



Petroleum and Energy Company Improves Automated Data Flow Monitoring with Kepware

The Customer

SIGIT Automation is a privately-owned Controls and Automation company founded in 2004 that serves the Petroleum and Energy industries. They offer a complete range of electrical, instrumentation, and regulatory services, including electrical design and drafting, instrumentation and programming, project management, and field services. As a vendor-neutral company, SIGIT delivers fit-for-purpose solutions that are designed to meet customer-specific automation and control challenges.

"SIGIT was founded to provide superior service delivery for the Petroleum and Energy industries by offering a process-oriented method for managing and measuring business-critical projects," said Sandy Munro, the General Manager of SIGIT Automation. "As a dedicated services company, we're helping customers manage a multitude of projects at one time. This means advanced communications across all of our projects."

The Challenge

Automated flow data monitoring and data logging is crucial to the Petroleum, Natural Gas, and Pipeline industries. Once oil or gas product is pumped from the ground, it begins a journey through miles of pipes and facilities. The oil or gas product is continuously transferred from one owner to the next as the wells produce and distribute product. It is imperative that buyers and sellers know how much product is flowing out of their wells, through their pipelines and compressor stations, and to their refineries and distribution plants.

In North America, there are a number of regulations that companies must abide by for custody transfer of oil and gas product. One of SIGIT's first challenges was to find a communications solution that could provide real-time monitoring of flow computers to their own e-SCADA™ (a Supervisory Control and Data Acquisition solution) and deliver historical Electronic Flow Measurement (EFM) data to custody transfer applications. Their existing solution was not tightly integrated and had many moving parts. Compounding the issue, SIGIT's customers have many flow computers, Remote Terminal Units (RTUs), and devices from various manufacturers. This increased the number of applications that users had to learn, manage, and maintain.

"There were simply too many moving parts," Munro said. "With little or no real-time visibility, we felt customer projects were at risk."



Organization:

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Industry:

Oil and Gas

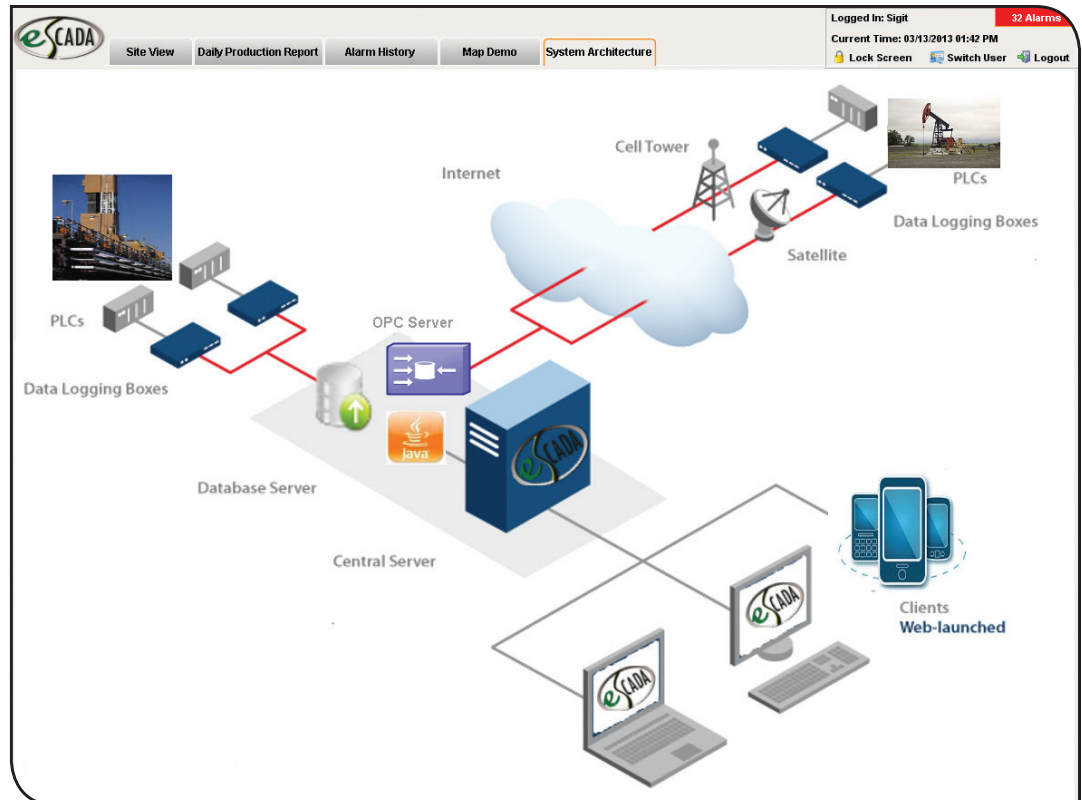
Solution:

