

RAM-SAN™

10-TB

The World's Fastest Storage®

RamSan-630

- 4-10 TB Flash Storage
- 8 Gigabytes per Second
- 500,000 IOPS
- 2-10 FC Links (4Gb)

Very Fast Solid State Disk (SSD)

The RamSan-630 storage system is the World's Fastest Flash Storage system. With a capacity of 10-TB, 8-GB/sec bandwidth, and 500,000 IOPS, the RamSan-630 sets the bar for Enterprise Flash storage. Designed for reliability and simple system management, the RamSan-630 incorporates 2 Error Correcting Circuits (ECC) and the many standard management features inherent to all RamSan storage systems. Like all previous RamSan systems, the RamSan-630 is easy to install.

Features

The RamSan-630 has the features you expect:

- A Complete Flash storage system in a 3U rack
- Low Overhead, Low Power, High Performance
- High IOPS, Bandwidth, Capacity
- Standard Management Capabilities
- Active Spare for ultimate system reliability
- Two Flash ECC Protection Levels
- Includes Super Caps for orderly power down
- Easy to Install
- Fibre Channel interfaces
- Infiniband interfaces
- Scalable, Expandable, Flexible
- Low cost of ownership
- Low incremental upgrade cost
- Add performance and capacity incrementally

Call or Email TMS at Sales@RamSan.com

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Flash



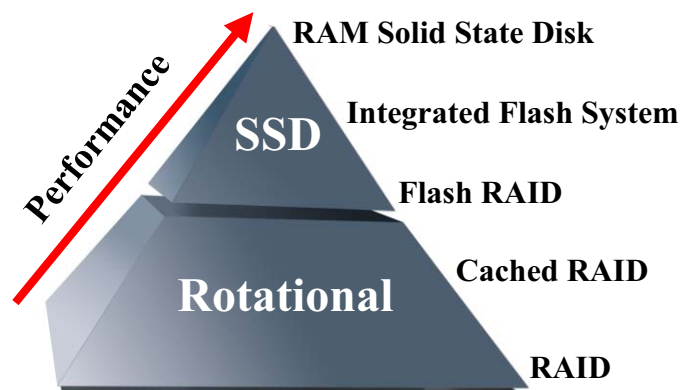
RamSan-630

Automatic Error Checking

Storage data integrity is provided by the use of **SLC** Flash chips with two independent methods of ECC. Each Flash chip incorporates an ECC data field within the chip for initial checking. Additionally, each set of flash chips is organized as a board-level RAID; thereby preventing any single chip failure from corrupting data. At the system-level, a board can be designated an *Active Spare*. In the event of a Flash chip failure, *Active Spare* migrates the data from the flash card with a degraded RAID onto the designated *Active Spare* to return to fully redundant state without the need for unscheduled maintenance.

Applications for the RamSan-630

Databases	Hot Files
Video Editing	Index Files
Lookup Table	Rendering
Data Warehousing	Web Content
Financial Modeling	Check Points
Data Acquisition	Simulations



ENTERPRISE FLASH STORAGE

- The RamSan-630 uses the most reliable type of NAND Flash: Single Level Cell (SLC).
- The RamSan-630 system has three levels of data protection:
 - Level 1: Proprietary error correcting code (ECC) that detects and corrects single bit errors for each 128 byte chunk of data.
 - Level 2: RAID algorithm to ensure that the failure of a Flash memory chip does not result in data corruption.
 - Level 3 (optional): If a card fails, the system migrates the data on that card to the Active Spare to return to a fully redundant state.
- A sophisticated wear leveling algorithm keeps the system from wearing out for more than 12 years under demanding write conditions.

DATA RETENTION

- Completely nonvolatile solid state disk.

FLEXIBLE DATA MANAGEMENT

- A LUN can be created that accesses a single card or a set of cards in the RamSan-630. This flexibility allows you to mirror LUNs for maximum data protection. These LUNs can then be seen externally by servers, storage appliances, or controllers.
- The RamSan-630 can utilize all of its 8-20 Flash cards. This mode will deliver the best possible performance but would usually require external mirroring of the entire RamSan-630 chassis.

Specifications

Capacity	4-10 TB SLC Flash
I/Os per second read/write	500,000 (random)
Bandwidth	8-GB/second
Latency	80 μ s
Enterprise Protection	Board-level RAID Chip-level ECC
Power Supplies	Redundant Hot-Swap
Size	5.25" (3U) x 18"
Power Consumption	450 Watts (typical)
Weight (maximum)	55 lbs
Interfaces: Fibre Channel	2-10 (4Gb)
Infiniband	1- 5 (40Gb)

Disclaimer: Texas Memory Systems acknowledges that individual RamSan products have single points of failure. If you require a High Availability SSD solution, please contact info@ramsan.com for *Storage Best Practices*.



RamSan-630

SCALABILITY

- 4 to 10-TB SLC Flash Storage
- Multiple RamSan-630s can be scaled to higher capacities: one 42U rack can hold 140-TB

LUN SUPPORT

- 1 to 1024 LUNS with variable capacity per LUN
- Flexible assignment of LUNs to ports

MANAGEMENT

- Browser-enabled system monitoring, management, and configuration
- SNMP support
- Telnet management capability
- Front panel displays system status and provides basic management functionality

FIBRE CHANNEL CONNECTION

- 4-Gb Fibre Channel controllers
- 2 ports standard; up to 10 ports available
- Supports point-to-point and switched fabric topologies
- Interoperable with most Fibre Channel Host Bus Adapters, switches, and operating systems

INFINIBAND CONNECTION

- QDR Infiniband
- 1 port standard; up to 5 ports available
- Supports SRP Upper Layer Protocol
- Interoperable with most InfiniBand Host Channel Adapters, switches, and operating systems
- Available Q2 2010

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