

FlashServer™ Rugged Server RS-2600 Series

**Rugged Intel Xeon E5-2600 v2 Server Supports 20 Cores
Plus Self Encrypting SSDs For Demanding Environments at COTS Prices**

**Rugged Durability, Outstanding Performance,
Expandability and Durability In a Small Space**

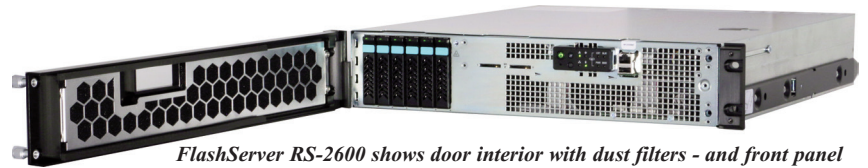
FlashServer RS-2600 is a rugged 2U Intel server that delivers high performance in demanding environments, combining high-speed Intel processors with advanced thermal and mechanical design. Supporting single or dual Intel Xeon E5-2600 v2 64-bit CPUs and up to 20 processor cores and 40 threads, the system holds up to six hot-swappable 2.5-inch SAS hard drives (HDDs) or solid-state disks (SSDs) and four internal PCIe SSD cards with a total capacity to 31.2 TB of internal fixed and removable storage with 2 TB SSDs. The system is ready for 4 TB SSDs when available in 4Q 2014. Storage can be further expanded using COTS Rugged FlashDisk® RF Series RAID arrays. FlashServer is specially designed to last five to ten years for long life cycle military programs. Sturdy 0.75" aluminum door and optional rugged 1U mounting tray also protect against FOD (Foreign Object Damage).

The RS-2600 meets MIL-STD-810G environmental specs and is NEBS-3 compliant for telco configurations. Only 20" deep, it runs 50% cooler than typical 28" to 30" servers, and provides high reliability in shock and vibration environments of up to 25G. The system is cooled by four redundant, hot-swappable fans with temperature driven fan speed for optimal cooling on demand, and is available with AC or DC power. It offers the highest RAS (Reliability, Availability and Scalability) available in a 2U short-depth form factor.

Expanding the network and I/O capabilities of FlashServer is easy. Commercial off-the-shelf networking and host-bus adapter cards can be installed in two to five 3rd-Gen full height PCIe slots. The RS-2600 features two PCIe riser assemblies. Each riser is configured to contain either one (1) PCIe x16 or two (2) PCIe x8 horizontal full-height connectors. Dual-processor systems support one additional full-height PCIe x16 or x8 slot.



Combine Rugged FlashServer RS-2600 with Rugged FlashDisk data storage, with up to 96 TB per expansion unit, for a complete rugged environment.



FlashServer RS-2600 shows door interior with dust filters - and front panel with power button, status indicators and six removable 2.5" drive bays.

FlashServer RS-2600

Designed for High Reliability
in Harsh Operating Environments

Rugged Features

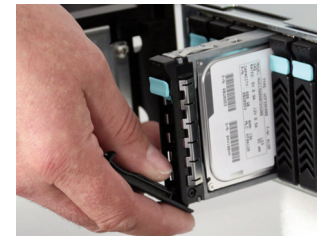
- Designed for MIL-STD-810G
- NEBS-3 certification
- Rugged 0.75" milled aluminum door with robust hinges and aircraft-grade locking thumbscrews
- Shallow 20" depth for mobile applications
- Narrow 17" width supports triple section slide rails for vehicle/shipboard/aircraft
- FOD (Foreign Object Damage) protection
- Heavy-duty 0.5" dust filter - easy to replace
- Quad removable temperature driven fans
- Rugged strain reliefs for host cables

Server Capabilities

- Long life cycle for 5-10 year programs
- Intel Xeon E5-2600 v2 CPUs to 20 cores and 40 threads (Hyperthreading)
- Up to 512 GB memory
- Up to 5 full PCIe expansion slots
- Intel RRM4 Remote Management
- COTS Rugged FlashDisk RAID storage
- Supports VMware, Windows 2012, Linux
- Supports iSCSI, SAS and Fibre Channel
- Tool-less rack mount slides included

Rugged FlashDisk External Data Storage

External rugged FlashDisk RAID storage can be added in 1U, 2U and 3U rack-mount building block sizes to accompany FlashServer in the most demanding environments. The 1U product offers 2.5" disk drives for compact size and exceptional performance and low power. The 2U and 3U systems offer both 2.5" and 3.5" SAS disk drives with 12 and 16 drives per shelf, expandable to eight shelves total with 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 peace of mind.



Six hot-swappable redundant disks can be removed and replaced without interrupting normal operation.

