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NEXSAN E-SERIES™ STORAGE SYSTEMS

Storage efficiency just made a big leap forward with a 180TB solution so small, so efficient, so reliable... so surprisingly affordable.

DATASHEET

OVERVIEW

The Nexsan E-Series™, a member of Nexsan's Flexible Storage Platform, represents the next generation of storage systems delivering dramatic enhancements in efficiency and ease-of-use to help mid-market organizations, and the mid-tier of the enterprise, add more capacity while lowering overall power, space and cost requirements. Innovative ease-of-use functionality makes deploying and managing storage a snap for the resource constrained IT generalist.

The Nexsan E-Series is comprised of the Nexsan E60™ storage system (60 drives in 4U), the Nexsan E18™ storage system (18 drives in 2U) and the Nexsan E60X™ expansion unit (60 drives in 4U). For organizations faced with increasing power or space limitations, the E-Series represents the perfect solution with 15 drives per U in the E60 and E60X, along with up to 85% energy savings. The net is a storage system that is up to 3X as dense as a typical array while consuming a fraction of the power.

FLEXIBILITY

Further enhancing storage efficiency and ease-of-use, the Nexsan E-Series flexibly supports SATA/SAS/SSD drives in the same chassis along with 8Gb FC, 1Gb iSCSI and optional dual 10Gb iSCSI ports, which operate simultaneously. This level of flexibility and control is designed for organizations that need a single solution to handle the requirements of all their applications, whether capacity or performance driven. The E-Series uses dual raid engines per controller to deliver blazing wire-speed read/write throughput and high IOPS performance for varying workloads. The active/active dual controller configuration provides twice the I/O ports and increases system performance.

RELIABILITY

As much as the Nexsan E-Series boasts new levels of storage efficiency, efficiency is only measured during uptime. The E-Series meets and exceeds the most stringent reliability demands with a top-tier mechanical design that removes heat and vibration from the chassis via Cool Drive Technology™ and Anti-vibration Design™. In addition, extensive drive stress testing qualifies E-Series system reliability before shipment.

The Nexsan E-Series features high availability architecture ensuring no single point-of-failure with multipathing support and dual redundant, hot-swappable active components. SNMP alerts or email notifications are sent to the administrator in the event of a component or drive failure, and a spare drive is automatically rebuilt into the RAID set. With 4GB of battery-backed and flash-protected cache per controller, the E-Series mirrors cache between controllers in a dual controller configuration. Nexsan's Active Drawer Technology™ overcomes the challenges of other high density offerings by allowing a single drawer of drives to be easily pulled out and serviced by one person while keeping the system online.

HIGHLIGHTS

- **Extreme Density** – E60/E60X contains 60 Disks in 4U; E18 contains 18 disks in 2U
- **High Performance** – utilizes Nexsan's latest Nexsan E-Series dual RAID engine controller technology
- **Capacity or Performance** – mix and match SATA, SAS and SSD drives (see www.nexsan.com for the latest supported drive size)
- **Active Drawer Technology™** – active drawers allow for easy, hot-swappable management of extreme density
- **High Availability** – all active components are redundant and hot-swappable to ensure fault tolerance
- **Energy Efficient** – AutoMAID delivers up to 85% reduction in power consumption
- **Anti-Vibration Design™** – maximizes disk life and reduces component wear
- **Cool Drive Technology™** – optimizes airflow and cooling
- **Flexible Connectivity** – connect FC or iSCSI; connect simultaneously
- **Easy to Manage** – browser-based management interface is OS independent. Remotely manage one or many systems within a single, intuitive GUI
- **Turn-key System** – includes all cables, active drawers, mounting kit and management software

TECHNICAL SPECIFICATIONS

- Single or dual active/active RAID controllers
- Dual 8Gbit FC and dual 1Gbit iSCSI per controller (optional dual 10Gbit iSCSI)
- Supports RAID 0, 1, 1+0, 4, 5 and 6
- 4GB battery and flash protected cache
- Supports multiple RAID sets and multiple volumes per set; up to 254 LUNS
- Supports email alerts and SNMP traps
- Includes RS-232 management port

Note: a 1200mm rack is recommended for mounting the E60/E60X

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MANAGEMENT

Designed with the IT generalist in mind, the Nexsan E-Series comes pre-configured and is up and running in 10 minutes or less using the QuickStart wizard. The Nexsan Storage Manager is a robust storage management software that resides on the storage system and is simply accessed via an IP address over a Web browser – no drivers or host applications required. The Nexsan Storage Manager makes management easy with a single pane-of-glass interface to manage and monitor all local and remote Nexsan storage systems from disk provisioning, RAID hardware management, LUN masking and binding, host data path services, failover/failback, data migration, RAID set builds and power management. By leveraging the E-Series' VDS compliance, Windows users can utilize the storage management tools that are built into Windows Server to perform common administrative tasks.

POWER EFFICIENCY

Nexsan's exclusive AutoMAID® technology delivers up to 85% energy savings. When a disk group has not been accessed for a specified time period, it can be placed into progressively lower states of power consumption. On all AutoMAID levels, once the first I/O request has been served, the spindles continue at full speed until enough time has lapsed to progress back into sleep mode, based on the policies established. This is beneficial in instances of long-term bulk storage, archive and backup-to-disk applications that don't need to spin at full speed between backup windows.

