NEXSAN™
by imation

NST6000™
UNIFIED HYBRID STORAGE

Performance, Availability and Scale
for Any SAN and NAS Workload
in Your Environment

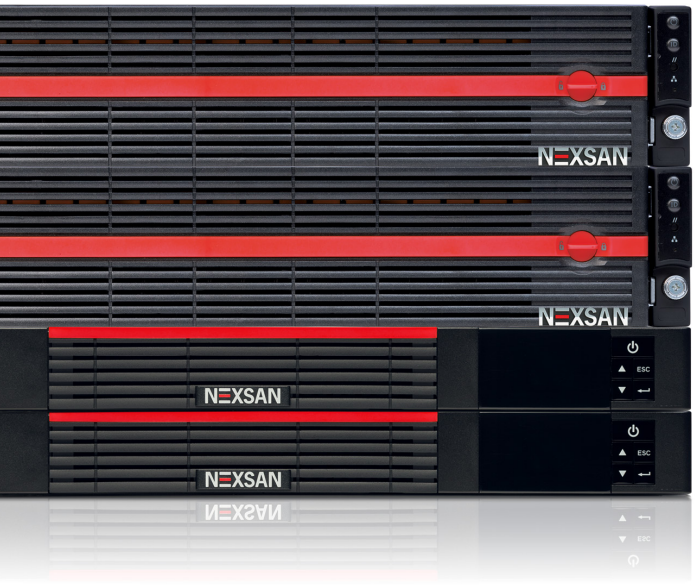

Figure 1
NST6000 Unified Hybrid Storage System

UNIFIED

The Nexsan NST6000 unified hybrid storage appliance is idea for organizations seeking significantly increased applicatio performance and simplified storage administration

The NST6000 is a unified storage system.The NS 6000 supports block-level - Fibre Channel, iSCSI (SAN) and file-level - NFS, CIFS SMB, FTP (NAS) protocols without sacrificing performance an eliminating the need for separate software stacks and block and file licenses

The NST6000 conveniently manages all protocols, pools, shares and LUNs within a single system. E-Centre, NST6000's single-pane management interface, provides a single view to manage all SAN and NAS storage.

HYBRID

NST6000 is a hybrid storage system. NestOS, NST6000's operating system, integrates the use of solid-state caching and hard disk storage to enable organizations to meet the most demanding I/O performance requirements of both SAN and NAS workloads.

NestOS's FASTier caching technology is smart. It includes fault tolerant DRAM for the highest possible write caching performance and enterprise-class SSDs to accelerate read I/O, allowing you to independently customize your performance and capacity points.

FASTier read/write cache devices can be customized at a storage pool level, enabling organizations to extend the use of FASTier to many applications in the data center.

UNIFIED HYBRID

The combination of solid-state technology, Fibre Channel connectivity, and a highly scalable back-end storage infrastructure makes the NST6000 platform ideal for continuous data availability supporting mission-critical IT applications.

imation

NST6000 **TECHNICAL SPECS**
SYSTEM CAPACITIES

Data listed in the table refers to a single 6U NST6000 Appliance unless indicated otherwise

	NST6530
NST6000 System Form Factor NST6000 Controllers NST6000 Vault Protection Modules	6U 2 x 2U = 4U 2 x 1U = 2U
NST6000 System CPU Type | Cores	Xeon | 24 Cores 12 per Controller
NST6000 System Memory (DRAM) Basic| Premium	192 GB | 384 GB 96 GB | 192 GB per Controller
FASTier Fault Tolerant Write Cache Capacity	32 GB 64 GB Mirrored Capacity in System
FASTier Read Cache Capacity Standard | Maximum	4.4 TB | 9.2 TB
Maximum FASTier Read Cache Devices	Up to 46 Read Cache Devices
FASTier Read Cache Types	200, 400, 800GB eMLC | 100, 200GB SLC
RAID Levels	RAID 5, RAID 6, RAID 10

(Rev. 01/14/14)

Figure 2
NST6530 with Nexsan E-Series SAS Storage Arrays in a 42U rack.

Figure 3
NST6530 with Nexsan NST224X SAS Storage Enclosures in a 42U rack.

