

Cray® ClusterStor™ L300 Storage System

Engineered to meet productivity-critical HPC data storage requirements, the Cray® ClusterStor™ L300 storage system provides unmatched performance, efficiency, reliability and support for the Lustre® file system user community. The ClusterStor L300 engineered solution utilizes a holistic and vigorous integration and test validation process of the Lustre file system. ClusterStor storage enclosures feature “cluster in a box” integration of dual high-availability object storage, metadata and management servers that are monitored and managed by the ClusterStor Manager software stack, eliminating single points of failure and optimizing system availability and productivity. This engineered solution approach at the component level creates modular building blocks for granular performance and capacity scalability while containing and managing system availability across the storage cluster.

The modular building blocks are architected at the system level and integrated at the rack level to eliminate single points of failure, provide high-availability monitoring and seamless failover and fail back, and reduce time to deployment. The ClusterStor L300 solution is rack-level preconfigured and assembled. Additionally, Cray provides the highest system-level integration and device-level reliability by running rigorous component, system and manufacturing test cycles, ensuring the best performance and out-of-the-box-to-production results.

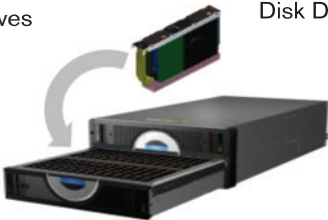
The ClusterStor L300 storage solution provides over 1 TB/s file system performance and reduces datacenter floor space, power, cooling and administrative costs. This enables customers to reach maximum sustained application performance at the lowest total cost of ownership (TCO) possible. The ClusterStor solution provides a wide range of service and support options with a single source for end-to-end solution support.



Cray ClusterStor L300 Storage System

HPC
Optimized Disk
Drives

Highest Performance
Efficiency per
Disk Drive

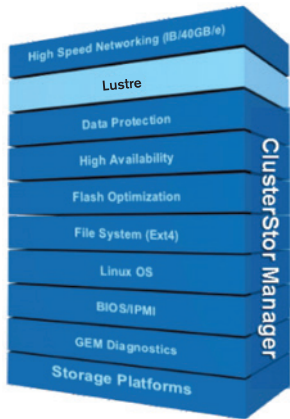


High Density Enclosures

Scalable Storage Unit (SSU)

- Up to 63 (=7 x 9) GB/s bandwidth performance per rack
- No single points of failure — enables high system-level productivity
- ClusterStor GridRAID — declustered RAID enables faster disk rebuild maximizing system productivity
- Delivered preconfigured and tested — enables faster time to production and enhances long-term reliability
- Investment protection — add performance and capacity to existing system
- Scalable metadata performance — Lustre Distributed Namespace (DNE) support of up to 18 metadata servers per file system
- High productivity manageability — seamless integration, monitoring and reporting of key hardware and software elements to ensure high-availability data access and performance

Cray® ClusterStor™ L300 Storage System

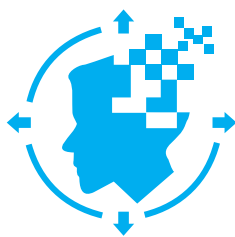


The ClusterStor L300 Complete Stack Delivers:

- High-performance storage for productivity-critical commercial, government, academic and technical computing data capture and analytic applications
- Proven success with over 1 TB/s file system performance in a single global namespace in commercial and technical computing markets
- Robust, enterprise-ready features and management tools already proven in many commercial application environments
- Cray disk drives, disk enclosures, object storage, metadata and management servers, solution integration, system validation test and field support
- Single management system that allows you to control the complete hardware and software solution
- Cray expertise as the only vendor to build and support an end-to-end solution for the Lustre file system community

Cray ClusterStor Benefits

Maximize Value with Cray Expertise



Professional Services

TIME TO VALUE

Strategic consulting, solution design, implementation and migration



Education Services

DEVELOP IN-HOUSE EXPERTISE

Develop your team's skills and expertise to optimize your investment



Support Services

EXPERT HELP

Support from trusted experts, with SLAs that meet your critical business needs

Cray® ClusterStor™ L300 Storage System

Specifications	
General Information	
Parallel File System Performance	Up to 54 (=6 x 9) GB/s bandwidth performance per 42RU height base rack* Up to 63 (=7 x 9) GB/s bandwidth performance per 42RU height base rack*
File System Capacity (raw)	Up to 3,936 TB per base rack using 8TB SAS HDDs Up to 4,592 TB per expansion rack using 8TB SAS HDDs
Scalable Storage Unit (SSU)	Up to 6 in base rack (first) Up to 7 in storage base racks (second and greater)
Object Storage Servers	Up to 12 in base rack (first) Up to 14 in storage expansion racks (second and greater)
Meta Data Management Unit (MMU)	Base Configuration; High availability server pair 2U24 drive enclosure Expansion Option; Up to 8 2U24 MMUs (16 DNE servers) configured with the Lustre 2.5 Distributed Namespace (DNE) functionality
System Management Unit (SMU)	High availability server pair 2U24 drive enclosure
Client Access	InfiniBand EDR, FDR, QDR Ethernet 40/100
Management Network	1 Gigabit Ethernet (dual management network with high availability failover)
File System	Lustre 2.7 + supported enhancements
Maximum nodes	Lustre 2.7 - up to 16 billion (requires optional distributed namespace servers)
Drive Configurations	
Scalable Storage Unit Drive Configuration	2 SSDs, RAID 1, 1+1 82 HDDs, 3.5" 7.2K RPM with ClusterStor GridRAID
Expansion Storage Unit Drive Configuration	82 HDDs, 3.5" 7.2K RPM with ClusterStor GridRAID
Meta Data Management Unit (MMU)	22 HDDs, 2.5" 10K RPM, 5+5
System Management Unit (SMU)	7 HDDs, 2.5" 10K RPM, 1+1 & 2+2, 1 Spare 5 HDDs, 2.5" 15K RPM, 1+1 x2, 1 Spare
<p>Disk enclosures 80 PLUS® Gold Certified power efficiency with adaptive cooling, or option for 90 PLUS® Platinum Certified power efficiency with adaptive cooling technology. Cray is registered through BSI to the international standard for environmental management systems ISO 14001:2004 and holds certificates for each of its three manufacturing locations at Havant UK, Guadalajara Mexico and Seremban Malaysia.</p> <p>(1) Product availability and specifications subject to change. Consult your authorized ClusterStor reseller partner or ClusterStor Sales representative for details. (2) Rack configuration attributes above provide a representative example.</p>	

Take the Next Step: [To learn more about ClusterStor Storage Systems and Solutions, visit www.cray.com/products/storage/clusterstor](http://www.cray.com/products/storage/clusterstor)