

Case Study:

DataServer provides complete solution for DTS data management from remote wells

Cloud-hosted data management system to collect, verify, store and interpret DTS data

Initial Installation Date	2016
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This medium-sized operator required a solution that could collect DTS data being captured by instrument boxes at remote wells and store that information for better retrieval, analysis and modelling using TAQA's tools. Part of the goal was to have the solution operate in the cloud in order that the client could access the data from anywhere without the need to necessarily VPN into their own network.

The Challenge

Some of the key challenges of the solution involved the physical location of the wells. Without exception, they were all remotely located several hours drive from the nearest location capable of providing support.

Maintaining power and connectivity to these wells was a challenge and the minimal communications infrastructure meant that the technology used would need to be extremely reliable and would have to work on slower wireless modem speeds.

Accessing the data globally was a key requirement, but the data had to be securely collected, stored and accessed.

TAQA Solution

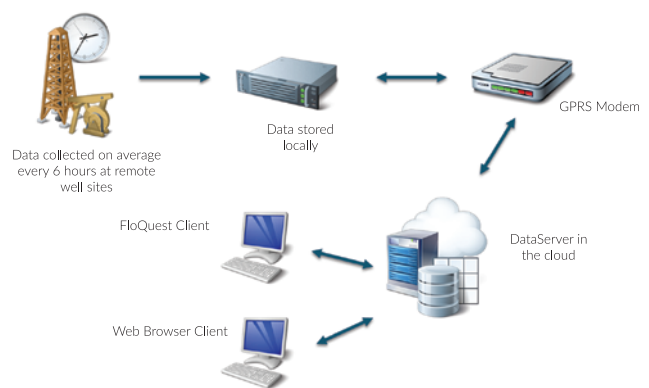
To provide a working solution, the wells were equipped with either local generators or solar-powered units capable of running the DTS units and the modem for extended periods without human intervention. Each DTS unit was connected to a GPRS modem. Although slow in today's wireless spectrum, GPRS is an extremely reliable method to communicate, but large data transfers are not realistically possible for good performance.

The security infrastructure was established with a VPN connection between DataServer running in the cloud and the modem. DataServer itself was configured with access over an SSL connection. FloQuest was deployed to the client locations.

The process of data collection itself is actually very simple. The DTS instruments typically collect trace data every 6 hours. That data is initially stored on the DTS unit.



Periodically DataServer makes a connection via the GPRS modem and downloads all the trace data. At that point the data is analyzed and imported into the database. From there, users can view, analyze and model the data using FloQuest or via DataServer through a web browser.



Solution Architecture

Project Results

The DataServer and FloQuest solution proved to be extremely reliable with a 99.99% well connectivity uptime. Most data is collected within minutes of it being stored by the DTS unit and an average well for this client produces 1460 trace sets per year (the equivalent to one trace set approximately every 6 hours). The client can analyze and model their data from anywhere within the world with data retrieval in less than 1 sec.