NST6000 **TECHNICAL SPECS**
CONNECTIVITY

Data listed in the table refers to a single 2U NST6000 Controller unless indicated otherwise

		NST6530
NST6000 Host Connectivity		
1GbE I/O Embedded STANDARD CONFIGURATION		4 – port 1GbE 1 is management. 1 is reserved.
10 GbE I/O PCIe Card STANDARD CONFIGURATION		(1) dual-port 10GbE
PCIe Slots for Additional Host Connectivity		2
1GbE PCIe Cards OPTIONAL		dual-port or quad-port 1GbE
10GbE PCIe Cards OPTIONAL		dual-port 10GbE
8 Gb/s FC I/O PCIe Cards OPTIONAL		dual-port or quad-port 8Gb
1GbE I/O Ports		2 to 10
10GbE I/O Ports		2 to 6
8 Gb/s FC I/O Ports		0 to 8
NST6000 SAS Storage Connectivity: Nexsan E-Series V Arrays		
6 Gb/s SAS STANDARD CONFIGURATION	# of SAS Ports	6 ports. 4 lanes (links) per port. Total SAS Bandwidth = 144 Gb/s.
	PCIe Card Type	(1) dual-port (1) quad-port
Nexsan E-Series V Storage # of RAID Arrays | Expansion Units		3 E-Series V Arrays 6 Expansion Units 9 Total E-Series
6 Gb/s SAS Switch OPTIONAL		16 Mini-SAS wide ports 4 lanes (links) per port
NST6000 SAS Storage Connectivity: Nexsan NST224X Enclosure		
6 Gb/s SAS STANDARD CONFIGURATION	# of SAS Ports	6 ports. 4 lanes (links) per port. Total SAS Bandwidth = 144 Gb/s.
	PCIe Card Type	(1) dual-port (1) quad-port
Nexsan NST224X Number of Enclosures		Up to 9.
6 Gb/s SAS Switch OPTIONAL		16 Mini-SAS wide ports 4 SAS lanes per port

(Rev. 01/14/14)

NEXSAN™ by imation

NST6000 **TECHNICAL SPECS**
SYSTEM STORAGE CAPACITY

Data listed in the table refers to a single 6U NST6000 Appliance unless indicated otherwise. Additional capacities are available for the NL-SAS HDDs and Performance-SAS HDDs listed below.

		NST6530	
NST6000 SAS Storage Connectivity: Nexsan E-Series V Array			
Nexsan E-Series V RAID Array Number of Head Units		STANDARD CONFIG 3 E-Series Arrays 6 Expansion Units 9 Total E-Series	WITH SAS SWITCH 7 E-Series Arrays 14 Expansion Units 21 Total E-Series
E-Series V Arrays Types Available		E18: 18 3.5" drives in 2U E48: 48 3.5" drives in 4U E60: 60 3.5" drives in 4U	
E-Series V Expansion Units Types Available		E18X: 18 3.5" drives in 2U E48X: 48 3.5" drives in 4U E60X: 60 3.5" drives in 4U	
Max 3.5" NL-SAS HDD Capacity Based on use of E60 and E60X Number HDD | Capacity @ 4TB/HDD		STANDARD CONFIG 540 NL-SAS Drives 2,160 TB	WITH SAS SWITCH 1260 NL-SAS Drives 5,040 TB
Max 3.5" Performance-SAS HDD Capacity Based on use of E60 and E60X Number HDD | Capacity @ 600GB/HDD		STANDARD CONFIG 540 SAS Drives 324 TB	WITH SAS SWITCH 1260 SAS Drives 756 TB
NST6000 SAS Storage Connectivity: Nexsan NST224X Enclosure			
HDD 2.5" 10K Performance SAS HDDs	Number of NST224X Enclosures	Up to 9. 24 HDDs / Enclosure.	
	Max Performance - SAS HDD Capacity Number HDD | Capacity @ 1.2 TB/HDD	216 Drives | 259.2TB	
eMLC SSDs	Number of NST224X Enclosures	Up to 9. 24 SSDs / Enclosure.	
	Max External SSD Capacity Number SDD | Capacity @ 800 GB/SDD	216 Drives | 172.8TB	

(Rev. 01/14/14)

NST6000 **TECHNICAL SPECS**
SYSTEM STORAGE SERVICES

Data listed in the table refers to a single 6U NST6000 Appliance unless indicated otherwise

	NST6530
Client Support	Linux, OS X, Unix, Windows ESXi, Hyper-V, XenServer
Storage Services	Fibre Channel, iSCSI, NFS, CIFS, SMB, FTP
Maximum Single File Size	16 TB
Max NFS Shares	512
Max CIFS Shares	512
Max Snapshots Per Share	2,048
Maximum LUN Size	64 TB
Max LUNs Per Target	255
System Max LUNs	255 - Fibre Channel 1,024 - iSCSI
Max Snapshots per LUN	2,048

ENVIRONMENTALS. DIMENSIONS.

