RamSan-220

How can vital data get the speed it demands?

The World's Fastest Storage®

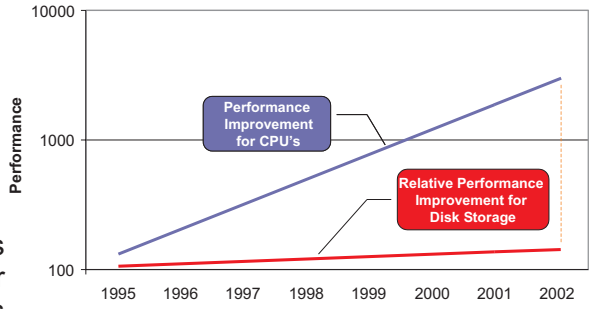
There is only one reason to buy a solid state disk: performance. For a solid state disk to be worthy of investment, it must perform orders of magnitude better than conventional RAID with superior levels of reliability and availability. If processors are not waiting on storage for data, then a solid-state disk provides no solution. If they are waiting, however, the fastest solid-state disks can open the floodgates of network performance.

Benefits of Solid State Disks

- **Virtually instant data access**. "Solid state disk" means high speed servers are no longer waiting for parts to move or rotate. Latency is measured in microseconds, not milliseconds.
- **Massive sustainable traffic.** Over 200,000 random I/Os per second- hundreds of times more than hard disks or RAIDs. Thousands of users have simultaneous access to data without performance degradation.
- **Greater availability.** Standard hard disks will mechanically fail in a few years. The RamSan-220 relies on SDRAM chips for data storage.
- **Fully Integratable.** While incredibly powerful, the RamSan-220 is still a simple "plug-and-play" Fibre Channel disk on the network. It relieves performance bottlenecks with little tweaking or configuration.

The RamSan-220 is the World's Fastest Storage®. It provides more I/O transactions per second than any commercial hard disk, RAID array, or even competing solid state disk. It will simply integrate into existing Storage Area Networks or directly attach to servers to relieve performance bottlenecks caused by storage/processor performance gaps. Studies have shown that the majority of storage requests are for a very small percent of "hot" data. I/O wait time as servers access hot data creates most delays that slow down mission critical applications. Moving these frequently accessed files to solid-state disk dramatically improves system performance.

Gigahertz Processing Needs Gigahertz Storage



The RamSan-220 uses SDRAM media to store and transfer data at speeds hundreds of times faster than conventional magnetic hard disks. It can process hundreds of thousands of sustained, random I/Os per second compared to the hundreds processed by conventional hard drives and the thousands processed by the best RAID arrays. Data retrieval is virtually instantaneous for the RamSan, which has only 20 microseconds of latency for an access compared to the 5000 or more microseconds required by RAID arrays.

5% of data storage receives 90% of user's access requests.
Keep it instantly accessible on the World's Fastest Storage®.

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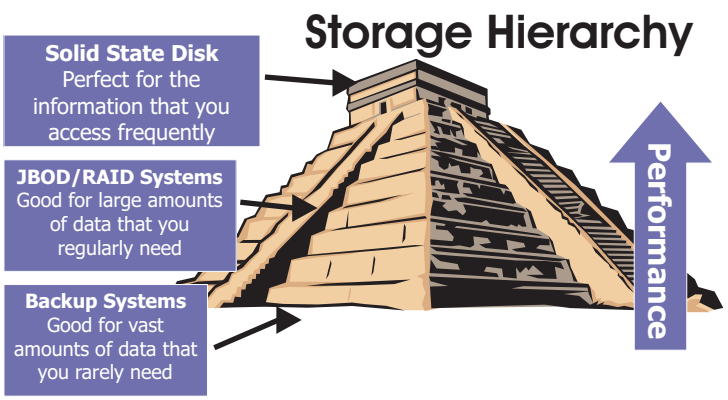
Storage as Fast as Your Servers

For over a decade, storage architects observed the growing divide between processor performance and storage access times. In addition, a similar chasm between bandwidth and storage performance expands. The RamSan-220 solid state disk bridges these gaps; offering performance levels that surpass server demands on storage and fully utilizing available bandwidth. A typical knee-jerk reaction to poor network performance is adding more processing power, but this produces marginal benefits if the current processors are already waiting on storage.



Reliability

Volitility of data is a common concern when considering solid state disks. The RamSan-220 boasts 99.999% uptime to ensure total data integrity. It includes two independent, hot swappable disk drives as secondary storage media and incorporates triple data mirroring. Writes are performed to both disks in addition to the primary SDRAM storage media. While providing the raw speed of SDRAM, the RamSan-220 maintains data integrity even when shut down or when hardware fails. Redundant, hot swappable power supplies and fans ensure that a hardware failure will not interrupt uptime. Redundant, internal UPS batteries keep the unit powered and running for up to an hour after losing external power. Automatic shutdown procedures are user configurable in the RamSan-220.

Solutions

As The World's Fastest Storage®, the RamSan-220 provides immediate solutions to any system experiencing wait time between storage and processors. Enterprise applications include:

- Online transaction processing
- Data warehousing
- Web serving
- Video on demand
- Non-linear video editing

High traffic databases dramatically benefit from solid state disk technology. Though many of the hardest hit databases are small enough to be completely stored on a solid state disk, large databases will still benefit by moving logs, indices, hot tables, and other I/O intensive files. The RamSan-220 makes your servers faster and your users happier.

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About Texas Memory Systems

Since 1978, Texas Memory Systems (TMS) has specialized in high bandwidth, low latency, I/O-intensive storage systems. While the primary feature of our products has always been high performance, we achieve this performance without resorting to overly complex circuitry or unwieldy protocols. This emphasis on simplicity allows TMS to deliver outstanding performance using mature technologies and readily available off-the-shelf components. Our record of success, however, is as much a function of close customer relationships as it is a function of our technology. As we continue to grow, we will strive to maintain these close customer relationships and we will continue to provide outstanding customer support.

TMS products were originally designed to meet the needs of the US defense industry, a primary TMS customer throughout our history. This market has always demanded the ultimate in performance and TMS has always delivered it. Texas Memory Systems now brings its expertise to the commercial SAN market. The RamSan-220, TMS' seventh generation SSD product, delivers a level of performance previously unavailable in a commercial storage product.

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