DecisionSpace® Seismic Interpretation Software

OVERVIEW
The DecisionSpace® Seismic Interpretation component provides the core seismic interpretation workflows for mapping subsurface geology. The application provides the geophysical interpreter with full 2D/3D seismic interpretation workflows from basic visualization in multiple views to advanced multi-attribute analysis. The application includes robust horizon and fault interpretation for trap definition workflows along with amplitude extraction for fill prediction.

Final depth maps can be created confidently and updated throughout the project lifecycle based on DecisionSpace Geosciences software’s unique “geologic rules” interpretation workflows, such as time-depth conversion and Dynamic Frameworks to Fill® workflows. By providing enhanced access to log data and well picks compared to traditional seismic interpretation packages, interpreters quickly realize a geological perspective to their geophysical interpretation workflows. A powerful topology engine, shared between geophysical and geological workflows, enables geoscientists to build a sealed structural framework while they interpret. Creating presentation-quality contour maps becomes a byproduct of the sealed model without digitizing fault polygons. Advanced interpretation features include automated waveform tracking, multi-panel 2D and 3D displays with advanced seismic display properties, streamlined line-by-line horizon interpretation, fault picking, and increased quality control. In addition to fundamental geophysical interpretation tools, the software’s tight integration in the DecisionSpace Geosciences suite offers highly innovative workflows for integrating geo-referenced images and Esri® geographic information systems (GIS) data, 3D probes, and structural validation applied to unfaulting and flattening.

KEY BENEFITS
» Accurately map subsurface structures, identify traps
» Basin scale analysis to better understand play fairways and basin trends
» Accelerates interpretation and reduces rework
» Team collaboration to define the best hydrocarbon reservoirs

KEY FEATURES
» Horizon interpretation
» Fault interpretation
» Advanced auto-tracking
» ezValidator
» Dynamic time-depth conversion
» Dynamic Frameworks to Fill® technology
» Built on the DecisionSpace® platform

Figure 1: Powerful Fault QC display enabling more accurate and faster fault interpretation.

DecisionSpace Seismic Interpretation software is a component of the DecisionSpace Geosciences suite, a unified visualization, interpretation, and modeling workspace where asset teams can collaborate more effectively to evaluate and develop assets.
It delivers a true multi-user environment with unprecedented integration across cross-domain workflows and data types—all on the award-winning, information management foundation of OpenWorks® database.

**SYSTEM AND SOFTWARE**

**Operating Systems**

- Red Hat® Enterprise Linux® 6.9
- Red Hat® Enterprise Linux® 7.4
- Microsoft® Windows® 7, 64 bit
- Microsoft® Windows® 10, 64 bit

**Software Requirements**

- OpenWorks® 5000.10.6.0
- DecisionSpace® Base Module

**BENEFITS**

**Basin Scale Analysis to Better Understand Play Fairways and Basin Trends**
To capture the best acreage, interpreters need to understand the whole basin. Inherent in this big picture scenario is the ability to perform seismic interpretation at the continental scale. Built on the OpenWorks project data management database, DecisionSpace Seismic Interpretation excels for interpreting in large scale, complex 2D and 3D seismic projects with time and depth seismic of different vintages.

**Accelerates Interpretation and Reduces Rework**
Traditional framework building and mapping tools require a series of depth conversion and gridding steps for faults, well picks, and seismic horizons that quickly get out of date as new seismic data is acquired and wells are drilled. With Dynamic Frameworks to Fill workflows, the final map is tied to the original interpretation so it builds as you interpret horizons and faults, which helps the interpreter find errors in the interpretation much earlier in the cycle when they are easier to fix. Through dynamic time-to-depth conversion the seismic can be interpreted in time while the geologist works in depth and the software integrates them into the final result using conformance technology. This approach allows immediate updates as wells are drilled and seismic data is acquired or reprocessed.

DecisionSpace software enables cross-domain collaboration to optimize all phases of the seismic interpretation workflow, from basin analysis through 4D earth modeling to appraisal well planning and drilling. As you interpret, updates to interpretations are dynamically incorporated into the structural framework, enabling asset teams to quickly optimize, present, and defend technical analyses in complex environments.

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