StorTrends® 2200i

2U IP-SAN and NAS Storage Appliance

American Megatrends

With the combination of StorTrends® iTX Data Storage software and the StorTrends 2200i IP-SAN storage appliance, users can quickly configure and begin using a powerful and scalable storage solution with enterprise-class performance.

Dual dialect StorTrends® iTX delivers ease of use, reduces storage complexity, provides the ability to easily scale as more storage is required, and reduces the total cost of ownership for storage systems. Built to support Intel® Dual-Core CPU technology, the StorTrends 2200i offers performance and flexibility, while StorTrends iTX provides enterprise-level features such as high availability and disaster recovery at a price that appeals to small and medium-size businesses (SMB).

HIGHLIGHTS

- 6 or 12 TB IP-SAN & NAS storage appliance
- 12 Hot-swappable SAS /SATA Drives
- Scalable up to 60 TB with 3 JBODs
- Information Lifecycle Management (ILM)
- Thin & Exact Provisioning
- WAN-optimization Data Service (WDS)
  - Dedupication, Compression, Encryption and Link Optimization
- Continuous Data Protection (CDP)
- Volume Replication
  - Synchronous
  - Asynchronous
    - *Snapshot-assisted*
    - *Journal-assisted*
- Advanced Snapshots
  - Redirect on Write (ROW)
  - Up to 1022 snapshots (R/O and R/W) per volume
  - Up to 2048 snapshots per box
  - Snapshot scheduling for SAN & NAS
  - Rollback from any snapshot
  - Random snapshot deletion
- Hardware RAID support: features RAID levels 0, 1, 5, 6, 10, 50, 60
- Online capacity expansion, RAID level migration
- High Availability (HA) Grouping
  - Load Balancing
  - Active / Active Configuration
- Network Teaming
- Smart UPS Support

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Data Sheet

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The StorTrends 2200i is a flexible platform that can be coupled with StorTrends iTX software for use as a dedicated network storage appliance. Its twelve-drive bay can handle both high performance SAS hard drives and economical SATA drives, giving users multiple options for performance, capacity, and cost.

One of the most powerful features of the StorTrends 2200i is its Advanced Snapshot capability with Redirect on Write (ROW) technology. Administrators can schedule SAN and NAS snapshots, and rollback to any snapshot in under a second. Snapshot-assisted replication (SAR) replicates delta snapshots from the primary system in chronological order to the secondary. In the event of a failover, the system will automatically recover to the latest available consistent snapshot image.

Synchronous replication on the StorTrends 2200i enables data to be stored on multiple StorTrends appliances at multiple sites, for high availability and disaster recovery capability. High Availability grouping allows two StorTrends SAN heads to be grouped as highly available cluster nodes for Microsoft® initiators, for extreme fault tolerance and always-up availability. This technology provides protection against disk, path, and node failures with automatic, seamless failover.

Asynchronous replication bundles I/Os and sends them to the remote server, boosting network utilization efficiency and reducing bandwidth cost. When combined with the revolutionary WDS (WAN-Optimization Data Service) feature included in the asynchronous replication module, the system take advantage of a "triple-threat" of data deduplication, data encryption and link optimization to reduce data transmission and bandwidth usage by several factors over conventional replication speeds.

The flexibility and power of iSCSI in the StorTrends 2200i IP-SAN appliances can bolster data protection in backup scenarios with some of the most advanced snapshot technology in the market, in some cases even eliminating the need for a dedicated backup server. This has obvious cost advantages, and more importantly, enables Continuous Data Protection (CDP) of stored data with snapshot coverage of data on an almost continuous basis. With up to 1,022 snapshots per volume and 2,048 per appliance, StorTrends iTX is capable of CDP by combining low-latency snapshots with I/O journaling to offer one of the most efficient CDP repositories on the market today.

Finally, integrated web-based management with AMI's ManageTrends™ interface provides a simple configuration wizard to configure volumes, and logical disks, and provides 100% control of the discovery and management of multiple StorTrends appliances.

intel Enabled Server Acceleration Alliance

StorTrends® 2200i

2U IP-SAN and NAS Storage Appliance

Features

12 TB IP-SAN & NAS 2U Storage Appliance with StorTrends® iTX Data Storage Software

System Features & Highlights:
- Transfer block and file data over existing Ethernet network
- Redundant Power Supply Modules
- Supports major file transfer protocols
- Information Lifecycle Management (ILM)
- Continuous Data Protection (CDP)
- WAN-optimization Data Service (WDS)
- Network Teaming
- Advanced Snapshot Capability
- Volume Replication and Expansion
- High Availability (HA) Grouping
- Storage Alerts
- Support for volumes up to 60 TB
- Support for 64 volumes per appliance
- SAS/SATA support with hot swap
- UPS Support

Hardware Specifications:

Form Factor
Rack-mountable 2U Chassis
One (1) Slim DVD-ROM Drive

On-Board CPU
Two (2) Dual-Core Intel® Xeon® 5100 series processors, 1066 MHz FSB with 4 MB of L2 cache

Memory
2 GB of DDR2 SDRAM

Drive & Storage Capacity
Twelve (12) 3.5" Hot-swappable SAS/SATA Drive Bays
- 146 GB and 300 GB SAS hard drives / 500 GB and 1.0 TB SATA hard drives are supported, for up to 12.0 TB storage capacity per appliance

