

HyperStor 4400

Each module provides

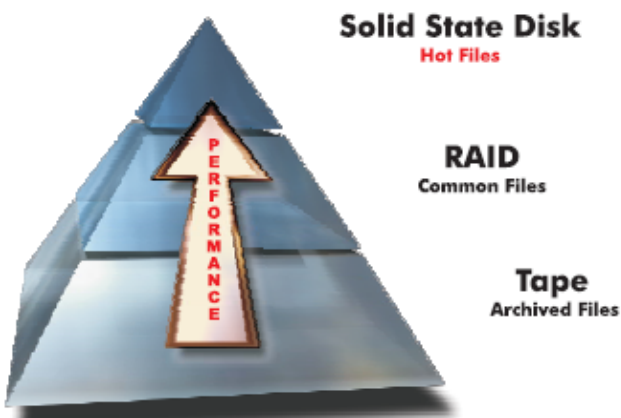
- 4.5 Gigabytes per Second
- 600,000 IOPS (Sustained)
- 512 GB Storage
- 2-8 FC Links (2 & 4Gb)
- InfiniBand (IB4—10 Gb)
- Hot-swap Modules

RAM-based Storage

The HyperStor 4400 is a storage appliance built for speed. Its data storage is based on fast DDR RAM media instead of mechanical rotating drives. With a memory bus architecture similar to high performance servers, each module has the extra bandwidth (4.5 GB/sec) needed for heavy operations. Its low latency has two advantages: it provides users with 100's x faster response times and allows 100's x more users to access the same volume. HyperStor supports from 2-8 Fibre Channel ports (2 and 4-Gb) operating at full speed. HyperStor provides an incredible performance improvement over the best disks.

Typical Storage Hierarchy

As computer performance increases faster than rotational disk performance, the traditional, two-level storage hierarchy scheme needs a new performance level. The high-performance HyperStor 4400 fills this need by allowing users to implement a three level storage hierarchy. Even under heavy



Typical Storage Hierarchy



load conditions, the 4400's I/O power and bandwidth make it possible for all of your computers to have immediate access to highly active data files simultaneously.

Installation and Management

The HyperStor 4400 is as easy to install as a disk drive. In its simplest configuration, it provides a direct link to one server through a host bus adapter (HBA). It can also be linked through Fibre Channel switches to hundreds of servers or workstations via SANs. Basic management operations, including manual shutdown and any alerts, are available from the front panel screen. Full monitoring and configuration capabilities are available over any browser via a protected Java applet. The HyperStor 4400 is fully SNMP compatible.

Highly Reliable Storage

With any storage device, reliability is a primary concern. The HyperStor is designed to offer superior reliability to solid state disks and other RAID devices. Its standard features include: ChipKill-protected RAM, hot swap power supplies, failover Fibre Channel ports, SNMP compatibility, three redundant internal batteries, and four redundant, hot swappable power fail backup disks.

Non-Volatile Backup Methods

The RAM used to give the HyperStor record-breaking performance would generally lose its data if power was lost. To ensure non-volatility, the HyperStor includes batteries and two distinct backup methods to its redundant internal RAID disks, configurable per LUN, to give the user the ultimate in versatility and reliability.

Use HyperStor For:

Real-Time Full Motion Video, Data-Mining, Database Acceleration, Extended Memory Operations

FIBRE CHANNEL and INFINIBAND CONNECTION

- 4-Gbit Fibre Channel (2-Gbit capable) & IB4 10 Gb InfinBand controllers available
- 2 ports standard; as many as 8 available
- Supports point-to-point, arbitrated loop, and switched fabric topologies
- Interoperable with Fibre Channel HBAs, IB HCAs, switches, and most OSs

MANAGEMENT

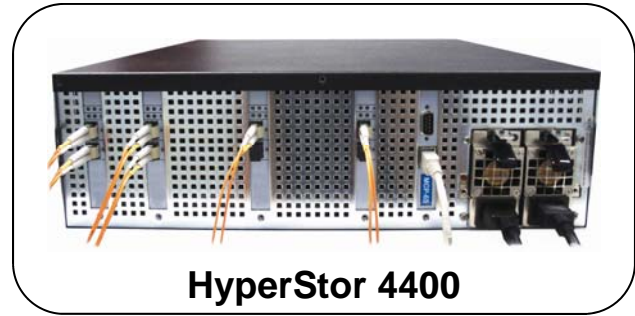
- Browser-enabled system monitoring, management, and configuration
- SNMP supported
- SSH remote management capability
- Front panel displays system status and provides basic management functionality

LUN SUPPORT

- 1 to 1024 LUNS with variable capacity on a per LUN basis
- Flexible assignment of LUNs to ports
- Hardware LUN masking

DATA RETENTION

- Non-volatile RAM-based disk
- Redundant internal batteries power the system after power loss
- Automatically backs up data to disk if power is lost or manual shutdown



HyperStor 4400

RELIABILITY AND AVAILABILITY

- High Availability architecture
- ChipKill technology protects data against memory errors up to and including loss of an entire memory chip
- Internal redundancies
 - Power supplies and fans
 - Backup battery power (n+1)
 - Backup hard disk drives (RAID3)
- Hot swappable components
 - Backup hard disk drives (front access)
 - Power supplies
- Active:Passive Fibre Channel failover (optional)

BACKUP PROCEDURES

Supports two backup modes that are configurable per system or per LUN — occurs at 1.4 GB/s:

- Data Sync mode synchronizes data to redundant internal disk drives before shutdown or with power loss.
- Active Backup™ mode (optional) backs up data constantly to internal redundant disks without impacting system performance.

ABOUT ViON CORPORATION

ViON Corporation (ViON) is a small, veteran-owned firm, established in 1980, and located in Washington, DC. We specialize in designing, delivering and maintaining storage and server solutions to high performance, enterprise-wide data centers throughout the federal, state, and local governments. We focus on solutions addressing Enterprise Storage, Disaster Recovery, Server Consolidation and Business Continuation in the NT, UNIX and z/OS environments.

ViON is an enterprise storage and systems expert helping our clients benefit from dramatic enhancements in storage and server technology. ViON's storage and server solutions are heterogeneous, cost competitive and technically unparalleled.

Specifications—per module	
I/Os per second	600,000
Capacity	512 GB
Bandwidth	4.5 GB/second
Fibre Channels: 2, and 4Gb InfiniBand	2-8 ports 1-4 ports
Latency	<15 microseconds
Back-up "Disk Drives"	Redundant Hot-Swap
Power Supplies	Redundant Hot-Swap
Batteries	3 Redundant
Size	4U x 25"
Power Consumption (peak)	450 Watts
Weight (maximum)	90 lbs

ViON Corporation
 1055 Thomas Jefferson St. NW,
 Washington, DC 20007-5234
 Phone: (202) 467-5500 Toll Free (800) 761-9691
 Fax: (202) 342-1404