

Case Study

Operational Insight Provides Real-Time Web-Based Operations Monitoring for Enwave Energy



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Challenge

Enwave Energy Corporation wanted to improve their basic data visibility system, which used modems and telephone lines. This system was frequently unavailable and difficult and time-consuming to bring back online. In addition, it lacked the capability for real-time data visualization.

Solution

Enwave partnered with Honeywell to implement a solution that utilized Honeywell's suite of OPC products to collect and store data and Operational Insight to provide real-time web-based data visualization. Anyone within Enwave has the ability to access the system, from the CEO of the company to the operators in each of the individual plants.

Operational Insight is Powered by Matrikon, which represents vendor neutrality. This product works with third-party control systems and applications.

Advantage

- Improved decision-making due to real-time data access
- Improved access to information via web-based functionality
- Improved scalability to include new facilities and provide customer access to data
- Improved ability to remotely monitor and troubleshoot customer buildings

Real-Time Visibility a Requirement

Enwave Energy Corporation and their Deep Lake Water Cooling Project provides heating and cooling services to approximately 140 buildings in downtown Toronto. The heating is provided as 200-pound steam and is used at the buildings for services including heating and domestic hot water. On the cooling side,

Enwave Energy provides chilled water for air conditioning. This water is returned to Enwave for recirculation. Enwave required real-time visibility into data from their customers in order to operate the system optimally and efficiently. On the customer side, it is important for the building to have the right supply temperatures to meet cooling needs. On Enwave's side, it's important that the customer heat exchangers return the appropriate temperature to achieve the tonne/hour design capacity of the system.

Initially, the chilled-water plant had a very basic data visibility system that used modems and telephone lines. This system presented a couple of difficulties. First, it was unreliable and often went down, and when it did go down it was difficult and time-consuming to bring back online.

Second, it lacked the capability for real-time data visualization. As Enwave filled out the chilled-water system, they realized the need for both themselves and their customers to be able to see the data in real time in order to effectively adapt to customers' cooling requirements and to confirm efficient system operation.

Finding a Solution

In the process of finding a solution to their data-visualization challenge, Enwave made contact with Honeywell. "[Honeywell was] able to do a full analysis and provide us with all of the options in terms of different routes that we might be able to take to achieve our goals," recalls Enwave VP of Operations Graham Harding. "They presented us with everything from a very basic system to a very sophisticated system and several options in between, so that we were able to tailor and decide exactly

what system we were looking for. We were able to make a very informed decision.”

The basics of the system include on-site data loggers that pull data from individual instrumentations, in turn allowing the SCADA Modbus to pull that data through a modem and send it to the OPC desktop for storing.

From there, Operational Insight allows Enwave to access that data through a web-based system. Anyone within Enwave has the ability to access the system, from the CEO of the company to the operators in each of the individual plants. In addition to this, the system has been expanded to provide Enwave’s customers with access that same information, allowing them to monitor their own systems in real time.

The Benefit of Real-Time Remote Access

The system has been in operation three years now. In that time, it has seen exponential growth. The system’s scale continues to grow as Enwave adds new chilled water customers and brings new steam plants and additional equipment online.

“The Honeywell system has provided many benefits to Enwave,” says Harding. “The common denominator among the benefits is the timeliness of the information that we receive.”

On a commissioning basis, when Enwave brings a new customer into their heating and cooling network, the system allows engineers onsite and staff in the office to interact with one another to ensure the building is brought online in an appropriate fashion. Once Enwave’s engineers leave the site, the company now has the ability to monitor the building very closely over the critical first months to make sure nothing untoward is developing. If Enwave does see something of concern, they can immediately return and make sure everything is operating effectively and efficiently.

For example, if and when system upsets develop, Enwave’s operators are now able to quickly develop a trend and visualize where, when and how problems are occurring and project that trend forward. Real-time shared access to this information allows Enwave to quickly make the appropriate response.

According to Harding, the broad access made possible by the system’s web-based interface has generated benefits at every level of Enwave’s business. “Everyone in our company is now watching the Honeywell system, or is looking at it periodically,” he says, “so when something develops there are a lot of knowledgeable eyes looking at it and we’re able to effect communication and a response very effectively.”

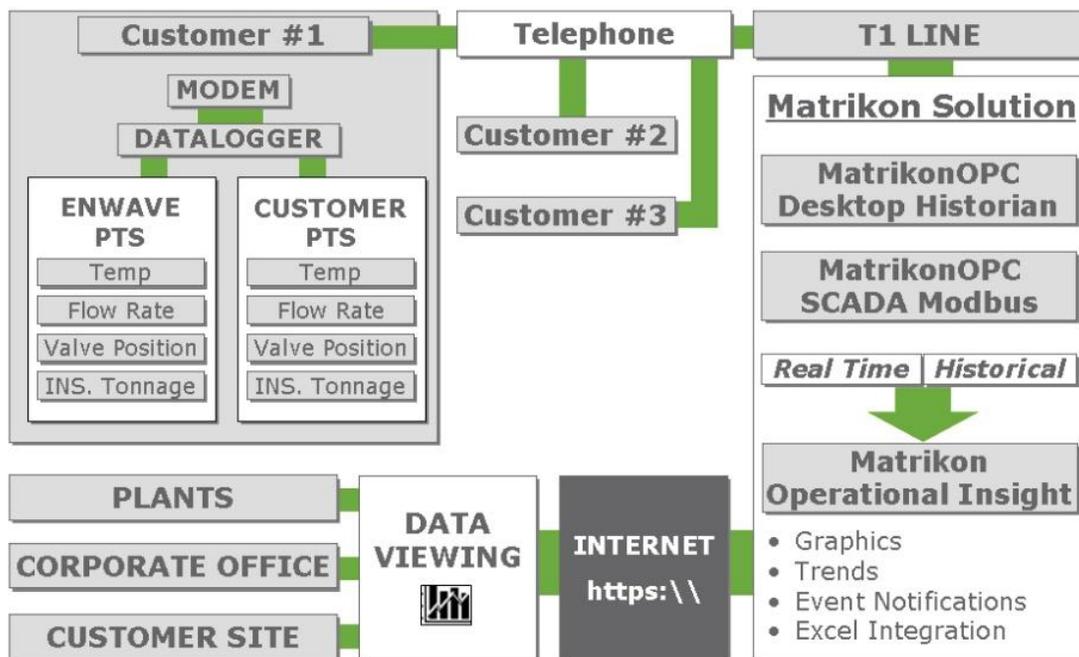


Figure 1 - Solution Architecture

By way of example, Harding recounts Enwave's experience with a developing upset situation at a building recently commissioned into the system.

"Our project engineer was sitting back at the office at his desk and was just monitoring what was going on through the Honeywell system," he recalls, "and he noticed an upset condition had developed there. He immediately called the trades that we needed, the electrician, the controls people, the mechanical person, and alerted them to get over to the site. He met them onsite. As he was arriving, the customer gave him a call and said, 'I think there might be something wrong with our system.' [Our engineer] was able to say, 'We're already on site with all the trades and we'll be bringing you up very shortly.' So, it effected an incredibly timely response to an untoward situation."

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Figure 2 - Solution Login Screen

For More Information

Learn more about Honeywell's Operational Insight visit our website www.honeywellprocess.com/software or contact your Honeywell account manager.

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