Two (2) 2.5" Internal Notebook SATA Flash Drives
- 4 GB capacity Flash drives for OS Installation, support for RAID 1 mirroring for OS integrity

RAID Support
LSI Logic MegaRAID® SAS 8888ELP RAID Controller
Online capacity expansion & RAID level migration
Multiple arrays (same type) per drive
Read with Write-back caching
Global & dedicated hot-spare

Status LEDs
6 LED Indicators (Power Active, Unit ID, Unit Fault, Network Activity, HDD Activity, System Overheat)

Expansion Slots
Three PCI-Express Expansion Slots:
- Two (x8) PCI-Express Slots (via Riser Card)
- One (x4) PCI-Express Slot (via Riser Card)

Data Management Ports
2x Single-port Gigabit PCI-Express Ethernet Controller

Other Connectors
Two (2) USB Ports (2.0, 1.1)

Power Specifications
450W (1+1) Redundant, AC Power Supply with PFC
AC Voltage (100 - 240V, 60-50Hz, 6.3 - 3.2 Amp)

Cooling Specifications
Three (3) Cooling Fans with status & tachometer monitoring
Cooling Air Shroud included

Operating Environment
Operating Temperature: 50 to 95˚F (10˚ to 35˚ C)
Operating Relative Humidity: 8% to 90% (non-cond.)

Physical Characteristics
Dimensions: 3.46" (87.9 mm) H x 17.46" (443.4 mm) W x 27.83" (707 mm) D
Weight: 44 lbs. (20 kg) as shipped (unpopulated); 66 lbs. (30 kg) fully populated (with 12 drives)

StorTrends® iTX Software Specifications:

Volume Replication
- Synchronous
- Asynchronous
  - Snapshot-assisted
  - Journal-assisted
- Replication Wizard
- Failover / Failback
- One-to-Many Replication

Advanced Snapshots
Up to 1,022 read-only and 1, 022 writeable snapshots per volume with near-zero degradation
Redirect on Write (ROW) Snapshot Technology
Random Snapshot Deletion
Rollback to any snapshot
Mounting of snapshots as Read-Only or Read-Write
Caching-assisted snapshots

Backup
VSS-based backup support for Windows® 2003 Servers
iSCSI tape support through application server

Networking
iSCSI, TCP/IP, FTP, HTTP, HTTPS, SNMP
Windows® (CIFS), UNIX (NFS), AppleTalk®

iSNS Configuration
Up to 16 iSNS servers are supported
Compatible with MS iSNS Server v3.0 and later
iSNS client supporting Draft 22 of iSNS specification

Security
ACL security implementation supports: Local users, Windows® NT/2000 Domain users, Windows® 2003 Active Directory users, NIS Domain users
iSCSI Target Configurations
iSCSI Qualified Name (iqn) format
Enable/Disable individual network ports for iSCSI traffic
iSCSI target supporting iSCSI RFC 3720
Tight iSCSI and iSNS integration
iSCSI error recovery level 0, 1 and 2
Maximum of 4 connections per session
Multiple levels of authentication: Mutual CHAP, user name/password CHAP authentication & iSCSI initiator WWN name
iSCSI Portal Tag configuration from UI
View iSCSI data and error statistics

Management
Command line interface through RS232 & SSH
Integrated web-based management
Tool for easy customization, branding and themes

Event Management
Detailed Event Log
SNMP, SNMP Traps (up to 4 destinations)
SMIS 1.1 , VDS

Storage Data Management
Information Lifecycle Management (ILM)
Storage Resource Management / Storage Reports
LUN (Logical Unit Number) creation & management
LUN dynamic volume expansion
Dynamic NAS volume expansion
Unified RAID Management
RAID levels 0, 1, 5, 6, 10, 50, 60
Auto RAID rebuild

Remote Management
SNMP, SMIS 1.1, VDS

UPS Support
Universal UPS Support; Supports Windows® OS/iTX/Linux as UPS slaves and many UPS makes & models

Applications Supported
Oracle®, SQL, Microsoft® Exchange, VMware®, etc.

Advanced Features

Advanced Snapshot Technology
AMI's Advanced Snapshot technology enables up to 2,048 snapshots (R/O and R/W) at the block or file level. It also allows for rapid creation and deletion of a snapshot, permitting faster, more secure back-ups than ever before. Advanced Snapshot technology is focused on performance, enabling customers to mount, review and instantaneously roll back to a snapshot with ***near-zero degradation*** of data.

Snapshot-assisted Replication (SAR)
This technology allows chronological replication of snapshots on a remote machine, with the ability to organize by application-based consistency groups. In fail-over to a secondary appliance, StorTrends iTX will automatically rollback to the latest consistent snapshot.

Journal-assisted Replication (JAR)
The JAR module is essentially an application layer that registers with the Journal Module as a client and replicates data to the recovery site according to an administrator-defined schedule. Data is sent to the remote site along with metadata, so the recovery server can maintain its own CDP log and/or create snapshots.

WAN Optimization Data Services (WDS)
StorTrends utilizes several sophisticated techniques to optimize the speed of long distance WAN connections. It uses an intelligent mix of standards-based transport protocols to overcome the inefficiencies and high latencies of TCP protocols in WANs and provide excellent bandwidth utilization. Additional performance gains are made through data reduction technologies such as compression and data deduplication.

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