

active
XRAID™ ES
RAID Storage Evolved



Welcome to RAID Storage Evolved

Introducing the Active Storage XRAID™ ES — The affordable high performance RAID storage solution for Apple® users. The Active Storage XRAID ES was designed using the same principles of the original Active Storage XRAID, but represents a previously unobtainable level of value by providing the capabilities of the Active Storage XRAID in a lower cost configuration that does not sacrifice the performance, reliability or ease of management of the original Active Storage XRAID. The Active Storage XRAID ES was carefully designed for use in business critical applications where organizations require a high level of data integrity with ease of installation and management, but not the 24/7 365 day duty cycles of a large enterprise or Post-production or Broadcast facility.

The Active Storage XRAID ES provides redundant power, redundant cooling and redundant Fibre Channel connections, and the same powerful, yet easy to use management suite of the original Active Storage XRAID. The ES differs from the original Active Storage XRAID in that it has a single high performance RAID controller and uses business class hard drives with a smaller cache size.

This results in a very robust RAID solution ideal for business class applications. Performance of the Active Storage XRAID ES is impressive at up to 774 MB/s* throughput and will easily handle most Mac OS X Server applications. The Active Storage XRAID ES is the ideal storage for business class applications such as File serving, database services, web hosting, calendar, Wiki, Mail, iChat and much more. The Active Storage XRAID ES is also ideal as archive storage device for near-line and Disk-to-Disk backup of the Active Storage XRAID or other Enterprise Class storage. Its speed and ease of management make it the perfect choice in tiered storage environments.†

Configurations

	4 TB SATA II	16 TB SATA II
Overall Capacity ††	4TB expands to 16TB in enclosure	16TB expands to 32TB by adding secondary enclosure
Hard Drive Modules	Hot swap 1TB Business Class 16 MB Cache	Hot swap 1TB Business Class 16 MB Cache
Controller Type and Spec Power and Cooling	Active Storage Design, Dual 4Gb/s FC, 2GB Cache Redundant hot swap power and cooling modules	Active Storage Design, Dual 4Gb/s FC, 2GB Cache Redundant hot swap power and cooling modules
Battery Back Up	Optional - 72hr Support	Optional - 72hr Support
Rack Mounting Kit	Included	Included
Suggested US Retail	\$6,999	\$9,999

Key Features

- Optimized RAID performance in Apple Mac OS X® Applications
- Modern Linux RAID kernel and RAID controller design
- Proprietary self-optimizing architecture
- Native Mac OS X Storage management suite
- Dashboard Widget monitoring
- Enterprise performance and reliability without Enterprise complexity
- No long Quick Start guides to memorize
- Performance profiling and statistical planning tools

†† Usable capacity will vary depending on drive configuration and RAID level

Unmatched Application Performance

- RAID kernel and open controller design provide an unmatched level of fine-grain tuning and minimum overhead
- Designed specifically for modern OS systems (Mac OS X)
- Multiple Fibre Channel ports and large cache guarantees maximum bandwidth

Modern, High Availability

- Redundant components—include cooling module, power supplies and hard drives
- Native support for Mac OS X
- Complete support for all popular UPS systems
- SNMP and CLI support for Enterprise environments
- Automatic parity rebuild and data integrity check
- Battery-backed cache – guaranteed 72 hour support (optional)

Management for Today and Tomorrow

- Apple-friendly native Mac OS X storage management suite
- Dashboard monitoring widget
- iPhone monitoring App^{††}
- Email and SMS calendar-savvy notification engine
- Bonjour discoverable out of the box
- Set up one or one hundred systems with no scripting

Technical Specifications

RAID Support

- **RAID Levels** – JBOD, 0, 1, 5, 6
- **LUN Support** – Auto-configuring for performance up to 128 LUNs
- **Drive Roaming** – Full support
- On-line data scrubbing with on-line parity regeneration
- Bad Array recognition and repair
- **Sparing** – Global Hot Sparing
- Full SMART reporting

Configurations

- 4 and 16 Drive SATA II per system
- Multi-IO design RAID controller, 2GB cache
- **System Features**; single high-throughput RAID controller with dual 2x 4Gb/s ports, dual SAS IO, independent management/ enclosure monitoring

Statistics [†]

- Full per port statistics package with graphs and charts
- Controller CPU load (percentage of idle time free)
- Fibre Channel activity reporting
- Fibre Bit error rate
- Fibre average throughput (MB/s)
- Fibre IOPS
- Cache hit ratio statistics per LUN (Volumes)
- Average throughput per LUN (Volumes)
- IOPS per LUN (Volumes)
- Average throughput per LUN (MB/s)
- Number of stripes remapped by the RAID controller

Management and Monitoring

- Out-of-the-box support on Mac OS X v10.5.x
- Guided Setup assistance can be used to optimize configuration of a single system in a single location, or multiple systems in single or multiple locations
- 128 Bit SSL security on Active Admin™ management tool[†]
- Support for all popular Enterprise-class SNMP Applications[†]
- Support for all popular UPS systems and controls
- On-line portal support for analysis of event log transactions
- Calendar-savvy email and SMS Message Support for up to 24 accounts per system^{††}
- Remote diagnostics and service center monitoring and analysis tool
- Drag-and-drop Configuration Tool for sophisticated and complex environments
- Proprietary Performance Profiling for determining future requirements

System Based Monitoring

Front Panel – Fibre Channel activity and link, drive activity and system status—RAID controller, cooling modules, system temperature, power supplies

Rear Panel – All modules have health and status indicators

Expandability – System can be upgraded to dual active/active RAID controller configuration

[†] Available May 2009

^{††} Available June 2009

* Testing shows preliminary results conducted by Active Storage April, 2009 using preproduction Active XRAID ES System, Apple Mac Pro 3.0 Hz 8-core Xeon-based. Testing conducted using IOMeter 2006.07.27 with a 30-second ramp-up, 5-minute duration, 1 MB read/write request size, 16 outstanding IOs, accessing 1 raw 16 disk Hitachi 1TB SATA II RAID5 LUN