

FlashDisk® PetaStore™ FX-4U60 Series

**Highest Density, Highest Capacity, Highest Speed, Lowest Cost Storage
Up to 16 Host Ports, 1.2 Million IOPS and 5,500 MB/sec.**

Big Data Applications

The major problem facing organizations today is the explosion in the amount of data required for immediate retrieval. Large scale scientific, healthcare, e-discovery, financial, e-mail archive and database applications as well as unfathomable numbers of photo, video, audio, Word, Excel, PowerPoint and social media files used in daily office automation create huge storage demands. This is the “big-data” problem. The enormity of this situation, especially with multiple backup copies, demands a solution that addresses all of these critical facets:

- *Scalable capacity*
- *Simple management*
- *Easy-to-service*
- *Scalable performance*
- *Flexible configurations*



Scalable Capacity

Designed for high density, FlashDisk PetaStore offers up to 600 disks in 40U of rack space totalling 4.8 Petabytes (PB) in a single cabinet, using 8 TB disk drives. As the capacity of each 3.5” drive continues to increase, these cabinet capacities will continue to grow and continue to provide higher storage density - storing more data in less physical space.

Scalable Performance

FlashDisk PetaStore offers outstanding performance because the purpose-built disk controllers are fine-tuned for “big data.” A single PetaStore cabinet with two controller shelves delivers up to 6 GB/sec. write and 11 GB/sec. read throughput - actual measured end-to-end usable performance. These high-speed disk controllers are the true engine of PetaStore, outperforming competing platforms that have even more spindles. Now in its 13th generation, FlashDisk delivers superior access and transfer rates for your mountain of “big data”.

Simple Serviceability - Three top-loading drawers with 20 drives each!

The ability to easily service a unit, especially units of the scale that “big data” environments require, is paramount in cost-reduction. This unit is designed for self-service, offering significant operating cost savings. All PetaStore components are redundant, easily accessible and hot-swappable including controllers, drives, power supplies and fans. A special PetaStore feature is that front-loading, lightweight drive drawers slide forward from shelves and operate while being serviced. The design is superior to potentially unsafe competitive top-loading designs that require the entire shelf, which is very heavy, to be completely retracted.

Simple Management

Being able to easily configure, re-configure, and manage all of this hardware is key to a low-cost implementation. FlashDisk PetaStore utilizes the FlashDisk Global Manager which enables organizations to use a “single pane of glass” to manage and control an unlimited number of PetaStore cabinets. All the wealth of FlashDisk PetaStore software functionality is available in this one application.

Flexible Configurations

FlashDisk PetaStore allows configuring the system to specific needs and permits scaling of capacity and performance independently as required. FlashDisk PetaStore supports both SAN block storage and NAS file storage. The NAS option supports CIFS and NFS file storage in any combination. FlashDisk PetaStore supports Fibre Channel and iSCSI data transport protocols. Thus FlashDisk PetaStore works in your infrastructure of choice to meet your unique requirements.

Purpose-Built

FlashDisk PetaStore is unique in its ability to provide for all of these important facets at the same time, while other solutions are only strong at a few. PetaStore is the “Purpose-Built” storage solution designed to be the best value for your “big data” needs.



FX-4U60 Drive Removal



FX-4U60 offers easy access to top-loading drives with three separate drawers for convenience and safety.

FX-4U60 Rear Views

FX-4U60 supports modular and removable ports including:

- * Fibre Channel 16Gb & 8 Gb
- * iSCSI 10 GbE & 1GbE
- * SAS 6 Gb.



FX-4U60 shown with 8 Fibre Channel 8 Gb ports and 4 iSCSI 1GbE ports.



EX-4U60 expansion with 2 SAS 6 Gb ports.

FX-4U60 RAID Base Unit

Dual-redundant RAID Controllers
Drive canisters
RAID levels supported
Host interfaces
Drive interface
Max # of drives/Total capacity
Cache memory capacity
Hot spare drives
Non-volatile cache
Maximum LUN size
Maximum number of LUNs
LUN masking
Port mapping
Multipathing (MPIO)

Dual redundant 64-bit, 13th generation controllers
3, each holding 20 (3.5"/2.5") SAS disks or SSDs
0, 1(0+1), 3, 5, 6, 10, 30, 50, 60
1GbE, 10GbE (copper or fiber), SAS 6Gb, FC 8Gb, FC 16Gb
6 Gb/s SAS
360 drives/2,880 TB maximum capacity (via expansions)
Max. 16 GB per controller, included standard
User configurable
Optional battery backup, flash-based backup module
512 TB
1024 LUNs
Configurable for each host LUN on FC SAN
Map ports to servers for direct attach environments
MPIO supported for all major operating systems and Hyper-V, Citrix XenServer and VMware hypervisors

FX-4U60 General

Power supplies
AC input
Power consumption
RAID unit dimensions (WxHxD)
RAID unit weight
Temperature
Humidity
Compliance

2 x 1,600 Watts
200-240 VAC, 47-63 Hz
600 Watts typical draw
17.53" x 6.93" x 34.70"
266.8 lbs. fully loaded (HDDs)*
0° to 35° C operating; -40° to 60° C non-operating
5-95% (non-condensing - operating and non-operating)
UL approved; FCC & CE pending

EX-4U60 Expansion Shelf

Drive canisters
Drive interface
Power Supplies
AC input
Power consumption
Expansion dimensions (WxHxD)
Expansion weight
Temperature
Humidity
Compliance

3, each holding 20 (3.5"/2.5") SAS disks or SSDs
6 Gb/s SAS
2 x 1,600 Watts
200-240 VAC, 47-63 Hz
500 Watts typical draw
17.52" x 6.93" x 34.70"
266.8 lbs. fully loaded (HDDs)*
0° to 40° C operating; -40° to 60° C non-operating
5-95% (non-condensing - operating and non-operating)
UL approved; FCC & CE pending

Controls and Indicators

Firmware embedded manager
Indicators

Access via front-panel LCD, RS-232 port, Ethernet
Front panel power and status indicators

Compatibility

Operating systems
Platforms supported
Remote monitoring ports

Supports industry standard operating systems
Supports Fibre Channel and embedded FPGA hosts
RS-232 and 10/100 Ethernet

Storage Management

Event notification
FlashAlert call home service
Manage out of band
FlashDisk Global Manager GUI

Automatic event and problem alert notification
24-hour call center available for immediate action
Ethernet
Manage storage services of multiple FlashDisks from any web browser

Warranty & Service

Standard warranty
Service contracts
Secure site
Installation and service

Three year factory warranty and toll free hotline during business hours
Optional on-site service, spare parts and advance parts replacement
Customizable service programs for classified sites
On-site installation; 24x7 service available

**High-density storage such as FlashDisk PetaStore may require special reinforcement in a raised floor environment. Ensure floor loading capacity is not exceeded.*

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Purpose-Built Storage