BP: value from connectivity
Can seismic be improved?
Robots in the well
Paradigm upgrades its software

Oil and gas software company Paradigm has announced the launch of Rock & Fluid Canvas™ 2009, a major upgrade of its suite of software that integrates applications for geophysics, geology, petrophysics and drilling engineering.

The release has been in the making for about four years and has been designed to respond to the industry’s requirement to explore, develop, and produce in areas of increasing operational and technical complexity.

It includes upgrades to 15 of Paradigm’s “anchor” products and more than 100 add-ons and plug-ins. There are also enhancements to its infrastructure and interoperability framework (Epos™), enabling geoscientists to carry out multi-disciplinary and concurrent workflows.

“This will be the largest synchronized release of geosciences applications in Paradigm’s history,” says Duane Dopkin, Paradigm senior vice president of technology.

“The Rock and Fluid Canvas 2009 release provides geoscientists and engineers the ability to carry out advanced workflows without technology compromises”.

The new software moves towards a full client-server architecture with new and comprehensive data services for interpretation and project/survey data.

These services facilitate and stabilise the many data transactions that can take place when working with data at the project level and contribute substantially to the data management capabilities of the system.

The client-server architecture was also implemented so that the system can easily scale from laptop to high performance computing clusters, from small local operations to global enterprise deployments, and from prospect-scale to regional-scale investigations.

The services are complemented with many new data model extensions that facilitate multi-survey operations, data queries, and management of project and survey data.

In Rock & Fluid Canvas 2009 all interpretation data, vertical function data, and project/survey data are stored in SQLite repositories. These public domain, self-contained, hierarchical, and relational database engines are highly suited for exploration and production data transactions.

Optimized for each data type, the SQLite repositories are ideal for efficient handling and management of large numbers of files.

The release also introduces new data managers and applications (e.g. Web Asset Manager) for performing global queries on data distributed across multiple repositories and for assembling data from multiple surveys at the project level.

These infrastructure enhancements, in turn, enable geoscientists and engineers to optimize their work process across the entire exploration and production value chain.

Paradigm calls this cross-discipline enablement Higher Order Workflow (HOW), describing it as a “collective, knowledge-building process that reduces data loss or simplification.”

“Today’s geoscientists face exponentially larger datasets, increasingly complex geological structures, and complicated, integrated operations. Yet, they are being asked to handle all of this complexity in less time with fewer people, the company says.

“What was considered a ‘special project’ five years ago is now considered a routine project,” says Mr Dopkin. “Imaging seismic data in the presence of anisotropy, geosteering through naturally fractured reservoir formations, modelling large and complex salt structures, performing multi-azimuth AVO inversion and analysis, correlating hundreds or thousands of wells, and integrating and modelling electrofacies and seismic facies are handled quite efficiently in the Rock and Fluid Canvas 2009 release”.

Other themes of the Rock and Fluid Canvas 2009 release include “extending the reach” of seismic interpreters with common interfaces, common data managers, and common data models.

This theme has specific interest for SeisEarth, VoxelGeo, and Stratimagic users conducting regional to prospect scale interpretation projects.

The Rock and Fluid Canvas 2009 release also supports data connectivity between Paradigm interpretation and modeling solutions. This connectivity enhances workflows that move data between Epos data and Paradigm’s GOCAD and SKUA suites and was specifically targeted at making interpreters better modellers.

The release has practical uses for deployment and investigation throughout the life cycle of oil and gas fields, including opening of new plays to reversing production decline in mature fields.

“When some of the enhancements in seismic processing and imaging, AVO, and seismic inversion also should have a huge impact for unconventional plays including heavy oil and naturally-fractured gas reservoirs” said Mr. Dopkin.

The release has been vetted by Paradigm early access partners and is scheduled for general release in July 2009.