Datasheet

NetApp E7900 Storage System

Designed to handle the most demanding performance and scalability requirements

KEY BENEFITS

Excellent Performance
High-performing block storage system for sequential and transactional workloads, as well as consolidated application environments.

Ultra-Dense, Ultra-Scalable
DE6900 drive enclosure supports up to 60 SATA drives in just 4U of rack space, helping to reduce operational costs for capacity-intensive applications, and scaling to 480 drives in a single system.

Always On
Field-proven 99.999% availability technology, advanced protection, and extensive diagnostic features deliver high levels of availability, integrity, and security.

Challenges

In high-performance computing (HPC) and technical computing, success depends on the speed at which data is acquired, processed, and distributed. These environments store vast amounts of data that is used for high-bandwidth programs and complex application processing such as computational analysis, data-intensive research, rich media, 3-D computer modeling, seismic processing, data mining and large-scale simulation. Demands of multiple gigabytes per second are required to minimize the I/O cycles of large-scale compute clusters used for these calculations.

And although performance will always be a critical requirement for these environments, uptime has become equally important due to the large amount of data involved and the amount of time it takes to compute results. To achieve maximum computational efficiency, HPC environments need a storage system that can deliver continuous high performance along with high density and online serviceability.

Solution

Meeting these evolving requirements, the E7900 storage system is positioned to deliver HPC-class performance with uncompromising 99.999% uptime to maintain continuous high-speed data access. This distinctive combination makes it an excellent solution for HPC environments with massive amounts of data processing and computing demands that need to be running 24/7.

Balanced Performance

With a demonstrated 6.4 GB/sec of sustained bandwidth, the E7900 storage system can handle the most demanding HPC throughput requirements. And its long-standing lineage of balanced performance enables the E7900 to excel at consolidated mixed workloads, bandwidth-intensive applications, and high-end transactional settings.

Modular Flexibility

Understanding that each site is different, the E7900 offers multiple drive technologies and drive shelf options to meet requirements and cost-effectively match data to its optimal drive type. Its 16-drive shelf provides tremendous flexibility through the ability to intermix all supported drive types—SSD, FC, FDE, SAS and SATA—in a single drive shelf. For capacity-hungry environments, the 60-drive enclosure maximizes rack density with support for up to 120TB in just 4U.

E7900 Technical Specifications

All data in this table applies to dual-controller configurations.

	7900	
Maximum Raw Capacity	FC 269TB (600GB) SATA 960TB (2TB)	
Maximum Disk Drives	448 FC drives 480 SATA drives	
RAID Controller	Dual (2) controllers in 4U chassis	
Memory	8, 16, 32, 64GB	
Host I/O	(8) or (16) 4Gb or 8Gb FC (8) or (16) 1Gb or 10Gb iSCSI (8) FC and (4) iSCSI	
Drive Shelves & Supported Drives	FC4600: 3U, 16 drives • SSD FC (73, 300GB) • 15K FC, FDE (300, 450, 600GB) • 10K FC-SAS, PI, FDE (450, 600GB) • 7.2K SATA (500, 1000, 2000GB) DE6900: 4U, 60 drives • 7.2K SATA (500, 1000, 2000GB)	
OS Version	NetApp SANtricity 10.80	
High-Availability Features	Dual-active controller with automated I/O path failover Supports RAID levels 0, 1, 3, 5, 6, and 10 Redundant, hot-swappable storage controllers, disk drives, power supplies, and cooling fans Automatic drive failover and detection and rebuild using global hot spare drives Mirrored data cache with battery backup and destage to flash SANtricity Proactive Drive Health monitoring identifies problem drives before they create issues SANtricity Persistent Monitor makes periodic copies of the storage system configuration 99.999% availability with appropriate RAID configurations and service plans	
Operating Systems Supported	Windows Server® 2003, Windows Server 2008, Linux®, VMware® ESX, Solaris, AIX, HP-UX	
Software Features	**Standard** Dynamic Volume Expansion Dynamic Capacity Expansion Dynamic RAID Level Migration Dynamic Segment Size Migration Proactive Drive Heath monitoring Nondisruptive firmware upgrades Media scan with auto parity check and correction	**Optional** **Extended value software:** Storage partitioning SafeStore Encryption Services SafeStore Data Assurance SANtricity Snapshot® SANtricity Volume Copy SANtricity Remote Volume Mirroring

With over 20 years of storage development experience, the E7900 is based on a field-proven design that offers high reliability and 99.999% availability.

DIMENSIONS AND WEIGHT	E7900 Controller Chassis	FC4600 Disk Shelf (16 drives)	DE6900 Disk Shelf (60 drives)
Height	6.87” (17.45 cm)	5.10” (12.95 cm)	6.94” (17.63 cm)
Width	17.5” (44.45 cm)	17.60” (44.70 cm)	17.5” (44.45 cm)
Depth	24.0” (60.96 cm)	22.50” (57.15 cm)	32.5” (82.55 cm)
Weight	81.1 lb (36.79 kg)	93.0 lb (42.18 kg)	225 lb (102.1 kg)

MAX POWER AND COOLING	E7900 Controller Chassis	FC4600 Disk Shelf (16 drives)	DE6900 Disk Shelf (60 drives)
KVA	0,562	0.462	1.203
Watts(AC)	540	444	1181
BTU/hr	1842	1517	4039
Amps(240VAC)	2.25	1.85	9.4

Interface Options

Today's infrastructures offer a wide variety of connectivity options, and the E7900 interface flexibility fits right in. Supporting high-performance 8Gb Fibre Channel, InfiniBand, and 10Gb iSCSI interfaces, as well as cost-effective 4Gb FC and 1Gb iSCSI interfaces, the E7900 seamlessly integrates into any SAN.

Highly Reliable

With over 20 years of storage development experience, the E7900 is based on a field-proven design that offers high reliability and 99.999%[1] availability. Its redundant components, automated path failover, and online administration help keep organizations productive 24/7/365. And its advanced protection features and extensive diagnostic capabilities deliver high levels of data integrity.

Intuitive Management

NetApp® SANtricity® storage management software combines robustness and ease of use. Full-time storage administrators appreciate the extensive configuration flexibility that allows optimal performance tuning and complete control over data placement, while part-time system administrators love the intuitive interface and wizards designed to simplify storage administration. With its dynamic capabilities, SANtricity software supports on-the-fly expansion, reconfiguration, and maintenance without interrupting storage system I/O.

Safestore Protection

Drives are sometimes out of a user's control, either through theft, off-site service or repair, or disposal of old drives. NetApp SafeStore™ encryption services combine local key management and drive-level encryption for comprehensive data security so that data is protected throughout the drive's life cycle without sacrificing storage system performance or ease of use. SafeStore Data Assurance offers customers ultra-sensitivity to data validation an extra level of protection through sophisticated error detection and correction.

1. The Mean Time Between Failure calculation (99.999%availability) is based on appropriate RAID configurations and service plans and calculated using the Bellcore methodology for reliability prediction (Method 1, Case 3) described in Telcordia Issue 2, specification number SR332, released September 2006.

About NetApp

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