



NetApp®



Datasheet

NetApp E5500 Storage System

The E5500 is the industry-leading storage system for high-performance computing because it delivers the highest combined performance, density, and energy efficiency to convert your big data to top-line revenue gains and bottom-line savings.

KEY BENEFITS

Performance Density

The NetApp® E5500 brings together industry-leading massive bandwidth performance and extreme density to create a system perfectly suited for data-intensive solutions. It provides space savings, BTU savings, and a twofold bandwidth increase over the previous generation.

Modular Flexibility

Complete systems start with just a 2U or 4U building block as the foundation and scale for performance and/or capacity to optimize applications and grow efficiently.

Uptime All the Time

The E5500 is based on a field-proven architecture designed to provide high reliability and availability (99.999%). A worldwide service and support network further enables growth without limits and nondisruptive operations.

The Challenge

Harnessing and exploiting the intelligence of big data provide unprecedented business opportunities and challenges. In science, technology, and business the cutting-edge technology continues to place demands on the storage system to service massive amounts of data quickly and efficiently. Organizations with high-performance computing needs must be productive, responsive, and competitive by accelerating the time to results of their massive data processing demands. They must also maintain operational efficiency and high availability, all while keeping it simple and within their limited budget.

The Solution

The NetApp E5500 meets both the demanding performance and capacity requirements of science and technology, simulation modeling, and decision support in the most efficient footprint with extreme simplicity, reliability, and scalability. The E5500 is unsurpassed at supporting high-performance file systems and bandwidth-intensive applications in the most efficient footprint. And its fully redundant I/O paths, advanced protection features, and proactive support monitoring and services provide the highest levels of availability, integrity, and security.

Accelerate Results

The E5500 turns insight into action by performing complex analyses, research modeling, high-performance computing, and simulations faster and more efficiently than any other storage solution. The E5500 can ingest and process data at high speeds to enhance time to market for large data processing, seismic processing analysis, research and design, financial modeling, and other simulations that enhance the speed of business intelligence, hasten the validation of complex new product designs, and reduce the time to exciting new scientific breakthroughs.

The E5500 storage system doubles the bandwidth performance of the previous high-performance generation of NetApp's outstanding products that support high-performance file systems and data-intensive applications. It also makes it the industry leader in combined performance, density, and economics.

Scale Efficiently

Accelerate results and grow your success using the E5500 modular architecture. Complete systems start with just a 2U or 4U building block as the foundation and scale for performance and/or

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capacity to optimize applications and grow efficiently. Scale together your high-performance file system and storage with one standard-sized storage rack providing up to 47GB/s writes with Cache Mirroring Enabled protection and 600 drives providing significant performance density advantages over leading competitors and a more granular, nimble, and virtually limitless expansion path. The E5500 offers several form factors and drive technology options to best meet requirements in the most compact footprint.

Reduce the Footprint

Today's storage must keep up with continuous growth and meet the exploding capacity requirements. The E5500 is purpose-built for capacity-intensive environments requiring optimal space utilization and reduced power/cooling requirements. Its ultradense 60-drive 4U disk shelf provides dense storage capacity in a serviceable and high-performance system. In addition to reducing the footprint by up to 60% over that of leading competitors, its high-efficiency power supplies and intelligent design lower power and cooling requirements, saving money.

Assure Reliability and Uptime

With over 25 years of storage development behind it, the E5500 is based on a field-proven seventh-generation architecture designed to provide continuous access to data with its redundant hot-swappable components, automated path failover, and online administration. Proactive drive monitoring, a highly serviceable design, and NetApp's worldwide support with AutoSupport™ tracking options enhance the serviceability and prevent downtime.

Worldwide Services and AutoSupport

Enhance customer service, speed problem resolution, and prevent issues with the NetApp AutoSupport capability to track configuration, performance, status, and exceptions in near real time. Should you elect to enable AutoSupport, messages are automatically sent by either event-based or time-based (weekly, daily, other) criteria to provide faster and better customer service, keeping your systems up and running longer.