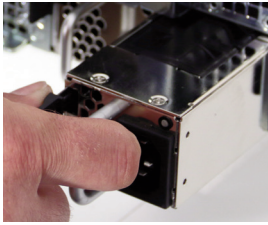
FlashServer RS-2600 Removable HDDs & SSDs and PCIe SSD Support

Disk Drive Types	Qty	Capacities	Max. Capacity	Use Case
2.5" SAS HDD 15k rpm	6	300, 450, 600 GB	1.8 TB	High IOPS
2.5" SAS HDD 10k rpm	6	600, 900 GB; 1.2 TB	7.2 TB	Best value
2.5" SAS SSD MLC	6	200, 400, 800 GB; 2.0 TB	12.0 TB	High IOPS
2.5" SAS SSD Encrypted	6	400, 800 GB; 1.6, 2.0 TB	12.0 TB	Data Security
PCIe SSD	4	550 GB; 1.1, 2.2, 4.8 TB	19.2 TB	IOPS (non-removable)

FlashServer RS-2600 supports hot-pluggable HDDs and SSDs with capacity to 12 TB. Internal PCIe supports four SSD cards to 19.2 TB total that deliver 1.1 million IOPS each - for a total of 31.2 TB of internal storage. FlashDisk RF Series COTS Rugged storage offers 2U & 3U external enclosures with up to 96 TB each. Self Encrypted Solid State Disks (SEDs) deliver ultimate security for military operations.

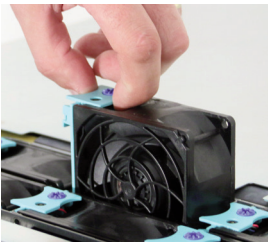
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**RS-2600 Removable
Rear Loading Power Supply**



Two hot-swap redundant power supplies can be removed and replaced without interrupting normal operation.

**RS-2600 Removable
Top Loading Fan**



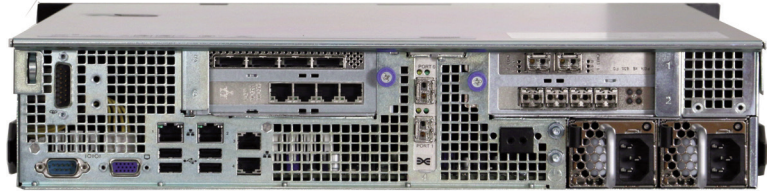
Six hot-swap redundant fans are top accessible can be removed and replaced without interrupting normal operation.

4 TB SSDs
available
4Q 2014

**RS-2600 Rugged 2U Server
for Vehicle, Shipboard and Airborne Applications**



FlashServer RS-2600 is 2U high and only 20" deep for deployment in mobile applications aboard vehicle, ship and airborne platforms in harsh environments.



Rear view of FlashServer RS-2600 showing one external PCIe x16 (center) and four PCIe x8 slots. Configurations of up to three external PCIe x16 slots are also available.

**FlashDisk External Rugged Disk Expansion
for FlashServer RS-2600**



FlashServer can be expanded in capacity with external FlashDisk rugged RAID disk arrays like the RF-2U12 array and expansion shelf shown. FlashDisk offers 2U shelves with up to 72 TB each and 3U shelves with up to 96 TB each.

**Optional 1U
COTS Rugged Smart Tray**



**COTS Rugged 1U Tray
Features**

- Welded aluminum tray is bolted to RS-2600 server for superior strength
- Front access to rear panel in tight fit
- 28V DC power option
- EMC input filter options
 - MIL-STD-461F or
 - MIL-STD-704F or
 - DO-160G

FlashServer RS-2600 Specifications

Dimensions	17.14" x 20" x 3.45"
Processor	Single/Dual Intel E5-2600 v2 CPU - 20 total cores
Chassis	NEBS-3 compliant; designed to MIL-STD-810G
Maximum Memory	512 GB memory in 16 DIMMS
PCIe Expansion Slots	4x8 slots / 2x16 slots / (2x8 slots or 1x16 slots) plus 2 PCI-x
2.5" SAS Disk Bays	6 locking hot-swap disks
Supported Disks	HDD to 1.2 TB; SSD to 2.0 TB; PCIe SSD to 2 TB
Hardware RAID Controller	RAID 0, 1, 5, 6
Power Supplies	650W AC or 650W DC -48V
AC Power	Dual 110-240VAC, 50-60 Hz, 5-10A
Cooling	6 redundant, hot-swap, temperature-driven fans
Front Panel	Removable with dust filter
Standard Ports	4 x 1GbE, 5 USB 2.0, 1 VGA, 1 RS-232
Weight	40 pounds fully loaded
Operating Temp.	5° to 40°C
Non-Operating Temp.	-40° to 70°C
Altitude	-197 to 5,906 feet @40°C max 5,906 to 13,123 feet @30°C max
Humidity	5% to 95% (38° C) non-condensing

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