

Hyper-performance with Eaton, CDW and Nutanix

Location:
Kalispell, Mont.

Segment:
Energy distribution

Solution:
Eaton® 9PX with EBM, Intelligent Power Manager®, Eaton Metered Input ePDUs, Eaton Network Card

Problem:
The company required a high-availability solution to protect its hyperconverged infrastructure against spotty power quality. The ability to integrate into a virtualized environment and support Nutanix servers was key.

Results:
The Eaton 9PX and IPM power management software delivered the protection and functionality required by CityServiceValcon for continuous uptime, along with a host of additional benefits.

"The interoperability between the Eaton and Nutanix equipment is invaluable ... it gives us peace of mind not to mention reduces risk."

Eric Wyman, systems administrator

Background
CityServiceValcon is a distributor of energy products including fuel, propane and lubricants. Since its inception in 1932, the company's mission has been to provide outstanding service and top-quality energy products in a professional and profitable manner. With seven locations—five in Montana, one in Washington and one in Idaho—CityServiceValcon has grown into one of the country's leading energy logistics and delivery companies.

Challenge
The decision to implement a hyperconverged infrastructure (HCI) within its Kalispell, Mont., data center, gave CityServiceValcon a fast and efficient way to combine different IT resources (compute, storage and virtualization) into one simple building block. While the advantages of the technology are significant, with so much riding on the infrastructure, the demand for 100 percent uptime is imperative.

Yet because of its rural location, CityServiceValcon cannot always bank on favorable power quality conditions. "We don't have very clean power here," acknowledges Eric Wyman, the company's systems administrator. "Brownouts are frequent and voltage consistency is really poor. Having proper protection is critical because we never know what's going to happen with the power coming into the building."



Nutanix solutions with Eaton technology





As a result, the company required an uninterruptible power system (UPS) capable of delivering unparalleled reliability and uptime for the site, which supports approximately 165 employees. “It’s absolutely critical that everything stays running,” Wyman emphasizes. “If we lose power and the system goes down, nobody can do their job. We all might as well go home.”

Last year, as CityServiceValcon was preparing to outfit its data center with new Nutanix servers, the organization recognized the need to simultaneously upgrade its power protection solution. “If we were going to do it, we wanted to do it right,” Wyman explains. “We wanted to do what we needed to ensure the servers would run their best, and to have confidence that they would remain protected. We had UPSs in place, but not the caliber we desired.”

When considering the specifications of a UPS upgrade, the two primary decision-making factors were capacity and the ability to run software throughout the entire environment, Wyman reveals. Beyond those two prerequisites, the company also desired a power protection solution offering scalability, flexibility and remote management—at a price point that wouldn’t break the coffers. “We needed it to be flexible in that we had multiple power types—both 208V and 220V equipment—so it was important what kind of power the UPS would accept,” Wyman explains. “And cost, of course, was a factor.”

CityServiceValcon, which was working with CDW on its Nutanix server purchase, turned to the expertise of CDW Sales Representative Adam Robbert for a UPS proposal.

Solution

For Robbert, the endorsement was clear: the Eaton 9PX. “Given the scenario, where CityServiceValcon was looking at implementing newer technologies, the deciding factor for my recommending Eaton was how proactive they are in the market,” Robbert explains. “Eaton has developed solutions aimed at helping companies who are adapting to the latest technological changes.”

Indeed, Eaton not only offers industry-leading power protection products, but has also formed strategic partnerships with other industry front-runners, including Nutanix. That made the Eaton 9PX UPS a perfect fit for CityServiceValcon to safeguard its Nutanix servers, as well as 40 virtual machines (VMs) and a Dell switch stack. In addition to delivering premium backup power and scalable battery runtimes for servers, voice/data networks and storage systems, the 9PX maximizes availability with extended battery runtime options, hot-swappable batteries, an internal bypass and an optional maintenance bypass. Furthermore, the UPS provides more real power (watts) to protect equipment, while leaving room for expanding IT environments. The ENERGY STAR® qualified UPS also offers a high efficiency rating, which helps save money and protect the environment through energy-efficient operation.

Furthermore, CityServiceValcon appreciates the unit’s flexible configuration, which supports both rack-based and stand-alone installations. The 9PX’s split-phase model addressed another of the company’s key concerns—offering both 120V and 208V output without a transformer, thereby saving vertical rack (U) space, weight and cost. To gain additional UPS runtime, the organization also purchased an extended battery module (EBM).

Enhance Nutanix solutions with Eaton technology



Solution components maintain uptime and ensure business continuity with a comprehensive, integrated Eaton power management solution.

Intelligent Power Manager® software—integrates with VMware vCenter, allowing the entire power infrastructure to be viewed and managed over the network for continuous uptime of hosts and virtual machines.

