

Sun's Seismic Data Processing Solution Technology that's ahead of the curve

Highlights

Open

Using industry standard components and Open Source software, the Sun Compute Cluster for Research enables you to run a broad set of scientific and engineering applications

Simple

Easy to configure and fast to deploy, The Sun Compute Cluster for Research gets you up and running in days not weeks

Scalable

Built to scale using standard interfaces, off-the-shelf components and a flexible configuration, the system is easy to adapt and scale as needs change. Increase computational power as required

Reliable

High quality, reduced risk – Reduce installation issues by leveraging Sun's enterprise-class factory testing and real-world experience in cluster and high performance computing projects

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> Keeping up with the data volume

The Seismic Data Processing requirement is underserved by today's IT technology. Moore's law just doesn't cut it in this industry! The need to scale up for massive growth in compute capability, I/O and data storage is a big challenge especially when constrained by physical and budgetary limitations. Many Upstream datacenters simply do not have the space or power to meet future requirements.

Oil and Gas companies need a High Performance Computing solution that can scale with the rapidly increasing volumes of data to be processed and stored yet take up less space, use less power and cost less to cool and manage.

The Solution

Finally, there is another way. Sun has developed a Seismic Data Processing Solution specifically designed to meet the needs of today's oil and gas companies.

Understanding that the biggest challenge in Seismic Data Processing is the large volumes of data needing to be processed and analyzed, Sun's Seismic Data Processing solution allows you to get more value from your investment, increase productivity, reduce project cycle times and lower the risk. There is now a solution that maximizes throughput performance, saves space with dense storage and requires less cooling — Sun Seismic Data Processing Solution.

Design innovation and the incorporation of the latest advances in cluster technology has enabled Sun to develop a solution that delivers the best of all worlds — performance,

low cost, density, and environmental efficiency. Sun's Cluster technology is the best in class and provides the dual socket, multi core, racked systems with faster I/O and the dense storage solutions you need to perform. Using Sun's Lustre™ file system together with Sun's storage to build high performance compute systems allows you to handle the rapidly growing and difficult to predict data volumes which have resulted from new and advanced seismic data collection techniques. Lustre provides a way to easily scale the number of cluster nodes on a single file system, improving performance and reducing cost.

Sun's Seismic Data Processing solution prevents bottlenecks and has all the data processing power and data management efficiency to meet today's requirements and scale to meet future requirements.

Unique storage architecture

The Sun Storage and Archive Solution for HPC enables you to manage the balance between high-performance access to your data when needed and cost effective, lower-performance storage for large amounts of data over the long term. Built with an open storage architecture that supports multiple storage tiers, the solution provides high-performance storage for current use, bulk disk storage for low-performance needs, and long-term storage on power-efficient tape for data requiring only occasional access.

Every one would like to have all their data on Tier 1 storage but it is just too costly so you need a multi tiered solution that is fast, secure and affordable. Open storage solutions from Sun combine open-source software with industry-standard system components, allowing high-performance, secure storage solutions to be deployed for as little as one-tenth the cost of closed systems. Datacenters can avoid vendor lock-in, mix and match components, integrate the latest hardware and software functionality, and drive storage performance and scalability to the upper limit of available technology.

Sun's Lustre File System

Sun's Lustre file system redefines I/O performance and scalability standards for the world's largest and most complex computing environments. Ideally suited for data-intensive applications that require the highest possible I/O performance, Lustre is an object-based cluster file system that scales to tens of thousands of nodes and petabytes of storage with groundbreaking I/O and metadata throughput.

The highly scalable and distributed Lustre file system combines open standards, the Linux operating system, an open network API, and innovative protocols. Together, these elements create the world's largest "network-neutral" data storage and retrieval system.

Applying intelligence throughout its architecture, the Lustre file system turns commodity hardware into smart storage devices that manage data objects. The objects are dynamically horizontally across the servers, shattering the performance limitations of traditional storage systems.

The Bottom Line

Sun's solution for Seismic Data Processing is a cluster of low cost computing systems using parallel processing. Sun's dual socket, multi core servers (small enough to fit in a pizza box) racked with dense storage, fast interconnects and blades to give you the best in class High Performance Compute Cluster solution in the industry.

Increase your productivity by reducing project life cycle by up to 40% utilizing your current cost, space and power budget — no more. Performance, cost, density and environmental efficiency are all benefits of Sun's Seismic Data Processing Solution.

Learn more about what Sun's Seismic Data Processing Solution can do for your organization today.

> Visit us at sun.com/energy

Lustre Highlights

Unparalleled scalability: Employs an object-based storage architecture that scales to tens of thousands of clients and petabytes of data — a file system virtually without limits

Reliable: Deployed in production on many large and small clusters, meeting the uptime requirements of business and national security applications

Proven performance: Delivers dramatic increases in throughput and I/O by intelligent serialization and separation of metadata operations from data manipulation

Cost effective: Significantly reduces deployment and support costs through support for industry-standard platforms and heterogeneous networking environments

Open source, open standards: Developed and maintained as open source software with an open networking protocol and POSIX file system semantics, ensuring broad support for industry-standard platforms and heterogeneous networking environments

