Customer Success Story

TGS Imaging

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TGS is a leading global provider of non-exclusive seismic data and associated products to the oil and gas industry. Oil companies use this seismic data to explore and develop oil and gas deposits. TGS specializes in the planning, acquisition, processing, interpretation, and marketing of non-exclusive surveys worldwide. The company places a strong emphasis on providing high quality seismic data and the highest level of service to the industry. To improve data reliability and time-to-solution, the TGS team is constantly evaluating emerging technologies in order to improve the speed and accuracy of results for their customers.

SUMMARY

Industry:
Oil and Gas

THE CHALLENGE

To deliver fast and accurate seismic data to their global customers exploring and developing oil and gas deposits. This company required a new storage system to maximize the compute power of their Linux cluster. Their business-critical requirements included a solution that would seamlessly integrate into their infrastructure and was cost effective in both time and money.

THE SOLUTION

Grew from 25TB to 475TB of Panasas ActiveStor™ scale-out NAS appliances, featuring the PanFS™ parallel file system and DirectFlow® protocol

THE RESULT

Maximized ROI of computing environment with:

- A 10X improvement in application performance
- Maintained balanced scaling by ensuring bandwidth increases as capacity is added
- Reduced costs with seamless integration into existing infrastructure and networks

The Challenge

In an effort to increase compute performance and reduce overall costs, TGS transitioned from proprietary UNIX-based servers to a more powerful and cost-effective Linux compute cluster. While this improved the compute power for TGS, the company struggled to find a way to store and retrieve data in a massively parallel fashion in order to take full advantage of the powerful new Linux cluster. "With our Linux cluster, we were able to achieve exceptional compute power," said Tony Katz, IT Manager at TGS. "But we needed a high performance storage system to maximize its capabilities." TGS was interested in finding a solution that could seamlessly integrate into their infrastructure and would be easy to manage. "Finding an integrated hardware and software solution is absolutely critical to our business," Katz said. "We do not want to spend the extra time and money to integrate solutions in-house. We want something that works reliably out of the box." Finally, the system needed to be cost-effective, allowing TGS to be more competitive in an increasingly cost-conscious market.

In short, TGS was looking for an integrated storage solution that combined a parallel clustered file system with a cost-effective hardware design to provide a scalable high-performance system that was easy to manage. Previously, the company was mounting NFS to standard direct attached disks that would sit behind the nodes in their cluster. This solution suffered from limited bandwidth performance, and difficulty in scaling data and the number of clients. When additional clients were added, bandwidth suffered further. The company explored a Fibre Channel SAN solution, but while offering some performance improvements, integration and system management proved too complex and costly.

The Solution

TGS selected Panasas ActiveStor because it combined the PanFS parallel file system with intelligent hardware to deliver a high-performance, cost-effective, fully integrated storage solution ideal for its Linux compute cluster. TGS's cluster consists of a large number of nodes that are allocated on a continual basis in order to dedicate the

appropriate compute power to complete a job. Behind the clusters are 475 terabytes (TBs) of Panasas storage. The distributed nature of the Panasas architecture allows each of the nodes in the clusters to store and retrieve data in a massively parallel fashion.

TGS now has a system that can scale in capacity as well as performance in a single namespace. The system has the ability to handle hundreds of clients connected to a single system without sacrificing performance. While other solutions lose performance when they scale the number of clients or disks, Panasas storagehas the capability to actually increase performance and client scale with system capacity. The ability to simultaneously scale capacity, clients AND throughput is a major breakthrough in storage system technology. While the system still appears local to all of the nodes in the system, the storage network is consolidated into a single seamless namespace.

The Result

With Panasas ActiveStor, TGS is now able to analyze seismic data sets much faster. By delivering a complete SW/HW storage solution built on a parallel file system, Panasas storage allows TGS to garner more than a 10X improvement in performance over their previous NFS solution. “We are extremely pleased with the performance gains achieved by the Panasas system,” said Katz. The Panasas system effectively scales both clients and storage to provide TGS ultimate flexibility in deploying resources necessary to manage multiple jobs. The complete solution from Panasas eliminates integration hassles and guarantees streamlined management, both today and in the future.

Finally, since Panasas storage is built from industry standard components, TGS has a system that provides them exceptional price-performance. “With other products, we were forced to make trade-offs, but with the Panasas system, we were able to get a complete package of everything we needed,” said Katz. “Plus the service and support we receive from Panasas is exceptional. We certainly see their technology and support as a key asset to our organization.”

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