## DART OIL AND GAS

DART OIL AND GAS LEVERAGES OPEN AUTOMATION SOFTWARE TECHNOLOGY TO ACCESS REAL-TIME METER DATA DIRECTLY FROM AN IPHONE

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Sr. Measurement Technician Dart Oil and Gas operates a field of coal bed methane Gas Wells in and are of south east Kansas called the Cherokee basin. The Cherokee basin is located approximately ninety minutes from Tulsa, Oklahoma.

THE NEED TO MAKE DATA EASILY ACCESSIBLE TO FIELD OPERATORS
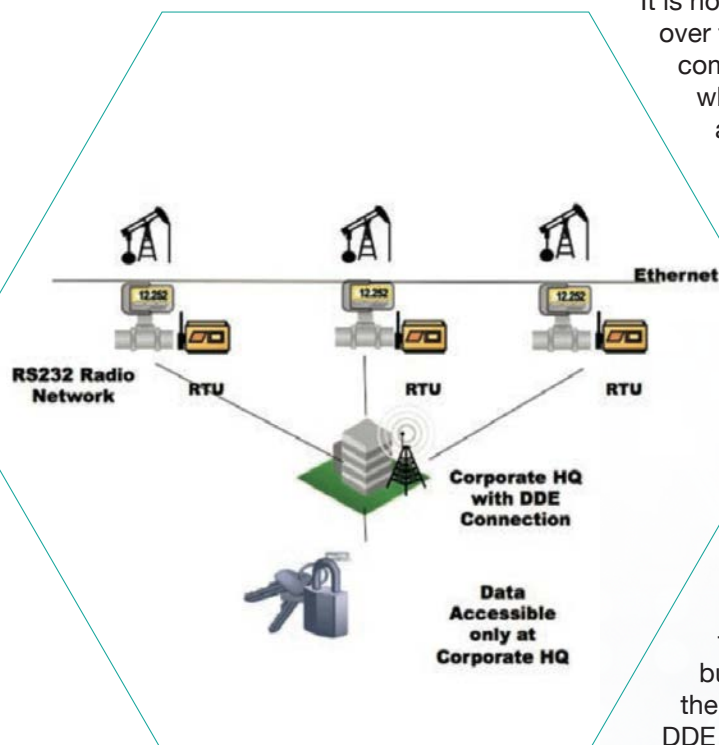
It is no secret that the world of Oil & Gas production has been turbulent over the last few years. Prices are fluctuating on a daily basis, and companies across the globe are looking for methods to cut costs, while ensuring the quality and quantity of production. Dart Oil and Gas has a series of coal bed methane gas wells each fitted with an electronic flow meter which passed data through an Ethernet network (TCP IP backbone) paired with RS232 radio network back to a central gateway at the main office. All data from the field was consolidated at the main office, and was not accessible by the Engineers in the field. This inability to access data from the flow meters meant that Dart's Engineers had to adopt a reactive maintenance posture, rather than a proactive one. To solve this problem they turned to open standard of OAS technology. The solution started with a wireless network and OAS Server called TDS32. TDS32 OPC/DDE Driver is a Totalflow protocol link to all OPC/DDE software systems. It is compatible with WinCCU software and can also serve as a stand-alone link to other systems. TDS32 OPC/DDE Driver software supports more than 50,000 tags. This solution increased the rate of data flow from the wells, but still did not solve the problem of multiple operator access in the field. All data was still only accessible through the corporate DDE system.

REQUIREMENTS FOR A WEB-BASED HMI DEFINED

The problem became how to display the OAS values from the wells to multiple operators across a secure network at an affordable price. The current solution meant that if a Field Engineer wanted to see the production of a particular well that data was only accessible by making a physical trip to the main office. This became a huge problem for the operators at Dart Oil and Gas. They were essentially locked out of viewing their own data. Another issue was the limitations of using a DDE connection. Production values had to be refreshed at the beginning of each shift due to the inability of establishing a polling routine. The decision was made to change the system and make the data available in real-time to all through the use of an HMI or a flexible OAS Client. The problem now was which Client to choose?

COMPARING APPLES TO APPLES

Dart Oil and Gas began an exhaustive comparison between HMI SCADA products in order to find the one that would be both scalable and flexible for their needs. As a company in a very competitive market, Dart Oil and Gas was looking for a solution that was scalable and flexible enough to give them what they needed today, yet be scalable enough to grow with them as they needed it to. Essentially they were looking for a solution that they could control, and not a solution that would control them. After the first few product reviews they realized that they needed an HMI SCADA software package that had a modular design which would enable them to purchase the plug-ins that they required, but also had the flexibility to accept additional modules as their needs changed. An affordable and economic solution needed to be found; one that would enable the increase of production while not breaking the bank.

THE OPEN AUTOMATION ADVANTAGE

The Open Automation Software approach has always been one of flexibility and scalability. Coming from a System Integrator background, Open Automation Software understands the needs of the Engineer in the field, and the importance of decentralized data access. Engineers need to be able to access and trend data in the field to make more efficient decisions. The Open Automation Software approach would enable Dart Oil and Gas to meet its two main goals: 1. Flexible Real-time data access and 2. Getting that functionality while staying within a predetermined budget.

THE SOLUTION

Dart Oil and Gas exploited the flexibility of the OAS Systems library to create a unique plug and play solution containing: OAS Systems Trend, OAS Web Controls, OAS Database and OAS Excel. The combination of these products enables Open Automation Software to connect the existing DDE connection directly to the OAS Excel interface. This enabled the use of Windows 7 instead of DDE. Not only did this provide the field engineers with the ability to exploit the features of Windows 7, but it also eliminated the issue of the DDE values having to be refreshed at the beginning of each shift. OAS's built in polling eliminated the need of manually providing data. Data was now available in real-time by any operator at anytime.

REAL TIME DATA VISIBLE ON YOUR SMARTPHONE

The decision to choose Open Automation Software's OAS Systems software provided dividends right away. Not only was the problem of being able to securely accessing real-time data from wells in the field eliminated, but now the data could be streamed directly to any web enabled Smartphone or device. Thanks to the web environment created by the Open Automation Software products data can be pulled by a Smartphone like the iPhone, manipulated, and then pushed from the iPhone though the OAS Server to the test meters in the field.

"Dart Oil and Gas Engineers were looking for a solution where an operator could hit the button on the phone and receive data from the poll request. Not only would they receive the poll request, but they could trouble shoot problems in a matter of minutes all over their Smartphone. Individuals that do meter work for a living have been praising OPC's ability to pass data flawlessly for years! The ability to use Open Automation Software to integrate Smartphones as a new HMI only enhances that ability. Open Automation Software enables Engineers to work with the "Big Picture" rather than mess around with the mechanics of creating scripts. It empowers us to get the job done!" said **Dennis Brown, Dart Oil and Gas.**

BENEFITS

In the world of gas production time is money. Typically a gas production company only had 24 hrs to produce the gas required for sale on the market in the next 24 hrs. Each minute of downtime equates to profit and production lost as the global price for natural gas fluctuates. The biggest advantage to the Open Automation Systems Web-based solution is the decrease in lost production time. Operators can see the real-time values as well as the trend of the past week for a particular pump. They know what decisions to make based on the equipment status. If corporate wants to accelerate the production of natural gas due to a rise in price then the operators are continually in the loop and can ensue asset longevity and maintenance schedules are in tune with production requirements. Predictive maintenance takes two steps forward thanks to the innovation of Open Automation Software.