Technology

Endeavor is built using the very best open source software, standard APIs and protocols, and object oriented design. Endeavor was designed and built with performance in mind. It uses specialized real-time charting software and highly optimized SQL statements and process flow.

Endeavor is a Java desktop application; it runs on virtually all workstations. This includes Windows XP, Vista, Windows 7, Max OS X, and Linux. Using Java enables Endeavor to leverage the use thousands of existing class libraries. This enables rapid application development and also application integration where needed.

All data is managed via relational database management systems. SQL Server, MySQL and Derby RDBMS are supported. Data may be on a workstation, file server, or Internet cloud. The benefits of using a RDBMS are numerous: improved collaboration, superior data access and searches, use of 100's of off-the-shelf applications and much more.

Endeavor is robust and fault tolerant. Database writes are encapsulated within transactions to ensure that the entire operation succeeds. Database connections are reconnected if lost.

Data Model and Applications

Data is organized in logical "folders" specifically tailored for well log data acquisition. These folders include: Database, Field, Well, Sidetrack (Lateral), Curveset (Log), and Curve. Applications include: Geosteering, Directional Survey Calculations (calculates TVD, Vertical Section), Curve resampling and fill missing, Curve smoothing, Curve Spreadsheet editor, and SQL command monitor.

Geosteering Application Features

In the Geosteer application, the geoscientist correlates well logs in order to locate geologic zones of interest. The GeoSteering apps has the following characteristics and features:

- Correlation controls are highly interactive with results shown in real time
- Controls include trial dips, fault throw, and analysis segment length
- Displays include charts for correlation and the resulting structure
- Multiple offsets can be used in correlation
- Offsets may be shifted vertically (to adjust for regional dip, etc.) or in LWD units (for visibility)

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- Multiple horizons (can be defined, computed and displayed in the correlation and structure charts
- Horizons are "pinned" (defined on) to a primary offset. If the primary offset is moved, the horizons move as well.
- Charts are resizeable, and zoomable to multiple levels. Interpreter has complete control of default dimensions and data ranges.
- Interpreter can specify the color, line width and line style for all curves.
- Charts may be annotated. Annotation controls include placement, font, color, border, etc.
- Select chart content (curves, horizons, annotations, etc.) may be hidden as needed..
- Charts may be printed or written to PDF files.
- Endeavor supports a variety of data formats commonly used in the industry and uses a specialized loader for loading and merging data in a single step.
- Supported input formats: LAS (versions 1.2, 2.0, 3.0), XLS (version 97-2003), and TXT (any free form text file with columnar data)
- Automatic merge when loading to existing dataset.
- Supported output formats: LAS (version 2.0), and XLS (version 97-2003)

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