

SOLUTION BRIEF

Unleashing the Performance & Scalability of Lustre for HPC Workloads and Big Data Applications

Today, HPC is a key technology for enterprises of all sizes. Getting maximum performance from HPC and dataintensive applications is a necessity that requires storage infrastructure that scales endlessly and delivers unmatched I/O levels. RAID Inc. unleashes the performance and scalability of the Lustre parallel file system for HPC workloads, including technical big data applications.

Considered the best file system for storage by many, Lustre is a high-performance storage architecture best known for powering seven of the ten largest HPC clusters in the world. In fact, it's the most widely used file system in the Top 500 HPC sites in the world and can scale to many petabytes of storage while supporting tens of thousands of clients. The central component of this powerful storage architecture is the Lustre file system, which is currently available for Linux, providing a POSIX-compliant UNIX[®] file system interface. The Lustre file system is a parallel file system used in a wide range of HPC and enterprise environments that are creating, analyzing and storing more data than ever before.

Performance

Lustre software has been designed to enable fully parallel I/O throughput across thousands of clients, servers, and storage devices. Metadata and data are stored on separate

servers to allow optimization of each system for the different workloads they present. Improved metadata scalability using Distributed Namespace (DNE) feature is now integrated in Lustre. Lustre can also scale down efficiently to provide fast parallel storage for smaller organizations.

Capacity

The object-based storage architecture of Lustre software can scale to tens of thousands of clients and petabytes of data.

Affordability

Lustre software is based on the community release of Lustre software, and is hardware, server, and network fabric neutral. Enterprises can scale their storage deployments horizontally yet continue to have simple-tomanage storage.

Maturity

Lustre has been in use in the world's largest datacenters for over a decade and hardened in the harshest big data environments. Lustre software is rigorously tested, reliable, and backed by Whamcloud, the leading provider of technical support for Lustre software. Lustre software delivers commercial-ready Lustre in a package that can scale efficiently both up and down to suit your business workloads, with built-in manageability.

Benefits

- Scalability. Scales to tens of petabytes and thousands of clients

 a high performance file system virtually without limits.
- Reliability. Deployed in production on many large and small clusters, meeting uptime requirements of business and national security applications.
- High Availability. Lustre file system high availability features include a robust failover and recovery mechanism, making server failures and reboots transparent.
- Cost Effective. Significantly reduces deployment and support costs through support for industry-standard platforms end heterogeneous networking environments.
- Open Source. Developed and maintained as open source software with an open networking protocol and POSIX file system semantics, ensuring broad support for industrystandard platforms and heterogeneous networking environments.



RAIDINC.COM | 800.330.7335

RAID Inc. was founded in 1994 to deliver high-performance storage solutions. The company has earned industry praise for providing platform agnostic technical guidance in high performance computing (HPC), big data, cloud and software-defined data centers—in the most efficient, reliable and cost-effective manner. The world's leading research facilities, government, life science, financial, healthcare, energy, and cloud service providers leverage our team of engineers' extensive academic, research lab and commercial expertise that makes RAID Inc. a trusted industry leader. For more information, visit our website www.raidinc.com or call 1.800.330.7335.

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