Fielding Chemical Technologies - Canada

OPC DataHub supports chemical reclamation project

Fielding Chemical Technologies, the largest solvent and refrigeration reclamation company in Canada, is using the OPC DataHub to distribute the process data from their new Pervap project across the corporate network and the Internet.

The Goal: 99.5% Pure
Fielding's corporate vision is living in harmony with our environment by giving new life to spent chemicals. They are constantly seeking new ways to recycle used and discarded chemicals. Last year Fielding embarked on an ambitious new project: to develop a cost-effective way of removing water and other impurities from IPA (isopropyl alcohol) and other chemicals. Traditional technologies yield a product with 15% water content, or more. Fielding's goal is to reach at least 99.5% purity, so the resulting recycled alcohol product will be extremely close to virgin specifications.

To reach this goal, Fielding has patented a custom, vacuum-enhanced refining process that pulls the moisture out of the IPA through specially designed membrane plates. A pilot project has been set up which can refine over 2,000 gallons of IPA per day. The project has been a great success so far, except for one major problem—transport costs

**Problem: Transportation Costs**
There is plenty of contaminated IPA in the world, but shipping it is expensive, because it is mostly water. Large quantities of alcohol are being used in pharmaceutical companies in the East Coast of the United States, for example, but the cost of trucking the waste product to the nearby Fielding facilities in Canada would cost more than the profits generated by the sale of the refined product. For this reason the plant is currently refining only locally generated waste, processing just one 35,000 gallon batch every two or three months, when it could be handling a new batch every two weeks..

Solution: Distributed Facilities connected by OPC DataHub
To address this problem, and to expand the use of the technology, Fielding plans to install a network of small plants in various parts of Canada and the USA. Each of these plants will be connected via a data link to the central office, for process monitoring and gathering data. To provide a real-time data link for each location, Fielding is using the OPC DataHub.

"The OPC DataHub is an amazing piece of technology," said Robert McGregor, Pervap project researcher. "It is reliable, secure, easy to use, and it does exactly what we need."

The Pervap project requires data to be collected from various locations and displayed live in web browsers running in workstations in the central office and off-site. The data must also be stored in a SQL Server database for archival and analytical use.
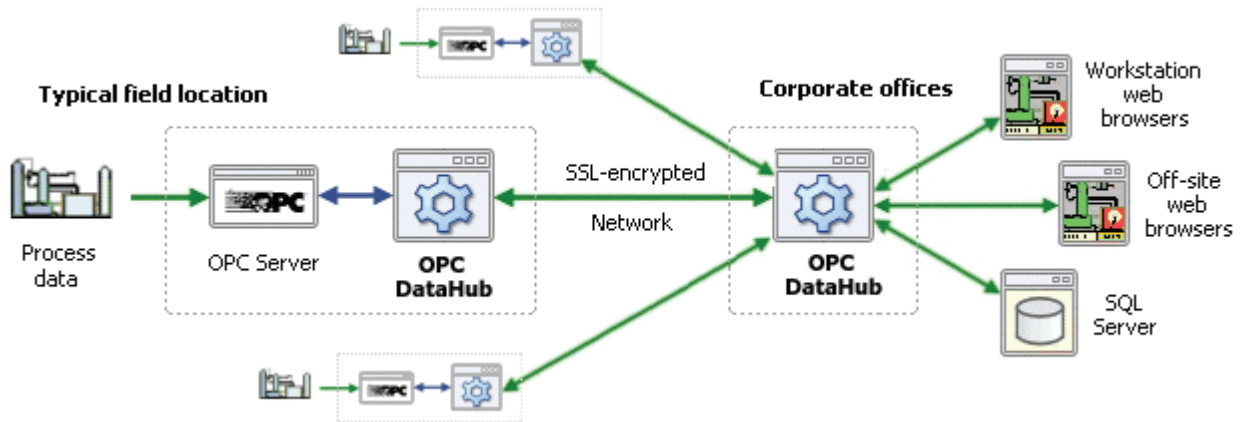
Using Java applets that come with the OPC DataHub, Robert created a web page that displays live data overlaid on top of a system diagram, along with a table showing status messages and alarms. Then he configured the DataHub to write data to his SQL Server database. Finally, he installed an OPC DataHub in the central office, and configured a secure, SSL-encrypted tunnel between the two DataHubs to mirror the data.

"I'm really fond of the OPC DataHub," said Robert. "It works so well. The Java applets are very reliable. My background is in computer science, so I know how difficult it would be to create this kind of functionality myself."

Expanding the project from the field office to the central office was technically easy because the two DataHubs simply mirror the data between each other. The concerns at the corporate level were more related to configuring the web service, and security. They took full advantage of the complementary security features of the OPC DataHub.

"What I really appreciate are the various levels of security," said Nick Kucharew, Fielding's IT Manager. "We have complete control over user access and authorization, and the SSL encryption layer across the network gives us the protection we need."

The Pervap project is currently in the pilot stage, with one field installation at the company location. Now that the technology and data communications have been thoroughly tested, the company is ready to grow the project across the continent.

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The OPC DataHub is a highly optimized integration tool for real-time data. It provides quick, reliable and secure access to valuable process and production data and makes it available to management systems, database archives, and remote clients. Combining a number of innovative technologies, the OPC DataHub makes it easy for you to access the real-time data you need to make informed and timely decisions that save time, reduce waste, and increase profitability.

Founded in 1995, Cogent Real-Time Systems is the leader in real-time data integration between Windows, Linux and QNX systems. Customers include the Bank of Canada, Cadbury Chocolate and the European Space Agency. Cogent leverages its experience in real-time data communications to provide the next generation of OPC products. For more information, please contact Cogent at info@cogent.ca or visit our web site at www.opcdatahub.com. You can also call us at +1 (905) 702 7851.