



# CRAY CLUSTERSTOR E1000 STORAGE SYSTEMS

## Cray ClusterStor Storage Systems



### WHAT'S NEW

- Up to 30/30 GB/sec Read/Write aggregate file system throughput from 212 7.2K RPM SAS HDD in a 10 rack unit form factor.
- Up to 80/50 GB/sec Read/Write aggregate file system throughput from 24 NVMe Gen4 SSD in a 2 rack unit form factor.
- More than one terabyte per second aggregate file system performance in a

### OVERVIEW

Is your storage slowing down your HPC compute cluster?

The Cray ClusterStor E1000 Storage System is purpose-engineered to meet the demanding input/output requirements of supercomputers and HPC clusters in a very efficient way. The E1000 parallel storage solution typically achieves the given HPC storage performance requirements, significantly reducing the number of storage drives. That means HPC users with a fixed budget for the HPC system can spend more of their budget on

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single rack.

- More than 10 petabyte usable storage capacity in a single rack.
- Attaches to any supercomputer or HPC cluster that supports either 200 Gbps HPE Slingshot or HDR/EDR InfiniBand or 200/100 Gigabit Ethernet.
- In-house, enterprise-grade support for performance-accelerating features like Data on Metadata (DoM) Targets, Progressive File Layout (PFL), Multi-Rail LNet, and many more.

CPU/GPU compute nodes, accelerating time-to-insight. The E1000 Storage System embeds the open-source parallel file system Lustre® to deliver this efficient performance. Hewlett Packard Enterprise provides enterprise-grade customer support in-house for Lustre that scales out (nearly) linearly, without software licensing for the file system per terabyte capacity or per storage drive. This allows customers to reap the benefits of the open-source movement while getting enterprise-grade support.

## FEATURES

### Performance Efficiency

The Cray ClusterStor E1000 Storage System uses purpose-engineered NVMe PCIe 4.0 storage controllers that can extract more performance from the deployed storage drives than other storage solution. That means less enclosures, less racks, and less power/floor space consumption.

With up to 80/50 Read/Write aggregate file system throughput from 24 NVMe Gen 4 SSD in a 2 rack unit form factor with the Scalable Storage Unit SSU-F, the E1000 storage system provides a very efficient way to deliver 80/50 GB/sec to your compute nodes from just 24 SSDs.

Up to 30/30 Read/Write aggregate file system throughput from 212 7.2K RPM SAS HDD in a 10 rack unit form factor with the Scalable Storage Unit SSU-D2. A very cost-effective way to deliver 30 GB/sec from just 212 HDDs to your compute nodes.

Up to 24/24 Read/Write aggregate file system throughput from 186 7.2K RPM SAS HDD in a 12 rack unit form factor with the Scalable Storage Unit SSU-M2. A datacenter friendly way to deliver 24 GB/sec from just 186 HDDs to your compute nodes.

Due to the open-source parallel file system, no license charges are incurred for the file system per terabyte capacity or per storage drive. This enables you to remove software audit risk and cope with the constant growth in required capacity without exploding software licensing costs.

### Reduce Complexity

The Cray ClusterStor E1000 storage system ships to the customer as a fully integrated Lustre storage solution after being soak-tested in the factory, decreasing the time to results.

ClusterStor Manager is a single-system image management within the system management application that is provided with every system at no additional charge, allowing you to monitor and manage the different components of a Lustre storage system from a single pane of glass.

Users of supercomputers and HPC clusters from Hewlett Packard Enterprise now can get enterprise-grade support for their whole mission- or business-critical system (HPC compute and HPC storage) with one number to call, without the typical finger pointing of different vendors during issue resolution.



### **Flexibility and Choice**

The Cray ClusterStor E1000 storage system attaches to every HPC compute system of any HPC compute vendor as long as the compute system supports either HPE Slingshot, HDR/EDR InfiniBand, or 200/100 Gigabit Ethernet, enabling the deployment of one shared storage system for all HPC clusters.

Mix and match both all-flash and HDD Scalable Storage Units in the same file system allows you to tailor the solution to the workload mix (simulation, artificial intelligence, high performance data analytics) running on the compute nodes, enabling infrastructure consolidation of silos.

Choose between data center friendly SSU-M utilizing 5U84 disk storage enclosure or maximum capacity with SSU-D utilizing 4U106 disk storage enclosure.

Choose between raw performance and a richer feature set with support for either LDISKFS or OpenZFS as backend file system for Lustre.

Choose between shipment of the system from the factory in Cray ClusterStor racks or installation in your data center racks, as long as they meet the technical specifications.



For additional technical information, available models and options, please reference the [QuickSpecs](#)

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- [HPE Foundation Care](#) helps when there is a problem and has a choice of response levels. Collaborative software support is included and provides troubleshooting help for ISVs running on your server. [Read more.](#)

### Other related services

[Defective Media Retention](#) is optional and applies only to Disk or eligible SSD/Flash Drives replaced by HPE due to malfunction.

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