### **WINCHESTER**SYSTEMS

Purpose-Built Storage

# FlashServer<sup>™</sup> Rugged Server FS-1700 Series

## Rugged Intel Xeon E5-2400 Server Supports 16 Cores & Petabyte of Data For Demanding Environments at COTS Prices

#### Rugged FlashServer FS-1700

FlashServer FS-1700 is a rugged 1U server that delivers high performance in demanding environments. Featuring single or dual Intel Xeon E5-2400 64-bit CPUs (up to 16 total cores), the FS-1700 is NEBS-3 compliant for stringent telco demands, and built to meet MIL-STD-810G environmental specs. The server's advanced thermal and mechanical design enables its enclosure to be only 21" deep while

running 50% cooler than typical 28" to 30" servers. Just



Combine Rugged FlashServer FS-1700 with Rugged FlashDisk data storage expandable to over 1 PB for a complete rugged environment from one vendor.

as important, the FS-1700 performs reliability in shock and vibration environments of up to 20G. The front door features a removable bezel and removable filter that protects against dust and humidity. Four redundant, hot-swappable fans with temperature-driven fan speed provide optimal cooling on demand.

#### Expandability and Outstanding Performance In a Small Space

FlashServer FS-1700's 21" deep, 1U high chassis packs up to 16 cores of processing power into a compact footprint. Two locking hotswap 2.5" SAS drive bays support mirrored boot devices and nominal internal storage. Two full-height, full-length PCIe expansion slots enable I/O expansion and flexible configurability. FlashServer brings state-of-the art server technology to demanding environments with its small size, rugged construction, and multi-core processors. The system supports Intel E5-2400 CPUs at speeds to 2.3 GHz, and up to 384 GB memory to provide the highest possible performance and scalability in a rugged, durable server.

#### Rugged FlashDisk External Data Storage

Up to 1 Petabyte of external storage can be added to FlashServer FS-1700 using two external RAID disk arrays. The companion product line of 1U, 2U and 3U Rugged FlashDisk RAID Disk Arrays provide high capacity, high performance rugged storage to accompany FlashServer in demanding environments. 1U



FlashServer FS-1700 rear shown with four added Ethernet and two added Fibre Channel ports.

FlashDisk arrays offer 2.5" disk drives for compact size, exceptional performance and low power. The 2U and 3U systems support both 2.5" and 3.5" SAS disk drives with 12 and 16 drives per shelf, expandable to sevenshelves total for a maximum capacity per array of over 1 PB. Multiple arrays can be attached to a single server. Best of all, acquiring rugged servers and storage designed to work together from one vendor provides a single point of service—and great peace of mind.

#### FlashServer FS-1700

Designed for High Reliability in harsh operating environments

#### **Rugged Features**

- -NEBS-3 compliant
- -Designed for MIL-STD-810G
- -Heavy-duty dust filters easy to replace
- -Shock isolated boot disks
- -Quad removable temperature-driven fans
- -Rugged strain reliefs for host cables

#### **Server Capabilities**

- -Intel Xeon E5-2400 CPUs to 16 cores
- -Up to 384 GB memory
- -2 full PCIe expansion slots
- -Supports over 1 PB of data storage
- -Supports iSCSI, SAS and Fibre Channel
- -Rackmount slides included

FlashServer FS-1700 Specifications	
Dimensions	19" x 21.3" x 1.75"
Processor	Single/Dual Intel E5-2400 CPU - 16 total cores
Chassis	NEBS-3 compliant; designed to MIL-STD-810G
Maximum Memory	384 GB memory in 12 DIMMS, 1,600 MHz
PCIe Expansion Slots	Two PCIe x8 Gen 3
2.5" SAS/SATA Disk Bays	2 locking hot-swap disks in shock isolated cage
Supported Disks	HDD to 1.0 TB; SSD to 1.6 TB
Hardware RAID Controller	RAID 1 & 0; LSI 6 Gb SAS2008
Power Supplies	Redundant 650W AC
AC Power	Dual 90-264VAC, 47-63 Hz
Cooling	4 redundant, hot-swap, temperature-driven fans
Front Panel	Removable with dust filter
Standard Ports	4 x 1GbE, 2 USB 3.0, 1 USB 2.0, 1 VGA, 1 RS-232
Weight	32 pounds fully loaded
Operating Temp.	5° to 40°C
Non-Operating Temp.	-40° to 70° C
Altitude	0 - 10,000 feet
Humidity	5% to 95% (40° C) non-condensing

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