

Success Story: Research Facility

Markets Served:
High-tech research

"When he told me that the Power Xpert Gateway would give us an Ethernet-enabled solution for monitoring our electrical distribution and control equipment, I recognized that it would streamline integrating our power equipment onto our company network."

Eaton's Power Xpert® Gateway Streamlines Research Facility's Power Monitoring

Location:

United States

Segment:

High-tech Research

Problem:

No communication between disparate systems

Solution:

Power Xpert Gateways

Results:

Web access to system to save costs

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Background

Although a long time user of Eaton switchgear, breakers and meters had an older power monitoring system throughout its research and development operation, it recognized the critical need to implement a state-of-the-art power management and monitoring system at the 1.5 million square foot facility.

Challenge

While an Eaton competitor's bid was accepted, issues arose during the power monitoring system's installation. There was difficulty in establishing communication between the devices and the Ethernet Master INCOM Network Translator's (EMINT) closed architecture.

The facilities engineer reports, "After I explained the problem to Eaton's Brandon Ekberg he said that he thought Eaton's Power

Xpert Gateway 600 would help us achieve our goals. We wanted to take our installed base of equipment and add modern communication technology that would allow a third party software system to serve as a management tool. Brandon was confident that Power Xpert Gateway's open architecture would enable the new power monitoring system to communicate with the installed power distribution gear."

"When he told me that the Power Xpert Gateway would give us an Ethernet-enabled solution for monitoring our electrical distribution and control equipment, I recognized that it would streamline integrating our power equipment onto our company network. Clearly, we would have the capability to monitor the health of our power system without adding additional equipment or a modifying our network."

"According to Brandon, although the Power Xpert Gateway 400 was fully developed, the 600, which had the incremental functionality we needed, had not been released yet. When he asked if we would be willing to beta test it, I agreed immediately."

Solution

Once the customer agreed to beta test four Power Xpert 600s, Marty Aaron, who was the product manager at the time, wrapped them in Christmas paper prior to shipping.

The facilities engineer notes, "While getting these Christmas presents in July definitely made an impression on us, this extra effort also sent a very important message. It told us that Eaton wanted to work with us, not just sell us products. It demonstrated that the company not only wanted our business, but also wanted to exceed our expectations."

Once the gateways arrived, were installed and powered up, the company installing the power monitoring system was able to connect to the open interface in the gateway and easily establish the necessary communication.

The facilities engineer explains, "Since Power Xpert Gateway provides both a web interface for the user and open interfaces for integration, I can use the web interface and monitor the health of our entire system over the Internet, which means I have

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access to it wherever I am. That has been extremely valuable because it gives me the ability to capture events and respond to them properly and safely without the expense of a 24/7 maintenance staff."

In its original proposal the company installing the power monitoring system recommended using another supplier's device to serve as a translator and transfer the information from the EMINT and get it into Modbus protocol. By opting for the Power Xpert Gateway, the customer eliminated two devices.

The facilities engineer states, "By eliminating those two devices, we saved the cost of buying spares, avoided the complications of learning additional programming instructions and relying on another vendor's support capabilities."

Results

In addition to benefiting from Power Xpert Gateway's real-time monitoring capabilities, the customer has already begun work on monitoring its power consumption. The data provided by the gateway will be used by the building automation system to determine how the facility can save energy. The company is also using data from the gateway to compare its actual usage against actual billing from the utility.

The facilities engineer adds, "We have had situations where our reports and the utility's documentation disagree. The comprehensive data we had from the gateway detailing our consumption and demand enabled us to question the discrepancies. After the utility learned that we could see what was going on, it became very fastidious about how it interacted with us."

"Once the utility people saw the data we got from the gateway, they recognized we were speaking their language. They understood our issues and our requirements. The utility is very appreciative of our ability to do waveform captures of incoming power and recognize disturbances because it helps its

troubleshooting efforts. We can alert the utility about these situations and it can confirm whether an event we saw was related to the system."

"I have a tremendous comfort level with the gateway. If we have a failure, our ability to recover from it and be back on line takes 75 percent less time because of the gateway. Also, if we should lose a gateway, I know that I can take the spare unit, reload it in the field or in my office and restore communications in a half an hour."

"We now have trending via the web-based user interface of the gateways that allows us to view real data in case we lose the actual monitoring system. I can look at all the gateways using my web browser over the Internet and see very quickly if I have any communications problems. It is useful for troubleshooting the power monitoring system.

"Recently we had a complicated problem with our monitoring system related to some equipment in our chiller plant that I was able to troubleshoot remotely. The web-based interactions with the gateways and the event log feature have been invaluable. In fact, those capabilities have enabled us to find operational issues that were somewhat of an unknown.

"In one instance, Eaton's application engineers teleconferenced with me while I was providing them information real-time from home. They were able to help me develop some options to resolve the situation without the expense of a field visit. Even if a visit becomes necessary, the time to find the problem will be greatly reduced."

"Although having a product that meets our needs is essential, the key to the successful implementation of the Power Xpert Gateway is Eaton's support. The company gave us email addresses and cell phone numbers of a host of technical experts who were extremely responsive to our calls. In fact, I can honestly say that I was never 10 minutes away from the answer to a question."



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