qiWorkbench – an extensible open-source platform for seismic interpretation

Gil Hansen*, Gilbert.Hansen@bhpbilliton.com
Mike Glinsky, Michael.E.Glinsky@bhpBilliton.com

BHP Billiton Petroleum (Americas) Inc.

Abstract

BHP Billiton Petroleum is developing an extensible open-source geoscience workbench in Java called the qiWorkbench. The architecture supports multiple virtual desktops. Each desktop can have multiple interacting applications active at once where an application may be a 2D seismic viewer, a 3D seismic viewer, a Well Log viewer, client-side or server-side IO and job services, an XML editor, core plugins and commercial plugins. The software is freely available at qiworkbench.org.

The workbench comes with 4 core plugins: Amplitude Extraction, Wavelet Derivation, Delivery Lite and Spectral Decomposition. The workbench can be extended by 3rd party plugins. Such plugins can interact via commands with other active applications and build upon core IO and job services. The command set may be extended to accommodate new forms of interaction.

Seismic data and horizon data from multiple vendors is handled by defining a common seismic format (CSF) that components operate on. Transformation services are provided to convert vendor specific data formats to/from CSF. For example, the core Spectral Decomposition plugin operates transparently on Landmark SeisWorks data. The workbench can be extended to handle other vendor data formats by implementing additional transformation services as plugins.