

GEOPHYSICAL DEVELOPMENT CORPORATION

THE CUSTOMER

During the past 20 years, Geophysical Development Corporation (GDC) has grown into a leading provider of global solutions in seismic data processing and exploration services. Renowned for its pioneering work in 3D AVO, difficult topographic problems and rock properties studies, GDC offers a world-class suite of seismic processing capabilities and exploration service solutions. GDC believes that continued innovation is the foundation for increasing efficiency and reducing risk in the exploration and development of hydrocarbon reserves. GDC uses technology based on industry standard platforms to deliver the performance and scalability necessary to address their clients' largest and most difficult projects.

THE CHALLENGE

GDC recently deployed a Linux cluster and looked for a high performance storage solution to complement their new purchase. Previously, GDC was dependent upon a direct attached solution that was often difficult to manage and unable to deliver consistent performance. The company needed a system that provided strong performance in both data bandwidth and random I/O. "Our application suite places a great deal of pressure on the storage system," said Richard Verm, Vice President of Research and Technology at GDC. "Our storage solution needs to deliver excellent performance in both data bandwidth and random I/O."

System installation and management also became important criteria. Direct attach storage led to significant management issues as the capacity scaled. Managing multiple mount points and discrete storage systems became increasingly distracting for system administrators. Ideally, GDC was looking for a single console to manage all of their cluster storage. Since time was of the essence, the solution needed to work out of the box. GDC did not have the time or the technical resources necessary to explore integrating different hardware and software solutions. "We are running a production environment, we don't have time for complicated implementations," said



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Industry: Oil and Gas

The Challenge:

To deliver fast and accurate seismic data to their global customers exploring and developing hydrocarbon reserves. This company required a new storage system to maximize the compute power of their Linux cluster.

Panasas Solution:

The fully integrated software/hardware solution included the Panasas® ActiveScale® Operating Environment and the PanFS™ parallel file system with the Panasas DirectFLOW® protocol.

Key Results:

- 10X Performance improvement
- Ease of integration
- Simplified cluster management
- Maximized productivity of clustered environment

Verm. Finally, the solution needed to be dense, as floor space was a premium in the GDC data center.

THE SOLUTION

GDC purchased the Panasas® Parallel Storage Cluster for its ability to deliver exceptional processing performance in an integrated solution that is easy to deploy and manage. After quickly deploying the Panasas Parallel Storage Cluster, GDC's performance immediately increased. "The Panasas Storage Cluster stood out with its ability to deliver exceptional performance in both data

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VP of Research & Technology
GDC



bandwidth and random I/O,” said Verm. “Most companies excel in one performance criteria or another, but Panasas does both.” Panasas combines a next-generation, distributed file system with a hardware solution that is perfectly tuned to deliver outstanding performance. The Panasas Storage Cluster also delivers near linear scaling in performance with increases in capacity.

Although GDC explored the option of purchasing a stand-alone file system to work with existing hardware, they quickly realized that deploying a non-integrated solution would require extensive setup and testing time. More importantly, the solution would simply not have the performance capabilities delivered by Panasas. “We looked at other solutions, but Panasas was by far the easiest to deploy,” said Verm. By purchasing the Panasas Parallel Storage Cluster, GDC leveraged a distributed file system without the hassle of integrating it with an existing hardware architecture.

THE VALUE

By utilizing the performance capabilities of the Panasas Storage Cluster, GDC is able to deliver results to their customers faster. “We are all about exceeding our customer’s expectations and Panasas helps us do that,” said Verm. “Panasas has allowed us to speed our processing capabilities by a factor of 10.” In addition to consistent performance improvements, GDC is confident in knowing that as their cluster storage grows, the Panasas Storage Cluster has the capability to scale within a single namespace to meet their long-term capacity and management needs. In fact, GDC knows as the system scales in capacity, overall performance will improve. “We’re confident in knowing that not only will the Panasas system grow to meet our capacity requirements, but we’ll get a boost in performance as well,” said Verm.

Performance is not the only benefit achieved by the Panasas Storage Cluster deployment. Equally as important is the ease in which the system installed into GDC’s existing environment. “It is great to manage our entire cluster storage via a single console,” said Verm. “It frees our administrators to work on creating additional customer value.”

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6520 Kaiser Drive Fremont, California 94555 Phone: 1-888-PANASAS Fax: 510-608-4798 www.panasas.com
1-888-PANASAS (US & Canada) 00 (800) PANASAS2 (UK & France) 00 (800) 787-702 (Italy) +001 (510) 608-7790 (All Other Countries)

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