis," Belohlavek explains. "The Austin office is the same way. I get alerts from them all the time. Our UPSs perform just as expected."

Results

Thanks to the lineup of Eaton UPSs safeguarding multiple locations, Cray is able to focus on what matters—building supercomputers—without having to worry about the integrity of its critical systems. Now, with the addition of the new 93PM units, the company is:

- Ensuring its disk file systems operate without interruption, regardless of incoming power fluctuations
- Gaining an unparalleled level of reliability and uptime for a variety of critical equipment
- Achieving industry-leading efficiency with the design of the 93PM
- Reaping excellent overall value and low total cost of ownership from its power protection solution
- Staying apprised of power conditions with the ConnectUPS web card
- Ensuring the ongoing health and performance of its UPSs with an Eaton service plan

Learn more by visiting Eaton.com/93PM

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

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