

FlashDisk® OpenSAN

FX-700 Series

Supports up to 8 direct-attached hosts, scales to 112 TB, and provides SBOD expansion using Fibre Channel and SATA disks



The FX-700 is a fully redundant enterprise tiered storage solution that supports both high-performance Fibre Channel *and* cost-effective SATA storage running *simultaneously* on the same RAID head. Use as a “SAN-In-A-Box” and directly-attach up to 4 Fibre Channel hosts and support 224 disks of Fibre Channel *and* SATA storage. It can also direct-attach to 8 hosts with up to 112 disks of either Fibre Channel *or* SATA technology disks. The Fibre Channel SBOD (switched bunch of disks) expansion unit provides a point-to-point switched connection between the drives and the controller increasing performance, reliability and availability.

FX-700 Features

Capacity & Scalability

- Up to 33 TB with FC drives; 112 TB with SATA
- Add up to 14 expansion units of either Fibre Channel or SATA drives
- 4-host model supports up to 224 disks; maximum of 112 Fibre Channel *and* 112 SATA
- 8-host model supports up to 112 Fibre Channel *or* SATA disks

Reliability & Serviceability

- SBOD expansion unit dramatically increases reliability, availability and performance
- No single point of failure option
- All critical components can be redundant and hot-swappable: controllers, power supplies, fans, host ports, drive loop ports, AC power inlets, LAN & serial ports, cache backup batteries and enclosure management
- Redundant drive side loops with intelligent load balancing
- Hot spares with automatic drive rebuilds
- Supports multi-pathing and HBA failover

Compatibility

- Supports any open OS or server without any host software
- Supports up to 128 hosts on a SAN
- Supports switched fabric, point-to-point, FC-AL
- Cluster support: Windows, Novell, UNIX, Linux

Centralized & Remote Management

- Managed out-of-band via Ethernet, Telnet, FlashConsole management appliance
- Automatic event and problem alert notification
- FlashAlert 24-hour “call-home” support service
- Centrally manage from any LAN workstation with a web browser without additional software

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1U RAID Head

RAID Controllers
Maximum I/O rate
Maximum data thrupt
Redundant controller functions

RAID levels supported
On-line capacity expansion
Cache memory capacity
Non-volatile cache
Maximum LUNs
LUN masking
Front end (host) connectivity
Back end (disk) connectivity
Power supplies
AC Power Inlets
Max. external cable length
Operating LCD console
1U RAID Head dimensions
1U RAID Head weight
RAID head power consumption

FX-700

Single or redundant, 2 Gb FC, 64-bit
160,000 I/Os per second
740 MBs/second reads; 500 MB/second writes
Active/active or active/passive with RAID Cache Coherency (RCC)
1, 3, 5, 1+0, 30, 50
Automatically adds new drives to existing array
512 MB per controller, upgradable to 2 GB
Redundant Li-ION batteries – min. 60 hours
1024 configurable LUNs
Configurable using WWN (World Wide Name)
Up to 8; 2 Gb/sec. SFP ports
Up to 8; 2 Gb/sec. SFP disk loops
Dual hot-swap redundant, 250 Watts each
Dual IEC power connect
Up to 10 kilometers with extended optical SFPs
View and manage storage with front panel display
1.7" h x 17.5" w, 21.3" deep; std. 19" rackmount
33 lbs.
150 Watts

Disk Drives

Fibre Channel

10k rpm disks
15k rpm disks
10k rpm and 15k rpm disks

SATA

7200 rpm disks
10k rpm disks

300 GB
36 GB
73 GB, 146 GB

400 GB, 500 GB
74 GB WD Enterprise SATA (ESATA)

3U FC SBOD Expansion

Maximum drives
Maximum capacity
Removable drive trays
Power supplies & cooling fans
Active components
S.E.S./LRC Module
Shelf dimensions
Shelf weight
Uninterruptible power supply
Redundant AC power

Model #EX-1630

16 per unit - 112 maximum fully expanded
4.8 TB per unit - up to 33 TB expanded
Hot-swappable, individual drive LEDs and keylocks
Dual hot-swap redundant, 450 Watts each
No active data path components on the midplane
Dual loop, single module
5.25"h x 17.5" w, 20" deep; std. 19" rackmount
Approximately 80 lbs. fully loaded
Required when write-back cache is enabled
Dual 110 to 260 VAC Inlet

1U RAID Head



FlashDisk OpenSAN 1U RAID head can be configured for capacity expansion of up to 112TB with 500 GB SATA drives.

Removable I/O Modules



FlashDisk OpenSAN has removable I/O modules for fast and easy upgrading.

Tiered Storage Solution



FlashDisk OpenSAN FX-700 provides up to 33 TB of Fibre Channel or 112 TB of SATA storage with up to 13 expansion shelves per 1U RAID head. Perfect for a tiered storage solution.

<p>3U SATA Expansion Unit Maximum drives Maximum capacity Removable drive trays Power supplies & cooling fans Active components S.E.S./LRC Module Uninterruptible power supply Redundant AC power Shelf dimensions Shelf weight Operating temperature Cooling System Relative humidity</p>	<p>Model #SA-3430 16 per unit - 224 maximum fully expanded 8 TB per unit - up to 112 TB expanded Hot-swappable, individual drive LEDs and keylocks Dual hot-swap redundant, 460 watts each No active data path components on the midplane Dual loop, single module Required when using drive write-back cache Dual 90-260 VAC Inlet, 47-63 Hz 5.25" h x 17.5" w x 21.5" deep; std. 19" rackmount Approximately 80 lbs. fully loaded 0° to 40° C Two Dual hot-swap, ball bearing blowers; <50 dB-A 5-95%, non-condensing</p>
<p>Compatibility Operating systems supported <i>(No host software drivers required)</i> Platforms supported Cluster support</p> <p>Remote monitoring ports Communication protocols Compliance</p>	<p>Supports 15 Operating Systems including Windows, Linux and UNIX Intel, AMD, SUN, HP 9000, IBM RS/6000, Apple, SG Supports 8 industry standards including Windows, Linux, and Veritas Dual 10/100 Ethernet, dual RS-232 TCP/IP, SNMP, SSH FCC, UL, CE, CSA</p>
<p>Options FlashNAS Appliance XOssoft WANsync StoreAge Appliance</p>	<p>High performance NAS file with snapshots Replication over IP for disaster recovery Unlimited snapshots, mirroring, asynchronous replication over IP, all host independent</p>
<p>Storage Management Manage out of band Centralized management</p> <p>FlashConsole appliance FlashAlert call home service</p>	<p>Ethernet, Telnet, Manage from any LAN workstation with a web browser and no additional software. Automatic event and problem alert notification 24 hour call center available for immediate action</p>
<p>Warranty & Service Standard Warranty Installation and service</p>	<p>One year, next day on-site and toll-free-hotline On-site installation; 24x7 service available</p>



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Microsoft
Windows
Storage Server 2003

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