



A Rockwell Automation Company

Penn West Petroleum OPC Database Interface

The Client:

Penn West Petroleum Ltd. explores, develops and produces oil and natural gas in Western Canada. The company produces 16500 barrels of oil and liquids per day and 200 million cubic feet of natural gas per day.

The Minnehik-Buck Lake Gas Plant is located in Central Alberta and processes gas from wells in the surrounding area.

The Requirement:

Many industrial plants require reporting systems to keep track of inventory and product. Penn West Petroleum Ltd. has a reporting system which is based on Microsoft Excel and is used to generate reports such as plant balance, gas well production and emissions. In order to automate the reports, data must be downloaded from the plant DCS to the report computer. Approximately 300 values are downloaded daily into a data table within Excel. The reports are then run and data is pulled from the appropriate places

in the data table. Under the old system, downloading the daily plant values took approximately 20 minutes and incapacitated the reporting system computer.

In addition Penn West also needed a system that could be used to bi-directionally transfer information between Fisher Rosemount RS3 and a future DeltaV DCS in order to gradually migrate to the newer DCS.

The Design Solution:

Hinz was chosen to specify the required hardware and software; provide system design and testing; install and commission the system and provide the required documentation. Fisher Rosemount had a new piece of hardware available that allowed for a faster transmission of data using OPC. OPC is a standard interface that makes possible interoperability between automation/control applications and business/office applications. The hardware device is called a RNI (Remote Network Interface). The device is connected to both channels of the RS3 network and passes data to a personal computer via Ethernet. DeltaV runs on a personal computer and has OPC communication drivers built into its system. The RNI comes with boot software in order to configure the network IP address as well as the RS3 node address. In order to read the data an OPC server for the RNI was also purchased and used to serve the data into Microsoft Excel.

The software and hardware was installed and tested on a new computer and Visual Basic changes to the reporting system were made in house to accommodate

the new OPC interface. This was done to ensure that the system could work as desired and to attempt to iron out any installation trouble spots before going to site.

The system works as follows. Every day at 6 am the computer launches the data table worksheet in Excel and then connects to the RNI OPC server in order to download the data. Visual Basic code in the worksheet requests data from points in the DCS. A set time is given to complete the download operation but once the OPC server is loaded the data download takes approximately 30 seconds to complete. During this time work can be done in the background on the personal computer. After the set time, the data table is closed and an operator can generate the needed reports.

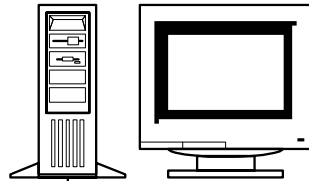
Several Visual Basic code changes were required in order to pull data directly from the RNI OPC driver to Microsoft Excel. The system was purchased with an additional driver and better hardware in order to interface to DeltaV at a later date.



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Personal Computer



Typical PC running
Microsoft Windows
NT 4.0 with an OPC
server installed

Ethernet

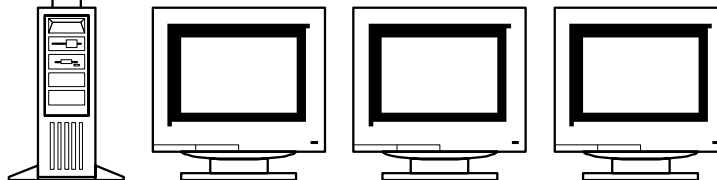
Remote Network Interface (RNI)



Peerway A Cable

Peerway B Cable

Rosemount System 3 DCS



System Specifications:

- Rosemount System 3 DCS
- Remote Network Interface (RNI)
manufactured by Rosemount
- OPC Server
- Office 97
- PC capable of supporting RNI
requirements

For further information or to contact a Hinz office near you, please check our website at:

www.hinz.com