Next Generation Exploration, Development and Production Suite

Epos™ 4.0 offers collaborative visualization canvases, scalable subsurface modeling solutions, and high performance computing configurations. Its infrastructure enables geoscientists and engineers to carry out advanced exploration, development, and production projects using a diverse set of oil field data and applications for quality prospecting and field development.

A technology update by Paradigm

The oil and gas industry is hyper-competitive. Exploration costs are escalating, yet energy supply is critical to countries’ economic growth. The need for lower operating costs and recovery rate improvements is paramount for energy companies to achieve success in today’s volatile energy market. They must maximize daily production of existing fields, achieve reserve replacement goals, optimize use of fixed assets and minimize environmental impact, all to stay competitive.

New efficiencies are required to meet these challenges. Oil and gas companies seek exploration and development technologies that enable their geoscientists to collaborate and leverage all available data with streamlined interoperability.

Historically, software suppliers that owned the data by advancing
their monolithic data management solutions became the default suppliers of exploration, development, and production applications. In many cases, these “default” suppliers delivered less than satisfactory applications that have proven to be inadequate for taking on projects with operational and technical challenges.

Furthermore, their data management solutions have been slow to introduce new data models or data model extensions that better support the needs of the industry. This in turn, has eroded their capacity to deliver innovative solutions or multidisciplinary workflows to find new prospects and mitigate production decline in mature fields.

A more collaborative and flexible platform

Leveraging and optimizing technology and data is integral to advancing the practice of hydrocarbon detection and recovery. Geoscientists and engineers require open and scalable architecture for access to multi-vendor data and integrated applications.

The new Paradigm Rock & Fluid Canvas™ 2009 | Epos™ 4.0 software suite advances subsurface data management technology by delivering a multidisciplinary continuum of contractor-independent exploration and development solutions. Enabled by a rich and shared data model, it offers collaborative visualization canvases, scalable subsurface modeling solutions, and high performance computing configurations. Its infrastructure enables geoscientists and engineers to carry out advanced exploration, development, and production projects using a diverse set of oil field data and applications for quality prospecting and field development.

The Rock & Fluid Canvas 2009 suite includes a comprehensive set of applications covering the continuum of E&P processes. With Paradigm Rock & Fluid Canvas 2009, you can:

- Easily access and assemble data and carry out advanced exploration and development objectives requiring seismic processing and imaging, interpretation and modeling, reservoir characterization and engineering, or well planning and drilling engineering
- Reduce risk using automated processes that enable rapid, iterative, and information enriched updates
- Process data intuitively, progressively, and across disciplines
- Deliver fundamentals to high science workflows that provide more accurate depth positioning, prospect maps, and well plans— that is, fewer dry holes
- Optimize investment in data and technology through the Paradigm Higher Order Workflow™, a collective knowledge-building process that provides a “no compromise” platform with diagnostic outcomes and deliverables.

Infrastructure that enables unhindered data access

The Paradigm Epos 4.0 infrastructure offers open architecture with rich data access to conduct multi-site, multi-survey, and multi-user projects. Interoperability provides a scalable solution based on a distributed data model to support enterprise exploration, development, and production activities. Data is distributed across project data stores and corporate repositories and can include client supplied or internally supplied repositories.

Paradigm Epos 4.0 infrastructure delivers a full, client-server architecture with new and comprehensive interpretation and project/survey services to complement
existing well log and vertical function data services. These services facilitate and stabilize the many data transactions that can take place when working with a distributed data model and provide high levels of flexibility when working with data at the project level.

The platform also includes infrastructure changes specifically designed to enhance seismic processing to seismic imaging workflows, regional-to-prospect scale interpretation activities, and interpretation with modeling workflows.

A Higher Order Workflow™

Geoscientists perform workflows that routinely cross different E&P disciplines and are often carried out with many products from multiple suppliers or sources. The data they require or that is created also originates from multiple sources. This is time-consuming, and maintaining data integrity and consistency becomes extremely problematic. Paradigm Higher Order Workflow (H.O.W.) offers a pathway to solving complex subsurface problems by providing the open and fit-for-purpose geophysical, geological, petrophysical, and engineering solutions, without compromising project timelines. These advanced, subsurface processes are carried out on a common platform using shared data models with high levels of interactivity between our industry-leading software solutions.

With Paradigm H.O.W., you can:
- Reduce risk
  - Create a unified 2D/3D interpretation within a single canvas
  - Preserve complex data - no requirement for simplification
  - Incorporate seismic and electrofacies for a comprehensive reservoir description
  - Leverage simultaneous inversion using paleo-geochronological modeling
  - Perform angle domain decomposition and imaging
  - Model pore pressure using multiple sources of data
- Increase productivity
  - Auto-track for faults and horizons
  - Generate computer-assisted, sealed structural frameworks
  - Obtain automatic velocity and residual velocity determinations
  - Identify reflection surface for travel time tomography automatically
  - Integrate multidisciplinary subsurface applications in a common environment
  - Support workflow capture and data management tools
  - Produce interactive, sculpting workflows and flattening and opacity rendering

As with so many challenges, achieving the competitive advantage in exploration and development is independent upon leveraging all the available tools for providing the best information faster. dewjournal.com

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