KEPServerEX®

- ABB TotalFlow driver
- Fisher ROC/ROC+ drivers
- Enron Modbus driver
- Lufkin Modbus driver
- Weatherford driver
- EFM Exporter

Operational Impact & Benefits

- Provides customers a choice between an on-premise and a hosted communications solution.
- Enables customers to connect with a wide variety of devices to monitor both real-time and EFM historical data from a single application.
- Complies with Canadian government regulations.
- Streamlines communications by unifying multiple protocols into a single platform.
- Reduces cost through faster deployment of projects with a single platform.
- Enables customers at all business levels to learn and use the system easily.



SIGIT also needed to provide their customers with the flexibility and choice of having either a hosted or on-site solution. This was an important challenge. Not only is the hosted solution less expensive, but it also provides smaller systems the ability to grow. On-premise SCADA solutions can be expensive and difficult to manage, often requiring a full-time on-site employee or consultant. This was simply not a viable option for some customers.

The Approach

SIGIT's decision to provide their customers with an on-premise or hosted solution meant that they needed to implement best-of-breed software solutions that are reliable, scalable, and cost effective. The SCADA solution also needed to support both real-time and EFM data, and have the ability to gather data through various telemetry options (like radio and satellite modems).

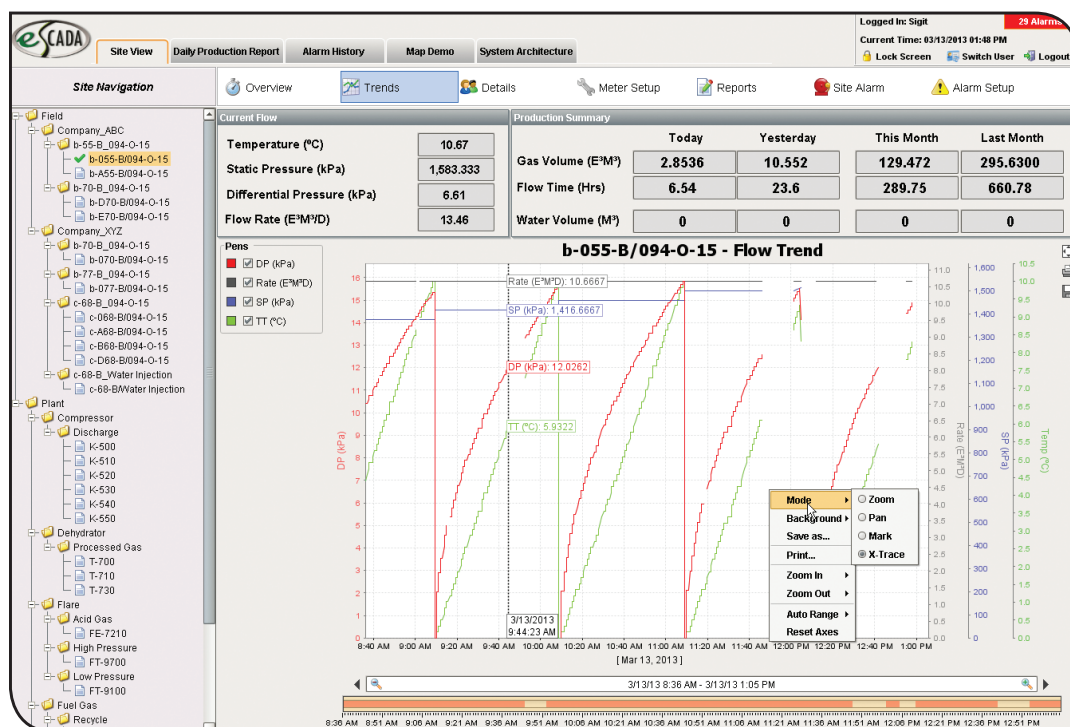
Munro had previous experience with Kepware products, and knew the brand as a leading industrial automations provider. "Kepware has a good history with developing real-time communication protocols," Munro said. "We liked the fact that they are not a new company and provide proven technology."

