The search and acquisition of oil is driven by many factors, such as economic development, population growth, and the energy needs for residential, industrial, and transportation uses. Success for oil producing companies is driven by the production rate of new discoveries and the ability to increase output from existing wells. High levels of successful oil drilling and production, however, come from the ability to gather, transfer, analyze, and protect data – across sites, across countries, across the world. Backing up and retaining all this data is equally critical.

Headquartered in San Ramon, CA, Chevron is the number three company on the Fortune 500 listing, with 2011 revenues exceeding $245B. Chevron has 60,000 global employees across hundreds of variably sized offices in more than 80 countries, with major locations in San Ramon, CA; Houston, TX; Aberdeen, Scotland; Perth, Australia; Lagos, Nigeria; and Luanda, Angola.

Customer Challenges

For oil and gas producing companies like Chevron, the ability to execute on a global scale brings with it significant challenges. Key to success, regardless of which physical challenge is rearing its head, is the capability to globally transfer and dissect data. This data, which consists of well information, depth variances, locations, etc., needs to be backed up and kept forever.

After collecting and storing years worth of this valuable seismic and geologic data, Chevron needed to be able to analyze that data. The data needed to be extracted from long term backups and analyzed to determine if the latest methods of material extraction would enable access to resources that were not practical when the surveys were done.

The historical data needed to be extracted in a way that was compatible with the seismic analytics solution that Chevron was using. Unfortunately, the data format that had originally been used to store the data was incompatible with the newer geologic analytics engine. Any solution would need to be able to both rehydrate the data from archive as well as to present the data in a format that is compatible with their analytics engine.

Rehydrating decades worth of data from backup, analyzing that data, and then restoring the data to archive was simply not a practical process given the volume of data involved. Chevron needed to find a new way to be able to extract value from their stored data.

Chevron Finds Data Recovery as Hard as Oil Recovery – Taps Panzura Controllers for Cloud-based Storage Solution

Customer Challenge

- Needed to access data stored on long term archive for analysis
- Rehydrated data required high performance NFS access
- Required secure data movement between sites

Solution

- Panzura Freedom NAS

Results

- Archive data could be restored and analyzed on demand
- High performance NFS access
- Data is protected with FIPS 140-2 compliant encryption

Vertical

- Oil & Gas
Chosen Solution

Chevron chose Panzura Freedom NAS to restore their archived data for active use. With Panzura Freedom NAS, all data is stored in the cloud as a single source of truth. Data is also cached locally for maximum performance. This allows Chevron to be able to access their archive data, process that data, and then act on it in a performant manner.

Results

Using Panzura Freedom NAS, Chevron is able to rehydrate their archive backups. This enables them to pull data from archive on demand to perform real-time data analytics. Chevron can then analyze the data to determine where to drill, the volume of material they can expect to extract, and the effort that will be required to extract those resources. This dramatically increases their ability to reliably develop new sites and to extract value from their efforts.

Freedom NAS presents as an NFS mount so that as archive data is rehydrated, it appears as if it is on local NAS storage. This enables the data to be directly exported to the seismic analytics engine, enabling native access and processing of data.

Data is securely transmitted between Chevron and the seismic analytics engine. Freedom NAS uses FIPS 140-2 compliant encryption. Data at rest is protected through AES 256-bit encryption and data in flight uses TLS 1.2 protection. Further, before data is sent over the wire, it is deduplicated and compressed, providing an additional layer of obfuscation.

As a result, Chevron is able to make timely decisions based on both current and historical analysis of data. This dramatically increases the likelihood of successfully extracting the greatest value from existing resource sites.