DecisionSpace®
Automated Fault Interpretation

OVERVIEW
An integral part of geophysical workflows is fault interpretation. Yet, fault interpretation is a tedious, manual, and time-consuming process. Current interpretive tools rely entirely on the interpreter while only utilizing the data qualitatively as a backdrop or indirect guide. DecisionSpace® Automated Fault Interpretation is an optimal combination of interpreter and computer interaction engineered to pick faults faster and more accurately with less effort. It leverages two key differentiating cutting-edge algorithms. These provide the means to automatically interpret and study virtually all faults in a seismic volume and have the ability to adjust and improve the results in an efficient way. The first technology is based on the fault-oriented semblance, which creates fault attributes that are more continuous, resulting in significant improvement in fault detection. The second technology provides a unique and accurate way of correcting or snapping fault segments to raw seismic data. These technologies are integrated into automated and semi-automated fault-picking workflows to minimize the amount of picking required by users while simultaneously improving accuracy.

Figure 1: The automated fault interpretation workflow includes a combination of automated and manual tools to iteratively auto-track, filter, edit and grow faults for a complete fault interpretation solution.

BENEFITS
Shorter Fault Interpretation Cycle Time & Greater Accuracy with Larger Volumes

Today’s interpreter often has access to large amounts of high quality seismic data and is also facing greater pressure to interpret more data faster. The Automated Fault Interpretation technology improves efficiency through the automation of workflows and handling of large, multi-dimensional datasets to reduce interpretation cycle times and increase accuracy. What used to take weeks can now potentially be achieved in days. This reduction of interpretation time translates into significant cost

KEY BENEFITS
» Automatically interpret and study virtually all the faults in a seismic volume
» Provide tools to adjust and improve resulting faults
» Reduce fault interpretation time
» Reduce manual fault picking

KEY FEATURES
» Automated fault tracking volume
» Fault data analysis
» Grow Faults: semi-automated fault tracking on volume
» Fault editing toolbox
» Fault snap
DecisionSpace® Automated Fault Interpretation technology, an optimal combination of the interpreter and computer interaction, automates workflows and reduces interpretation cycle times while increasing accuracy. What used to take weeks can now potentially be achieved in days.

FEATURES

Automated fault tracking volume
DecisionSpace Automated Fault Interpretation uses new fault attributes to automatically track and improve faults within a volume.

Fault Data Analysis
Fault Data Analysis is a tool to use for analyzing and filtering the huge numbers of faults created by Volume Fault Interpretation. Users can interactively save faults to OpenWorks, create fault lists, plot histograms, and sort faults.

Grow faults: Semi-automated fault tracking on volume
This enables customers to combine their manual picks with the Automated Fault Interpretation attributes in a semi-automated workflow. Users can efficiently modify and improve the results of the fully automated workflow.

Fault editing toolbox
The fault editing toolbox provides geoscientists with the ability to manage the enormous number of faults created by this product. Users can trim, delete, merge, and re-rib faults.

Fault Snap
Fault Snap is a semi-automated fault segment picking tool that snaps segments to the fault. This patented technology provides a unique and accurate way of correcting or snapping segments to raw seismic data.

SYSTEM AND SOFTWARE

Operating Systems
» Microsoft® Windows® 7 Enterprise 64-bit with SP1
» Microsoft® Windows® Server 2008 R2
» Secondary: Microsoft® Windows® 10 Enterprise 64-bit
» Secondary: Microsoft® Server 2012 R2
» Red Hat® Enterprise Linux® (RHEL) 6.6 (64 bit)
» Secondary: Red Hat® Enterprise Linux® (RHEL) 6.4 (64 bit)
» Secondary: Red Hat® Enterprise Linux® (RHEL) 7.1 (64 bit)

System Requirements
» OpenWorks® 5000.10.6.x
» Oracle® 11.2.0.4
» Secondary: Oracle 12.1.0.2 (server only)