Between his familiarity with Kepware's products and others' recommendations, Kepware's KEPServerEX was marked as strong candidate for the foundation of their e-SCADA solution (to provide real-time and historical data communications).

After determining their options, SIGIT put KEPServerEX through an intense evaluation period. Upon its conclusion, KEPServerEX was selected as the communication platform for SIGIT's e-SCADA solution. Kepware's communication platform consists of KEPServerEX and several core components, including ABB TotalFlow, Enron Modbus, Fisher ROC/ ROC+, and Omni Flow

Computer driver interfaces; OPC Data Access (OPC DA) client interface for real-time data; and the EFM Exporter for exporting historical EFM information into required formats. To complete their e-SCADA solution, SIGIT chose to utilize an independent Java based software solution for their front end and data logging capabilities.

Data is logged into SIGIT's database, where it is manipulated through SQL queries and then presented to their customers according to specific demands and requirements. With the Kepware solution in place, SIGIT can also provide connectivity to its hosted database using the accounting/financial control systems via CSV, PDF, and direct connection. All communication protocols and methods of monitoring and reporting data comply with Canadian government regulations and meet SIGIT's customers' need for real-time and historical data.



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Because the database is cloned daily, data security can be ensured for each customer. Every customer accesses a separate database and application based on their login. SIGIT's solution also incorporates a platform-independent Java-based client that can be installed on customers' PCs to provide access to the hosted database via an Internet connection. Customers access their own Ignition applications and database based on login. Furthermore, the database is split into clusters that can be extracted and ported to another computer when customers move to their own on-premise solutions. As a result, customers will neither lose data nor have to learn a new database application.

"We were amazed at how quickly Kepware was able to come in and automate what was initially a highly cumbersome process," said Munro. "With the increasing complexity of energy and petroleum deployments, it was a huge boost to know exactly how the process was operating—and where it was underperforming."

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The Benefits

Today, SIGIT is able to provide a customizable SCADA solution that meets the specific needs and requirements of their customers. They accomplished this by understanding their customers' unique challenges and by utilizing best-of-breed products like KEPServerEX. Their solution allows the level of service to be tailored according to customers' needs, and can be deployed on-site or hosted and managed at SIGIT's operations center.

SIGIT's e-SCADA solution is a comprehensive, low-cost, and fully-scalable application that supports electronic monitoring and measurement for any organization. They can quickly deploy and scale the application in part because Kepware's KEPServerEX communications platform is easy to use and can connect to and support thousands of disparate devices and protocols within a single platform.

With KEPServerEX managing connectivity and communications, SIGIT is able to rely on a single vendor for both real-time data communications and EFM needs. The EFM plug-in option enables SIGIT to conform to Canadian regulatory requirements by securely collecting, storing, and providing users the ability to review historical flow measurement data.

The e-SCADA solution and KEPServerEX provide customers with real-time trending, alarm management for critical data points, standard and custom reporting, and much more. SIGIT can poll the flow computers for EFM historical data via radio and cell-based telemetry. The data is streamed to KEPServerEX once per day and then this custody transfer data is imported into accounting software. Telemetry communications are primarily used for custody transfer services, which are operated by pipeline companies.

"The bottom line is that Kepware now provides the core data necessary to ensure the successful completion of complex petroleum and energy deployments," stated Munro. "This not only has the potential to boost customer efficiency, but also to lower costs—enabling them to more effectively compete in this challenging economy."

About Kepware Technologies

Kepware Technologies, established in 1995, develops a wide range of communication and interoperability software solutions for the Automation industry. Our flexible and scalable solutions help connect, manage, monitor, and control diverse automation devices and software applications. Our industry-endorsed software solutions improve operations and decision-making throughout all levels of an organization. Kepware Technologies' mission is to be your standard for connectivity by developing Advanced Communications for Automation.