CAPACITY EXPANSION

Attach the Nexsan E60X expansion unit (60 disks in 4U) to either the Nexsan E60 or Nexsan E18 storage systems via up to four 6Gb/s SASx4 (24Gb) connectors for uncompromising performance and resilience against any single point-of-failure. Mix and match up to 60 SSD, SAS and SATA drives to achieve up to 360TB of total capacity.

SOLUTIONS

Nexsan E-Series storage systems can be deployed for primary storage, secondary storage and backup-to-disk storage for physical servers or virtual servers running on VMware, Hyper-V or Xen virtualization software. Popular industries and uses include financial, transportation, cloud storage, video and entertainment, scientific and research, local and national government, digital surveillance, medical and law enforcement. The E-Series storage systems are certified as "VMware Ready," the highest level of certification by VMware for Fibre Channel and iSCSI storage and are fully certified for use with Windows Server 2003/2008.

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ENTERPRISE-CLASS	
Mix & Match Drive Types	Mix and match SSD, SAS and SATA drives to meet varying storage needs.
Drive Stress Tests	Ensure that only the best quality drives go into Nexsan storage systems.
System Drive Tests	Drives are tested in the storage system prior to being shipped to a customer.
Anti-Vibration Design™	State-of-the-art vibration dampening maximizes reliability and performance.
Cool Drive Technology™	Push/pull fans modules and specially designed air channels optimize drive cooling and reliability.
Dual Active/Active Storage Controllers	Dual controllers provide additional I/O ports for Fibre Channel or iSCSI access and additional horsepower to service I/O requests. All LUNs may be made visible on any or all iSCSI or Fibre Channel host ports.
Battery and Flash Protected Cache	Cache memory is protected via a battery built into the storage system. The battery has sufficient power to push all data from cache DDR3 RAM into flash where it will be preserved indefinitely. Cache data is synchronously mirrored between controllers to protect uncommitted writes in the event of controller failure.
Two RAID Engines per controller	Two RAID engines reside on each E-Series controller to accelerate RAID operations, resulting in blazing fast sequential and random I/O performance.
High Availability	All active components are redundant and hot-swappable including power supplies, fans, disks and controllers.
Host Data Path Services	Included with every E-Series. Utilize multiple paths from a server to a LUN for increased bandwidth, as well as ensuring there is no single point-of-failure between the servers and their storage.
Fibre Channel and iSCSI Multi-protocol Access	Both the Fibre Channel and iSCSI host ports can be utilized at the same time.
Disk Provisioning	Place hard drives into RAID sets; determine the RAID type; establish hot spares and the RAID set auto-rebuild policies; and expose RAID sets as one or more logical address units (LUNs).
RAID Hardware Management	Sets RAID levels and manages the caches in single or dual active/active controller configurations.
LUN Masking and Binding	Ensures that only the hosts that are supposed to have access to a virtual disk get it. Hosts must authenticate before being granted access.
EFFICIENT	
Industry-leading Storage Density	The E-Series chassis delivers industry-leading storage density. The E60 and E60X provide up to 60 drives in just 4U of rack space, or 15 drives per U; and the E18 provides 18 drives in 2U of rack space, or 9 drives per U.
AutoMAID® Power Management	Each RAID set can have its drives progressed into deeper levels of sleep when they have not been accessed for a specified period of time, saving power. There are 4 levels of power management to balance power savings and responsiveness to first I/O request for varying applications. No changes need to be made to applications to get the advantages of AutoMAID. E-Series delivers up to 85% reduction in power and cooling with AutoMAID level 4

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EASY	
QuickStart wizard	Get the storage system up and running in 10 minutes or less.
Web-based Management	A Web server residing in the storage system presents the management GUI in the Web browser. Administer storage systems remotely. There is no need to install management software on a client computer and keep it updated.
Single Pane-of-Glass Management	Remotely manage one or many systems. Nexsan storage systems find each other and appear in the management console, which displays their health using red/yellow/green indicators. Easily move between systems to administer them.
Automatic RAID Set Maintenance	In the event of a drive failure spare drives are automatically added to a RAID set and a RAID set rebuild is run – all without any manual intervention being required.
Alerts	Alerts are sent via SNMP or email and are logged in the storage system as well as transmitted to the Web browser-based management console.
VDS-compliancy	Many Microsoft storage management tools can be used to perform administrative functions on the storage system as information is exchanged via the VDS protocol.
Active Drawer Technology™	Active drawers hold the drives to enable easy, hot-swappable management of extreme density without heavy lifting or having to power down.
Turn-key System	Includes all cables, active drawers, mounting kit and management software.

ABOUT NEXSAN

Nexsan® is a leading independent provider of disk-based storage systems purpose-built and priced for the mid-market, offering industry-leading reliability, space and power efficiency. Nexsan storage systems provide scalability, integrity and security for growing volumes of unstructured data and are ideal for virtual storage, data protection, secure online archiving, bulk and cloud storage applications. Overcoming the challenges of traditional storage, Nexsan delivers a different kind of storage experience with easy-to-use, efficient and enterprise-class solutions that reduce the complexity and cost of storage. Nexsan delivers its storage systems through a select global partner ecosystem of solution providers, OEMs and system integrators. Nexsan is based in Thousand Oaks, Calif.