Oilfield Data Services
Using Automated Well/Reservoir Surveillance to Enhance Productivity

The extraction of value from data largely depends on how it is aggregated, stored, and utilized to improve human productivity and increase process efficiency. The dilemma is that the extracted value has to be weighed against the risk of data breaches."In the oil and gas industry, the historic priority of CIOs and IT managers has been security," begins Chris Fair, president of Oilfield Data Services (ODSI). Ricardo Flores, director of software development continues, "No matter how magical your kit is or how much value it could add, if something is considered a security risk, it will not be implemented. Therefore, we have designed our services to have a small, server-friendly footprint, and install it within the operator's internal firewalls."

Chris Fair

Once the security hurdle has been overcome, ODSI's next objective is to involve the IT department in the process of creating value from the data.Flores adds, "Including IT in the discussion has proven to be extremely important to our success and that of our clients, as IT has the most understanding of data processing and management."

ODSI specializes in automated reservoir and production engineering surveillance and optimization. The firm's breakthrough in the oil and gas industry comes in the form of its Well Analyzer™ technology that changes the position in the process where today's computing power is applied.

The most challenging part of understanding a petroleum production system is obtaining valid flow rates and bottomhole pressures, which are the essential to evaluate the reserves and the performance of the well. Fair explains, "As an industry, we've understood the wellbore physics for over a hundred years, but we didn't really have the computing power to solve these equations quickly until more recently. In the meantime, engineers applied simplified correlations and, then just applied computing power to solve the correlations even faster, but with no improvement in accuracy." ODSI applies the necessary computational analysis to the front end of the process, honoring the physics.

Ricardo Flores

Fair states, "Our core competencies boil down to first determining how much oil or gas is in the ground and what a well's true potential recovery is, then finding the excess pressure/ energy loss in the system, and reducing it (or managing it) without adversely affecting recovery. This allows ODSI to be able to increase production, while maintaining safe drawdown restraints. In addition, by tracking how the well performance and reservoir behavior change with time, we can recognize problems before they cause downtime or reserves loss, allowing the operator to address them early-on, with a solution that optimizes cashflow."

ODSI's value proposition lies in facilitating a way to get everyone involved in sorting out 'the facts', by having regular on-site meetings with the stakeholders. Flores explains, "Once we've gotten everyone into the same room, agreeing on the same results, it's amazing the kind of ideas that come out of asking, 'What do we do next?'. When the data users get to know the data managers and IT experts, we've seen multipliers of efficiency in the way information is shared and decisions get made. Over the years we've been dealing with this, we've completely shifted our perspective on IT from something that needs to be 'minded' to PEOPLE that can help the company make better decisions!"

The elegance of ODSI's process lies in honoring the physics and solving problems using advanced mathematics (made possible by modern computing power), and presenting results in a way that lets both technical and non-technical professionals understand the 'ins and outs' of a well/reservoir. The democratization of data and results replaces the reactive firefighting culture with proactive management. This leads to better decision making and increased efficiency, without compromising data security or well integrity. **CR**