UPS—ENERGY STAR-qualified 5PX, 9PX and BladeUPS models offer reliable, versatile and efficient backup power with optional external battery modules to extend runtime.



“It buys us some time if we have a power outage,” Wyman explains, noting that the network will stay up and running on battery for more than an hour. “We can finish what we are working on and shut down properly.”

For CityServiceValcon, perhaps the most valuable aspect of the solution is its certification with Nutanix. The Eaton-Nutanix partnership comes as the hyper-converged infrastructure market is expecting rapid growth—from an estimated \$2 billion in 2016 to \$5 billion forecast in 2019, according to research from Gartner. To prepare for this evolution, Eaton validated its Intelligent Power Manager (IPM) software to run on Nutanix’s infrastructure.

The seal of approval guarantees that IPM’s live migration will kick in to prevent a power outage based on security alarm notifications or humidity/temperature spikes. “The interoperability between the Eaton and Nutanix equipment is invaluable,” Wyman says. “If there is an issue like a power outage, we wanted Nutanix to automatically initiate the best response, such as shutting down the VMs safely and then shutting down the host safely to protect our environment.”

IPM features all of the tools to monitor and manage power devices across the network even in virtualized environments, combining the most critical applications to ensure system uptime and data integrity. Users not only gain power monitoring and management, but also graceful shutdown during an extended power outage and extensive notification capabilities.

“The software saves my sanity,” Wyman emphasizes. “Being able to configure it to react or behave in a certain way is invaluable, and gives us peace of mind—not to mention reduces risk. One of the most important components of the software for us was that we could manage it from a single pane of glass,” he adds. “The remote management and Interoperability with Nutanix are extremely appealing.”

Additionally, the Eaton Network Card-MS allows the UPS to directly connect to the Ethernet network and the Internet, supporting real-time monitoring and control of UPSs across the network via a standard Web browser, SNMP-compliant network management system or power management software.

CityServiceValcon also deployed Eaton Metered Input ePDUs, which provide remote monitoring of the current draw of individual sections via network communication. This capability, combined with state-of-the-art software, allows the company to aggregate the information from many ePDUs in one location. A local display is also available for phase balancing and for easy start-up and provisioning of servers.

“The ePDUs give us the extra outlets to plug in all our equipment along with the management capabilities,” Wyman confirms.

CityServiceValcon has been so impressed with the Eaton solution that the organization is already planning to purchase a second 9PX unit to protect equipment at its disaster recovery site. Beyond all of the UPS’s noteworthy advantages, Wyman also offers high praise for some of the smaller details. “The fact that the UPS is rackmountable in a 2-post rack is pretty awesome,” he says. “And the front panel interface gives us a good amount of detailed information, which is very useful for reference at a glance.”

Equally impressive has been the support CityServiceValcon has received throughout the entire process.

“Adam has been absolutely amazing and has been a huge benefit to our company because he does a lot of research for us and directed us to Eaton,” Wyman notes. “Having great partners like CDW and Eaton is really to our advantage.”



Rack PDU—Effectively distribute power throughout the rack with metered and managed units that provide the most accurate view of power usage, while also creating cost-saving opportunities.



Enclosure and cable management—Secure critical IT equipment in the rack with customizable and tool-less mounting options; reduce re-circulation of hot exhaust air to the equipment inlet through tool-less blanking panels; and maximize air flow and rack organization with cable management solutions.



Environmental monitoring probe—Stay informed of rack conditions with up-to-date temperature and humidity readings.

Results

The ability to purchase a comprehensive power protection solution that works seamlessly within both its HCI and virtualized environment has been a game-changer for CityServiceValcon. "The way everything fits together and was presented to us in a bundled solution really made it a no-brainer," Wyman reveals. "Working with Eaton has been great. We have enjoyed fast responses, and extremely thorough support."

With the Eaton solution in place, CityServiceValcon is now able to:

- Ensure 100% uptime to its data center, regardless of utility conditions
- Remotely monitor, manage and shut down its virtualized network with IPM
- Gain peace of mind in the compatibility of Eaton's certified, bundled solution
- Accommodate the various power requirements of its environment with a flexible, scalable UPS
- Address distribution challenges with Eaton Metered Input ePDUs

About Nutanix

Nutanix makes infrastructure invisible, elevating IT to focus on the applications and services that power their business. The Nutanix enterprise cloud platform leverages web-scale engineering and consumer-grade design to natively converge compute, virtualization and storage into a resilient, software-defined solution with rich machine intelligence. Nutanix has helped large and small IT organizations simplify their datacenter and gain predictable performance, linear scalability, and cloud-like infrastructure consumption.

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