

# SR5 Software RAID5

## RELIABILITY OF HIGHEND HARDWARE RAID FOR ATA/SATA

### Introducing SR5 Software RAID5

SR5 Software RAID5 provides unprecedented protection to your data storage. For the first time, you can protect your ATA and Serial ATA storage with the same level of reliability found only in highend hardware SCSI RAID solutions that use expensive NVRAM. In addition, the patent-pending SR5 technologies also deliver a new level of I/O performance.

**Reliability.** SR5 provides the level of data integrity and reliability only offered by high end SCSI RAID solutions that use NVRAM. SR5 guarantees atomic parity stripe updates without expensive NVRAM.

**Performance.** SR5 offers a new level of RAID5 performance to ATA / Serial ATA storage. Benchmark tests against several existing ATA based RAID5 solutions have shown that SR5 delivers much superior performance. SR5 also leverages Intel's MMX™ Technology for fast XOR computations.

**Disk Write Back Cache.** SR5 can operate with disk write back cache turned on, but always ensures ordered writes to the RAID5 disk array with the Auto Write Cache technology. Traditionally, leaving the disk cache on can lead to unordered writes, which can cause file system corruption upon power failures. SR5 guarantees that data is orderly written to the disk array, allowing disk cache to be turned on for maximum performance.

**Array Adaptation.** SR5 adapts itself to disk failure, addition or removal. When a disk fails in an N disk array and it has not been replaced, SR5 will try to take advantage of the space in the remaining active disks to rebuild a new N-1 disk array; after the rebuild process, the array can again tolerate 1 disk failure.

### Specifications

- RAID5 protection to disk array.
- Guarantees atomic parity stripe updates.
- Can work with disk write back cache on to guarantee ordered writes to disk array.
- Supports any drive types; drives do not need to be of same capacities or models.
- Adaptive rebuild of new RAID5 array upon a disk failure.
- Hotspare support.
- Management via Command Line Interface (CLI).

### Requirements

- Runs on Intel® CPUs: Pentium III or later.
- At least 256 MB RAM.
- At least 2 hard disk drives.
- Disk controllers to connect the hard disk drives.
- Linux operating system: 2.4 kernel or later.

SR5 is available for licensing to resellers / system integrators who want to deliver high performance and highly reliable storage servers to end customers.

SR5 is also available for licensing for integration into your custom storage offerings, such as NAS appliances, disk-based backup solutions, iSCSI target devices, RAID array, RAID controllers, etc.

We have different licensing programs to meet your needs. Please contact us at:  
**Email: sales@sr5tech.com**

### Performance Comparison of SR5 with 3ware 7500 ATA hardware RAID5

- Intel 1.8GHz Xeon
- Supermicro Micro P4DCE+ motherboard
- 512 MB RDRAM
- 4 x 80G Maxtor 5400 RPM disks
- Redhat 7.3, 2.4.18-3 kernel
- EXT3 file system

		MB/sec			
		8 clients	16 clients	32 clients	64 clients
SR5	Auto Write Cache	61.0	51.0	36.7	17.7
3ware 7500-4	Write Cache On	24.7	20.7	15.3	7.7
	Write Cache Off	16.0	15.7	11.3	5.7

dbench benchmark: measures file system performance

		Trans/sec	KB/sec Read	KB/sec Written
SR5	Auto Write Cache	185	486	918
3ware 7500-4	Write Cache On	121	330	622
	Write Cache Off	102	272	513

Postmark benchmark: measures email apps performance