Future-proofing Seismic Libraries

Software provides solutions for recovering large datasets.

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Seismic data represents a valuable asset to oil and gas companies, national authorities, and suppliers of nonexclusive datasets. Field and processed data are held in a variety of formats and media, including hierarchical storage management (HSM) systems. Maintaining an accurate and reliable database is vital to enable users to know what data is available and to deliver the correct datasets in a timely manner.

Since its foundation in 1994, Troika International has been involved with several projects where databases have not matched library contents or data have been missing. The company has developed a range of software and automated procedures to efficiently trawl through data repositories, extract metadata and perform quality control (QC) of seismic data. It provides solutions to retrieve and repair legacy formats, merge and check navigation data, and visualize QC attributes. The company's Magma data recovery software has become the industry standard front-end solution for conditioning big datasets, including field, pre- and post-stack seismic for in-house or cloud computing and analytics. Solutions are also provided for remote robotic tape management and verifying datasets for workstation use.

Troika recently helped a major operator to automatically trawl through an HSM with approximately 700,000 record-oriented data encapsulation (RODE) format files, each containing multiple seismic volumes, text and other files. Meta-data were automatically extracted and ordered for comparison with the internal database and utilized to update information where appropriate. For older field formats such as SEG-A, SEG-B and SEG-C, software was provided to automatically demultiplex the files and convert them to SEG-Y, thereby making them immediately accessible to company geoscientists. The software can also identify duplicate data, enabling efficiencies in storage systems. Without the automated scanning solution, the operator would have had to analyze the RODE files one at a time, a job that would probably have taken several years. Using the automated solution, it was able to complete the work in about two months. For more information about future-proofing seismic data libraries, visit Troika International at booth 645. ■