



## GEOFIZYKA KRAKOW

Geofizyka Krakow, part of the Polish Oil & Gas Company Group (PGNiG), helps major energy exploration and production companies successfully explore hydrocarbon and geothermal water deposits, as well as monitor natural resource reservoirs throughout the world. Established in 1956, the company specializes in seismic data acquisition, processing and interpretation, well logging, and vertical seismic processing (VSP) services from its headquarters in Krakow, Poland.

*“Since deploying the Panasas parallel storage solution, I’ve found our overall IT workflow to be much more manageable. Furthermore, our geophysicists are no longer frustrated as they are experiencing a much quicker turnaround on their seismic processing jobs.”*  
Leszek Boryczko, Computer Systems Manager at Geofizyka Krakow

### The Challenge

Geofizyka Krakow’s customers rely on the critical data they receive from the company to be competitive in a very demanding industry. Supplying accurate data quickly results in a business win for both Geofizyka Krakow and their customers. The company’s field seismic crews regularly transfer large quantities of seismic survey data to its IT Center. Seismic processing software algorithms, using WesternGeco’s OMEGA SPS application, are applied to these very large data files ranging up to hundreds of GBs (Gigabytes) and form image files that represent geological layers and structures. The company’s geophysicists interpret this data and deliver their findings to its customers to locate new oil and gas reserves or to maximize production from existing wells.

In order to maximize productivity, the IT centre runs several independent seismic processing jobs simultaneously. Some of these jobs are I/O intensive, and in many cases, a single I/O intensive job negatively affected all jobs competing for the same storage array, thus affecting the overall production levels within the IT centre. It became clear that they needed a storage solution that could handle their diverse workload yet retain management simplicity.

Their previous storage solution was based on two independent NFS-based storage arrays, networked attached to two independent IBM clusters that provided a serial I/O connection from the compute solution to the storage. With multiple jobs running simultaneously on the compute cluster and each job competing for the serial I/O bandwidth, the solution was easily overwhelmed as soon as I/O intensive jobs were executed.

### The Solution

Geofizyka Krakow sought a solution that could integrate into their existing environment and handle I/O intensive workloads without increasing the management complexity and the personnel required to maintain a high level of production.

### SUMMARY

**Industry: Oil and Gas**

■ **The Challenge:**

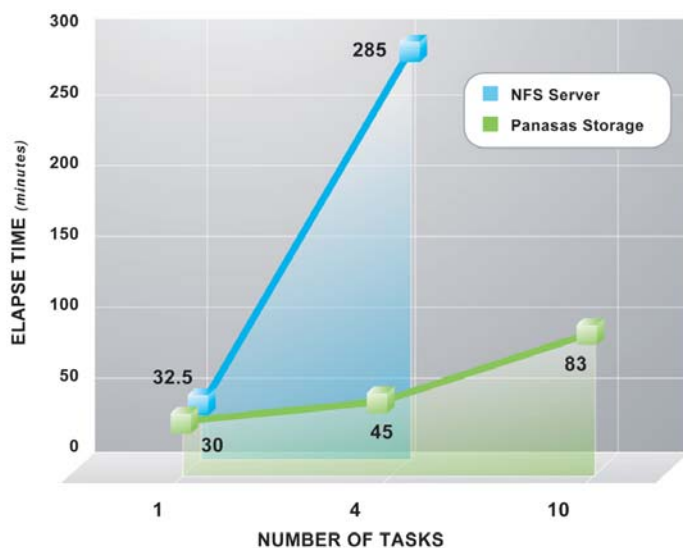
Provide an IT storage solution that can manage the company’s demanding computing workload while retaining management simplicity.

**The Solution:**

- Panasas ActiveStor AS3000 system with the ActiveScale® Operating Environment that includes Panasas PanFS™ parallel file system with the DirectFLOW® protocol.

**The Result:**

- Up to 6X faster completion of seismic processing jobs
- A boost in productivity for the company’s geophysicists, increased job iterations and improved image results
- Improved service to the company’s clients that increases the likelihood of them locating new energy reserves and/or maximizing returns from existing wells.



Having defined that the weak point within their existing environment was the way that their storage solution handled multiple, simultaneous I/O operations, they decided to investigate solutions that could scale the number of concurrent I/O operations without negative affect on overall job performance. Geofizyka Krakow evaluated a Panasas AS3000 ActiveStor parallel storage solution and test results proved to be extremely positive.

They found that the Panasas PanFS parallel file-system allowed them to significantly improve their job performance by up to six-times when running multiple jobs simultaneously.

The Panasas parallel storage solution is based on the patented object-based PanFS™ parallel file system that enables customers to maximize application and workflow performance. The solution provides each individual node within a compute cluster with direct access to the

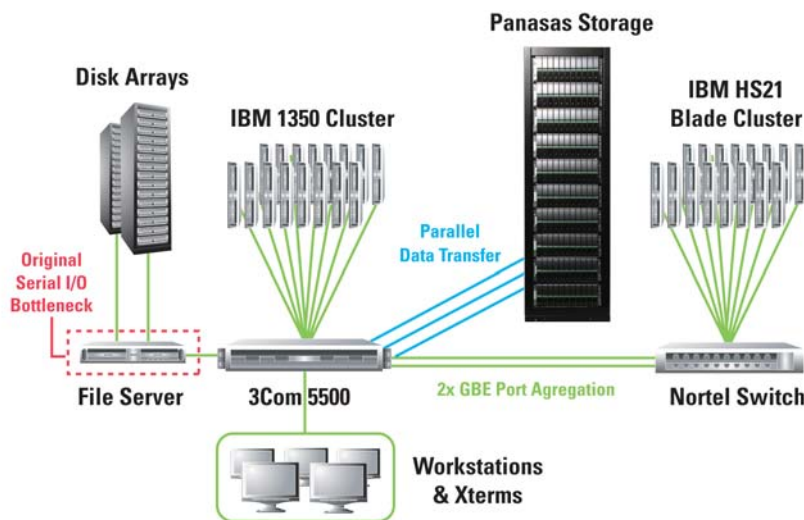
storage, allowing each node to handle I/O operations simultaneously in parallel. A single global namespace dramatically simplifies storage management to improve IT productivity and the ability to perform more work. By offering Oil & Gas users a unified storage solution for seismic processing, reservoir modelling, and seismic interpretation applications, as well as primary and secondary storage solutions, Panasas parallel storage is unique in the industry for its ability to streamline over-all workflow processes and improve data availability.

**The Result**

Geofizyka Krakow is completing seismic processing jobs up to six times faster. This performance boost positively impacts its geophysicists' productivity by providing faster results and the opportunity to run more job iterations for improved imaging results. Ultimately the deployment of Panasas parallel storage also benefits Geofizyka Krakow's Oil and Gas customers' exploration efforts by providing faster project turn-around with high-quality results that will help them locate energy reserves faster.

"Before we deployed the Panasas AS3000, I routinely received calls from our geophysicists because they were frustrated with waiting for the results of seismic processing jobs," said Leszek Boryczko, computer systems manager at Geofizyka Krakow. "Since deploying the Panasas parallel storage solution, I've found our overall IT workflow to be much more manageable. Furthermore, our geophysicists are much more productive as they are experiencing a much quicker turnaround on their seismic processing jobs and we are able to deliver faster and more accurate results to our customers."

**GEOFIZYKA KRAKOW NETWORK INFRASTRUCTURE WITH PANASAS STORAGE**



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