

Upstream IT advances enabling ‘digital oil field’ of future to become reality today.

Outsourcing some IT functions is one solution to the challenge of how to invest in hardware and software, according to Xvand President and Managing Partner Victor Grinshtein.

“Increasing demand for oil has produced an ultra-competitive marketplace,” he says. “This makes it imperative for organizations in the oil and gas sector to have the ability to increase their IT infrastructure capabilities on-demand, instead of overinvesting to meet it.

Fortunately, IT has evolved to the point to which investing in and managing complex onsite infrastructures is no longer necessary. Innovations such as utility computing or on-demand computing allow for oil and gas companies to transfer the onus of IT responsibility to the utility computing provider. Termed for its parallels to the delivery model of standard utilities such as electricity, utility computing is the packaging of computing resources, such as computation and storage. This system has the advantage of a low or no capital cost to make use of hardware. Client companies with very large computations or a sudden peak in demand can also avoid the delays that would result from physically acquiring and integrating a large number of computers.”

Grinshtein sites a handful of obstacles to achieving the true digital oilfield of the future, chief among them handling the near overwhelming volume of datasets resulting from the drive to digitize itself.

Data storage: The oil and gas sector is one of most capital-intensive on the planet, and the stakes are high to produce quicker and more accurate data sets. Each new technological advancement prompts the need for organizations to overinvest in computer hardware to meet the growing demand for data storage. This hardware must also be backed, verified and managed, exponentially increasing the capital investment.

Data management: All the data in the world is useless if not properly managed. Organizations must create processes for managing their data or they run the risk of having it

misplaced or lost. In a world of real-time accessibility, inaccessibility of any magnitude can cause great damage. The damage is compounded if the data is corrupt or falls into the wrong hands. This leads to a third issue: federal legislation.

Federal legislation: Many organizations are mandated by law to report to federal organizations, such as the Mineral Management Services. If data is compromised or lost, this can result in serious complications. Furthermore, publicly-traded companies or those that conduct business with them have the added responsibility of complying with legislation such as Sarbanes-Oxley further increasing the risk.

In the end, adds Grinshtein, IT infrastructure is at the core of the digital paradigm shift in the oil and gas industry.

“For example, the increased demand for oil has organizations scrambling to redevelop old oilfields,” he notes. “This can comprise years’ worth of data. Companies are now housing thousands of different datasets, exponentially more than any other time in history. Each discipline within the organization – whether it’s a geophysicist or a drilling engineer - must have easy access to the data to efficiently process, manage and optimize it. The systemization of the data management process is crucial, and requires a sound IT infrastructure. In addition, improved communication between remote drilling locations and the office allow companies to more efficiently fix problems as they arise. “