Data listed in the table refers to single 2U NST6000 Controller unless indicated otherwise

	NST6530
Operating Temperature	10-35C, 50-95F
Operating Humidity	20-95% (non-condensing)
U of Rack Space	2U
Height	3.5in, 8.76cm
Width	17.2in, 43.8cm
Depth	27.87in, 70.78cm
Weight	>40lbs, >18.1Kg
# hot swappable power supplies	2
Maximum Power/Controller Node	< 430 W
Voltage, Frequency	Voltage (110): 90-132V; Frequency 47-63 Hz Voltage (220): 180-246V; Frequency 47-63 Hz
Heat Dissipation	1467 btu/hr

NEXSAN™ by imation

NST6000 **VAULT PROTECTION MODULE**
SYSTEM STORAGE SERVICES

Data listed in the table refers to a single NST6000 Vault Protection Module unless indicated otherwise

	NST6000 Vault Protection Module	
DIMENSIONS	120 V	230 V
Dimensions (H x W x D, inches)	1.7 (1U) x 17.2 x 21.8	1.7 (1U) x 17.2 x 21.8
Dimensions (H x W x D, mm)	43.2 x 438 x 554	43.2 x 438 x 554
Weight (kg)	20.0	19.36
Weight (lbs)	44.1	42.7
BATTERY		
Battery Description	Sealed. Lead-acid. Maintenance free.	
Battery Management	Battery life management and advanced warning for battery replacement	
ELECTRICAL	120 V	230 V
Input / Output Connections	Input: (1) NEMA 5-15P; Output: (5) NEMA 5-15R	Input: (1) C14; Output: (6) C13
Input / Output Nominal Voltage	120V (adjustable to 100/120/125 V)	230V (adjustable to 200/208/220/230/240 V)
Input / Output Frequency	50 / 60 Hz	50 / 60 Hz
On Utility Voltage Regulation	102 – 132 V	102 – 132 V
On Battery Voltage Regulation	- 10% - + 6% of Nominal	- 10% - + 6% of Nominal
COMMUNICATIONS		
User Interface	LCD Graphical Display	
LEDs	Load protected, on battery and fault	
Communication Card Slots	One Slot	
OTHER		
RoHS Compliance	Yes	
Heat Dissipation (BTU)	Line: 113, Battery 714	
Audible Noise	< 45 dB at 1 meter	
Operating Temperature	0-40C, 32-104F	
Performance – Safety – EMC	UL 1778, UL497A	
Safety Markings	cULus, CE	
EMC Markings	IEC 62040-2 C1-C2 / EN 55024 / CISPR22 Class B / FCC part 15 Class B	
Storage Temperature	-15 – 40C, 5-10F	
Relative Humidity	0-95% (non-condensing)	

(Rev. 01/14/14)

HIGHLIGHTS

- Block – Fibre Channel, iSCSI
- File – NFS, CIFS, SMB and FTP
- NestOS storage operating system
- FASTier Acceleration Technology
- Multi-Core Xeon CPUs
- Fault-tolerant DRAM
- Enterprise-class eMLC SSD or SLC SSD
- Scalable up to 5 PB (using NL-SAS HDDs)
- Scalable up to 756 TB (using Performance-SAS HDDs)
- Compact 2U NST224X SAS enclosures
- Efficient E-Series V SAS storage array and expansion units
- E-Centre Management Interface

FEATURES AND BENEFITS

Complete host connectivity in a single system and software stack: Fibre Channel, iSCSI, NFS, CIFS, SMB and FTP. NST6000 provides fully unified storage with no nee to administer discrete tasks, code bases and separate licenses.

Application-friendly: Flexible read/write I/O acceleration tier, customizable to the needs of the Pools, LUNs or Shares presented to Hosts. NST6000's FASTier acceleration technology increases storage I/O performance, lowers latency and extends the life of SSDs.

Smart, practical use of solid-state technology: Fault-tolerant DRAM delivers the highest write caching performance possible and enterprise-class SSDs accelerate read I/O performance. NST6000's hybrid storage solution optimizes the use of solid-state technology for maximum effectiveness.

High-performance continuous availability: Powerful active/active controllers linked together via a high-speed backplane provide up to 700,000 IOPs and non-disruptive failover. NST6000's mirrored write cache with cache vaulting ensures the highest levels of performance and availability. Combined with active/active RAID controllers within the underlying E-Series storage, NST6000 provides high availability storage that can scale up to 5 petabytes.

Adaptable storage infrastructure: Use SSDs, Performance-SAS HDDs and NL-SAS HDDs to meet varying storage requirements. NST6000 is a unified hybrid storage platform that can be customized and deployed for performance-oriented workloads, capacity-oriented workloads, or deploy both performance and capacity tiers within the same system. With the non-disruptive addition of FASTier or new disk enclosures, performance and capacity can be independently scaled.

Intuitive single-pane management: Interface and set-up assistants designed for the IT generalist. For advanced users the management software offers a command line interface for scripting. NST6000's E-Centre GUI provides a single view to manage fil and block traffic while leveraging various types of storage media

ABOUT IMATION

Imation is a global data storage and information security company. Imation's Nexsan portfolio features solid-state optimized unified hybrid storage systems, secure automated archive solutions and high-density enterprise storage arrays. For more information, visit www.imation.com/nexsan.

(Rev. 01/14/14)