

# Commercial Product Portfolio

## Fibre Channel & iSCSI Storage

- Purpose-built for demanding, high-performance workloads
- Tunable for high throughput, high IOPS, or both
- 3.5" and 2.5" drive systems and expansions
- Can be re-badged with your logo



FlashDisk® Series	FX-2000	FX-3000	VX-2000	VX-3000
Form Factor	2U Rack-mount	3U Rack-mount	2U Rack-mount	3U Rack-mount
Internal SAS Drive Bays	24 (2.5"), 12 (3.5")	16 (3.5")	24 (2.5"), 12 (3.5")	16 (3.5")
Max # of Drives (same size expansion shelves)	168 (2.5"), 108 (3.5")	144 (3.5")	144 (2.5"), 84 (3.5")	112 (3.5")
Max Capacity (raw)	168TB (2.5"), 432TB (3.5")	576TB	144TB (2.5"), 336TB (3.5")	448TB
8/16 Gbps FC Performance*	IOPS: 1230K; Seq. Read: 5500MB/s, Seq. Write: 3960MB/s		IOPS: 140K; Seq. Read: 2850MB/s, Seq. Write: 1063MB/s	
10 GbE iSCSI Performance*	IOPS: 464K; Seq. Read: 4630MB/s, Seq. Write: 1990MB/s		IOPS: 79K; Seq. Read: 1330MB/s, Seq. Write: 706MB/s	
1 GbE iSCSI Performance*	IOPS: 367K; Seq. Read: 1053MB/s, Seq. Write: 1037MB/s		IOPS: 75K; Seq. Read: 918MB/s, Seq. Write: 585MB/s	
6 Gbps SAS Performance*	IOPS: 354K; Seq. Read: 4791MB/s, Seq. Write: 3102MB/s		IOPS: 116K; Seq. Read: 2616MB/s, Seq. Write: 1187MB/s	
Max Snapshots	4096			
Max Local Mirror/Replicas	256 (from up to 32 source volumes)			
Max Remote Replicas	-		64 (from up to 16 source volumes)	
Automated Thin Provisioning	Yes			
RAID Levels	0, 1, 3, 5, 6, 10, 30, 50, 60			
Cache (per controller)	8GB DDR-III		2-4GB DDR-II	
Cache Backup	CompactFlash			
Redundant, Hot-Swap Controllers	Single or Dual (active-active)			
Redundant, Hot-Swap Power Supplies & Fans	Yes			
Automated, app-consistent snapshots and volume copies	FlashD2D			
Storage Management	Front Panel LCD keypad, RS-232, Ethernet; FlashDisk Global Manager ("single pane of glass" management of multiple systems)			

\*Best-case benchmark results using Iometer. 16Gb FC is available only on FlashDisk FX; results obtained using half the number of FC ports.

## NAS Gateway

- Purpose-built high performance, manageable, scalable NAS
- File-server gateway for FlashDisk storage systems
- Powered by Windows Storage Server 2008 R2 (CIFS / SMB)
- Integrated NFS with automatic file/directory permission and user-authentication mapping
- Share files seamlessly between Windows, Linux and Unix



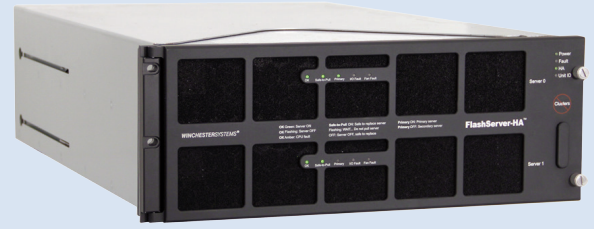
FlashNAS™ Series	FN-1000
Form Factor	1U Rack-mount
Unified Access	Windows, Linux and Unix users access/share any file
Supported Protocols	CIFS/SMB, NFS
Unified Security	Automatic authentication mapping between Unix/Linux users and Windows users Automatic translation of file permissions and ACLs between Unix and Windows security models
De-duplication	File level, single-instance storage
Carrier Grade	Yes; NEBS-3 Certified
Advanced Thermal/Mechanical Features	Heavy-duty air filtration Runs 50% cooler than typical 28" to 30" designs
Hot-plug fans	Yes

[www.winsys.com](http://www.winsys.com)

101 Billerica Ave., Bldg. 5, Billerica, MA 01862  
800-325-3700 · 781-265-0200 · fax: 781-265-0201

## Hardware-Mirrored Servers

- **Safety**
  - Redundant servers mirrored in hardware
  - Immediate hardware error detection and isolation
  - Continuous operation through failure events
- **Simplicity**
  - Operate and manage like a single server
  - Eliminate clustering-software cost and complexity
  - Repair by merely sliding in replacement module while system is running
- **Savings**
  - Lower total system cost (including software licenses) than equivalent cluster configurations
  - Lower complexity = lower operational costs
  - Continuous availability = protection against revenue loss



FlashServer™ HA Series	HA-4200	HA-4300	HA-4400
Form Factor	4U Rack-mount		
Internal hot-plug 2.5" SAS slots (logical)	8		
No. of Processors (logical)	1 to 2		
CPU	Intel Xeon X5670 (2.93 GHz / 6-core)	Intel Xeon E5-2603 (1.80 GHz / 4-core)	Intel Xeon E5-2670 (2.60 GHz / 8-core)
Memory Clock	1333 MHz	1066 MHz	1333 MHz
Max Memory (logical)	96 GB	256 GB	
LAN Ports	4 x 1000BASE-T, 2 x 100BASE-TX (Mgt)	4 x 1000BASE-T, 2 x 100BASE-TX (Mgt)	4 x 10GBASE-T, 4 x 1000BASE-T, 2 x 100BASE-TX (Mgt)
Expansion Slots	2 x Low-profile PCIe gen 1 2 x Full-height PCIe gen 2	2 x Low-profile PCIe x4 Gen 2	2 x Low-profile PCIe x4 Gen 2 2 x Full-height PCIe x8 Gen 2
Supported Operating Systems	Windows Server, Red Hat Enterprise Linux, VMware vSphere 5	Windows Server ( <i>other OSes coming soon</i> )	

## Carrier-Grade Servers

- Purpose-built rugged Intel servers
- High performance for demanding I/O workloads
- Balanced-system mate for FlashDisk
- Advanced thermal and mechanical design
  - Carrier grade: NEBS-3 certified
  - Heavy-duty dust filters - easy to replace
  - Removable temperature-driven fans



FlashServer™ Series	FS-1600	FS-2600
Form Factor	1U Rack-mount	2U Rack-mount
Internal hot-plug 2.5" SAS slots	2	6
No. of Processors	1 to 2	1 to 2
CPU	Intel Xeon 5600 (6-core)	Intel Xeon E5-2600 (8-core)
Max Memory	96 GB	256 GB
LAN Ports	4 x 1000BASE-T	4 x 1000BASE-T
Expansion Slots	2 x Full-height PCIe x8 Gen 2	Up to three x16 Gen 3, or up to five x8 Gen 3

## Accessories

- Fibre Channel switches and cables
- Ethernet Switches and cables
- Host-bus adapters
- Uninterruptable Power Supplies (UPSes)
- Cabinets
- Anything else you need? Just ask!*

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Purpose-Built Storage