Data Protection

When data is entrusted to your storage, protecting it is essential. With advanced SANtricity® protection technologies such as drive encryption, proactive

monitoring, background repair, data assurance supporting T10-Dif protection information for increased data integrity, and extensive diagnostic features, data is fully protected when it reaches the storage system. Drive encryption secures data while maintaining performance and meets AES-256 security requirements.

Dynamic Disk Pools: Next-Generation RAID Technology

As drive capacities continue to grow, it takes longer and longer to perform a rebuild when a drive fails. This is increasingly problematic for big data sites with hundreds or thousands of large-capacity drives, and every failure means a computational slowdown. The E5500's next-generation RAID architecture, Dynamic Disk Pools, minimizes the performance impact of a drive failure and returns the system to optimal condition faster than traditional RAID. This unique combination enables a significant improvement in computational efficiency and enables the E5500 to maintain a high level of performance even under drive failure conditions.

E5500 TECHNICAL SPECIFICATIONS

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

	E5560	E5524	E5512
Maximum raw capacity	1440TB**	345TB	768TB*
Maximum disk drives*	360	384	192
Form factor	4U/60 drives	2U/24 drives	2U/12 drives
Drive types supported	900GB 10K SAS 2TB/3TB/4TB* 7.2K SAS	800GB SSD 600/900GB 10K SAS	600GB 15K SAS 2TB/3TB/4TB* 7.2K SAS
System memory	24GB		
Ports for host I/O	Eight 6Gb SAS Four 40Gb InfiniBand		
Expansion disk shelves supported: drive offerings	DE6600 (4U/60 drives)–900GB 10K SAS; 2TB/3TB/4TB* 7.2K SAS DE5600 (2U/24 drives)–600GB/900GB 10K SAS DE1600 (2U/12 drives)–600GB 15K SAS; 2TB/3TB/4TB* 7.2K SAS		
OS Version	SANtricity 10.86		
High-availability features	Dual-active controller with automated I/O path failover Supports Dynamic Disk Pools and 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		
Operating systems supported	Microsoft® Windows® (SAS host I/O) Red Hat Enterprise Linux®, Novell SUSE Linux Enterprise Server (SAS and IB host I/O)		
Software features	Standard SANtricity Dynamic Disk Pools SANtricity SSD Cache AutoSupport Dynamic Volume Expansion Dynamic Capacity Expansion Dynamic RAID-Level Migration Dynamic Segment-Size Migration Persistent Monitor Proactive Drive Health Monitoring SANtricity Data Assurance Nondisruptive Firmware Upgrades Media Scan with Autoparity Check and Correction	Optional Extended-Value Software SANtricity Drive Encryption	

* All models are capable of reaching 384 disk drives when configured with intermixed drive shelves. 4TB drives based on drive availability; estimated Q2CY2013.

** Using 60-drive shelves, limits to 360 drives per controller pair.

Intuitively Manage

NetApp SANtricity storage management software offers an appealing combination of robustness and ease of use. Storage administrators appreciate the extensive configuration flexibility that allows optimal performance tuning and complete control over data placement. With its dynamic capabilities, SANtricity software supports on-the-fly expansion, reconfigurations, and maintenance without interrupting storage system I/O.

And for those who prefer more direct monitoring and control capabilities or wish to integrate storage management into higher-level system management tools, a robust command line interface is also offered.

Efficient and Intelligent SSD Cache

The NetApp SANtricity SSD Cache feature provides intelligent read caching capability to identify and host the subset of the data that is hot on the SSDs. Because this caching approach works in real time and in a data-driven fashion, it is always on. Users are not required to set up complicated policies to define the trigger for data movement between tiers—they simply define which volumes should take advantage of the SSD Cache and forget it. SSD Cache accelerates data access through the intelligent use of solidstate disks located in the drive trays and is expandable up to 5TB per storage system.

About NetApp

NetApp creates innovative storage and data management solutions that deliver outstanding cost efficiency and accelerate business breakthroughs. Discover our passion for helping companies around the world go further, faster at www.netapp.com.

Go further, faster®



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