

Just getting the new digital oilfield solution up and running with processes aligned, and people on board, trained and ready at "Go Live" is often daunting.

Tired after climbing that first hill, many are dismayed to find a second hill in sight. This second hill, Optimization, calls for fine-tuning technology, tweaking processes and adjusting people as well as skill mixes ... in

order to get full business value from a digital oilfield deployment. Once again, send out the call for experienced leadership to conserve the teams' energy and keep expectations focused on both hills, one at a time.

Danger No. 8, "Lost in the Shuffle," is another example of coming to grips with what workflow should be about i.e., more than writing down Action Steps and insert-

ing new technology.

Companies need to allay fears that workflow analysis represents reengineering, job cuts and loss of security – that employees will not get lost in the shuffle with all the focus on process and tools. Experienced leadership needs to reassure employees that DOF offers exceptional opportunities and allows developmental ownership of solutions.

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ERF Wireless –boom in wireless services

ERF Wireless of League City, Texas, has been ranked the 113th fastest growing company in North America on Deloitte's 2009 Technology Fast 500 list. Its business: supplying wireless communications to oilfields.

ERF Wireless of League City, Texas, is seeing a big business expansion, selling wireless communications services to North American oilfields – enough to place it 113th in Deloitte's list of the fastest growing technology companies in North America for 2009.

The company currently offers WiMax, WiFi, and other communications over 165,000 square miles of North America, including most of the oil and gas development and production areas in the US and Canada.

It also has coverage in New Mexico, other areas of Texas, Arkansas, Oklahoma, Louisiana, Alberta and the British Columbia Horn River area.

The company has been in business for just 5 years – and saw the biggest growth in the past 2 years. It has 85 employees.

Sales, to oil and gas customers, apart from 11 key contracts, are handled exclusively by Schlumberger. As part of the exclusive sales contract Schlumberger agrees to provide a guaranteed minimum level of business over a 3 year period.

Before signing the contract, the company had a total annual revenue of around \$5.5m

The company recently acquired two communications companies, Frontier Internet and iTexas, both located in Granbury, Texas, giving it a further 1,800 customers and \$1.3m annual revenue, and additional coverage in the Barnett Shale region of North Texas.

The company is now looking at offering services globally, with some of its existing customers who have operations in other parts of the world, including in Egypt, South America and Australia.

The company does not claim any proprietary technology for the oil and gas industry other than its CryptoVue security technology, so other companies could in theory do the same thing themselves, but "with our exclusive contract with the world's largest oil

and gas services company we feel we can do it much faster and more efficiently," says Dr. H. Dean Cubley, CEO of ERF Wireless.

Drivers

Some of the biggest drivers for the growth are drilling and fracing companies, who prefer the faster bandwidth and lower latency they can get from wireless communications, compared to VSAT satellite communications, Dr. Cubley says.

Typically on our terrestrial wireless broadband they can get about 10 times the data throughput for about the same price, he says.

With the communications tools available, geologists and engineers can monitor many different drilling / fracing operations simultaneously from their desks, rather than go out to each individual well site.

Drilling and fracing software is getting more and more complex, and requiring more and more bandwidth to connect the office with the remote site, he says. "I would say the software programmers are our best ally - they generate the need."

"The satellite based communications links that have been used in the past are becoming totally inadequate to take full advantage of these software platforms in real time."

"Once they taste the increased bandwidth it is very addictive – they will never go back to a low bandwidth application after that," he says.

Some companies are also using the system for communications directly with other equipment, including remote monitoring, he says.

The system

ERF Wireless owns a fleet of mobile broadband trailers with deployable towers ranging from 50 to 100 feet in height that they deliver to the drill or fracing site, which provide WIMAX and other wireless communications

over a range of up to 10-15 miles from the trailer.

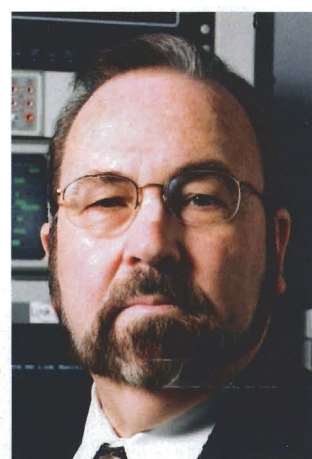
The trailers are moved by ERF Wireless around to wherever the drilling operations are. They just need to be able to send microwave data back to somewhere where ERF Wireless

has a fixed tower or other network coverage eventually ending up with a Internet landline connection – microwave communications between fixed towers in the ERF Wireless networks can travel up to 30 miles in one hop.

The company recently acquired a further 321 mobile broadband trailers (MBT) at a cost of \$4.7m and is currently deploying these units into oil and gas production regions (around \$15,000 a trailer).

Bandwidth available in the ERF Wireless networks can range from 30mbps to 165mbps, depending on customer needs and what a particular backhaul is able to support. Bandwidth available at the remote drilling or fracing location ranges from a single circuit of 1.5mbps to multiple circuits up to five circuits.

The company offers various Service Level Agreements of up to 99.9 per cent uptime, and typical response times of 4 hours or less. The network is continuously monitored.



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