NST2000
HYBRID STORAGE
APPLIANCE
DATA SHEET
Hybrid Storage for NAS, FC, & iSCSI

SMART HYBRID
FASTier™ flexible hybrid caching provides high performance where it's needed. NestOS software intelligently optimizes the hybrid storage architecture and resources.

AGILE SCALABILTY
Linear, non-disruptive scaling up to 168 Terabytes.

EFFICIENT UNIFIED
Unified storage system that supports FC, NFS, iSCSI, CIFS, SMB, and FTP in a single software stack and within a single-pane-of-glass management.

ENTERPRISE CLASS
Enterprise class Integrated System Data Management, Business Continuity, and Data Protection features and services that are right-sized for the mid-market.

OVERVIEW
The Nexsan NST2000 is a modern hybrid storage appliance, a more efficient, agile and intelligent alternative to traditional storage arrays, filers, and all-flash arrays. Organizations have different needs for performance, capacity and connectivity when managing and protecting the data that drives your business. The NST2000 blends solid-state technology, a scalable back-end storage infrastructure, multiple NAS/iSCSI/FC front-end connections, and enterprise-class data management services in a single system. It gives you the convenience and control to meet the needs of one or more workloads in one dedicated easy-to-use appliance.

For organizations struggling to meet both high performance and high capacity NAS, FC or iSCSI application requirements, the NST2000 makes that easy with a hybrid of solid-state accelerated hard drives. For applications with the most stringent workload requirements like server virtualization, desktop virtualization (VDI), databases and cloud computing, the NST2000 delivers unparalleled performance to ensure application demands never outpace available I/O again. Your applications will have never performed faster on a system operating at the economics of spinning disk storage.

INTRODUCING FASTier™ Caching
The proprietary FASTier caching acceleration technology uses solid-state memory, including SSD, to optimize block and file operations in a fault tolerant architecture. FASTier can scale from 600GB to 2TB. Intelligent, automatic caching algorithms remove the need for manual intervention or application-specific tuning. Whereas traditional disk storage is hard pressed to meet high I/O requirements and SSD-only arrays have a very high cost with limited capacity, Imation's NST2000 Hybrid Storage Appliance realigns the trade-off between performance, capacity and cost so IT administrators can do more than ever before.

FULLY FEATURED
The NST2000 is fully featured with snapshots, replication, thin provisioning, replication, compression, and much more. A revolutionary GUI and scriptable CLI streamline setup and management for the time-constrained IT administrator. As with all Imation storage, the Nexsan NST2000 no single point-of-failure architecture ensures the ultimate in reliability. The net of all this performance and functionality is a true enterprise-class solution without the enterprise-class price.

HYBRID SCALING

With NST, you can scale both FASTier™ intelligent caching and Hard Disk Drive storage.

PERFORMANCE AGILITY

NST's FASTier™ Intelligent caching allows you to tune performance where you need it, apply FASTier to specific applications that require high performance.

APPLICATION FLEXIBILITY

Unified storage system that supports multiple application needs through iSCSI, FC, NFS, SMB, and FTP in a single system, with a 'single pane of glass' management.

HIGH-CAPACITY SCALING

Linear, non-disruptive scaling up to 168TB and storage features such as compression.

NST2000 HYBRID STORAGE APPLIANCE

NST2000 storage systems utilize SSD, NL-SAS or SAS drives; two redundant, high performance, multi-core Xeon-based storage controllers; high speed I/O subsystems and a fully redundant architecture. All active components are hot-swappable, including power supplies, disks and controllers. FASTier read and write cache complements 96GB DRAM to significantly accelerate IOPS and throughput. The NST2000 features 16 Xeon CPU cores, up to 168TB of capacity and up to 2TB of SSD in FASTier cache.

The NST2000 provides CIFS and NFS shared folders as well as fibre channel or iSCSI volumes. Snapshots do not require the pre-reservation of storage capacity, and they may be scheduled and managed easily from the management GUI or initiated from Windows VSS requestors.

Individual shares, LUNs, or entire storage pools may be replicated asynchronously to a second NST2000 storage system, with snapshots intact for use on the target side for backups, testing or data mining. Active Directory integration make it easy to manage user identities and access rights on the NST2000 shares, while CHAP, iSNS and LUN masking protect iSCSI traffic. Quotas limit storage consumption by share, and oversubscription is permitted for thin provisioning storage, along with alarms which notify when additional storage is needed. Capacity can be expanded by adding additional storage to a running system, so future needs can be met without incurring downtime. Moreover, link aggregation combines Ethernet ports for faster throughput.

HIGHLIGHTS

- FC/iSCSI block and NFS/CIFS shared folders
- FASTier™ caching acceleration technology
- Snapshots
- Asynchronous replication
- Quotas and thin provisioning
- Online capacity expansion
- Enterprise-class reliability and fault tolerance
- Hot-swappable active components
- Utilize SSD, NL-SAS and SAS drives
- Active Directory, iSNS and CHAP integration

TECHNICAL SPECIFICATIONS

- Dual redundant storage controllers
- 168TB maximum storage capacity
- RAID 5, 6 and 10
- 2 / 4 / 6TB 7.2K RPM SAS drives
- 600 / 900 / 1,200GB 10K RPM SAS drives

ENTERPRISE-CLASS FEATURE SET

Feature	Description
NAS (CIFS and NFS) Services	Shared Folders can be accessed through CIFS, NFS or both. FTP services are also provided.
FC & iSCSI Block Services	FC or iSCSI volumes can be provided to physical or virtual servers for direct-attached or SAN connections.
FASTier™ Caching	Flash SSD technology is used to accelerate read and write IOPS and throughput. FASTier caching works transparently so there is no administration burden to turbo-charge I/O performance. FASTier caching is especially useful for random I/O workloads such as databases or for VMware, Xen or Hyper-V environments.
Online Capacity Expansion	Add additional hard drives to any storage pool to increase its capacity on the fly without impacting active clients. I/O will automatically be balanced across all drives.
Snapshots	There is no performance penalty for taking snapshots. Up to 2048 snapshots are supported. Storage does not need to be reserved to hold snapshot data. The management GUI makes it easy to setup and manage snapshot creation and deletion schedules. Snapshots are mountable for testing or other purposes. Granularity is per pool, per share, or LUN.
Asynchronous Replication	Asynchronous replication is WAN efficient because it only transmits delta blocks to the destination side. All snapshots taken on the source side are available on the destination side for backups, data mining or testing purposes. Granularity of replication is a storage pool, a share, or a LUN.
Quotas / Thin Provisioning	More storage can be allocated than actually exists in the system – referred to as oversubscription. Alarms warn of limits reached, so storage can be added.
Data Compression	Granular inline data compression meaning any file or block that is stored in the NST storage pool can be compressed, yet from the application's point of view, the file appears to be stored uncompressed.
Link Aggregation	IEEE 802.3ad link aggregation allows multiple Ethernet ports to be combined for faster throughput.
Data Protection Suite	Provides NST with snapshot and replication capabilities.

ENTERPRISE-CLASS PERFORMANCE AND RELIABILITY

Feature	Description
Drive Types	The NST2000 utilizes SSD, SAS 10K RPM or 7.2K RPM drives to meet varying storage needs.
Dual Storage Controllers	Dual controllers provide a no single point-of-failure solution. Should one controller fail, the second will perform all of the I/O operations as well as utilize its I/O ports for connection to external storage.
RAID	RAID 5/6/10 are provided to protect against a single drive failure or up to two drives failing at the same time.

ENTERPRISE-CLASS PERFORMANCE AND RELIABILITY Cont.

High Availability	All active components are redundant and hot-swappable including power supplies, disks and controllers.
Controller I/O Ports	Each storage controller provides up to (8) 1Gb Ethernet ports, (4) 10Gb Ethernet ports, and (2) 8Gb/s fibre channel ports

EASY TO MANAGE

Quick Start wizard	Get the storage system up and running in 15 minutes or less.
Easy to Manage	A revolutionary GUI design makes it easy to set-up, manage and monitor the storage system. Wizards guide the IT generalist through setup, share and LUN creation and management, snapshots, volume management, replication, clustering, user management and security and setting up alerts.
Web-based Management	A Web server residing in the storage system presents the management GUI in a Web browser. An extensive CLI permits scripted administration as an alternative to using the GUI. Administer storage systems remotely. There is no need to install management software on a client computer and keep it updated. Use Windows Computer Manager to manage Share/Folder/File permissions for users and groups as well as LUNs.
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 stored in system log files. They are transmitted to the Web browser-based management console.
NTP client	Network Time Protocol client relieves the administrator from having to set, adjust and synchronize clocks across systems.
NDMP V4	Backup with popular backup and restore solutions through the industry-standard NDMP V4 interface or backup LUNs using any popular backup and restore applications. NDMP V4 preserves all access rights for CIFS and NFS shares, and uses background snapshots for fast backups.
Role-based Administration	Storage system administrator can grant limited rights administrators per storage pools. These administrators can create, manage and delete shares and LUNs, perform snapshots and replication, and manage share-level access permissions.

NST2000

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. Nexsan solutions deliver high performance for mission-critical IT applications such as virtualization, cloud, databases, and collaboration; and energy efficient, high-density storage for backup and archiving. For more information, visit www.imation.com/nexsan.