



Case Study



"In 2005, we redefined the industry by creating a new class of computing: the first 'Flextop Computer', a personal "Supercomputer" that maintains three characteristics:

- Portability
- Open standards architecture
- Uniquely flexible and expandable"

**"Bob Labadini
President and CTO of
NextComputing"**

Delivering supercomputing power in a portable platform leveraging LSI™ RAID technologies

NextComputing Chooses LSI MegaRAID® Controller Cards for High-Performance, Portable NextDimension Evo and Evo Plus Platforms

Network performance reliability and security have never been more important. Business operations, customer satisfaction, even public safety and national security rely more and more heavily on networked technologies that "just have to be there."

As a company that uses speed of integration and enterprise-level technologies, NextComputing is qualifying computing hardware-like multicore processing and 6Gb/s SAS into portable platforms; enabling network analysis and management and helping to ensure that bandwidth is available when "it just has to be there".

NextComputing FleXtreme™ Architecture

NextComputing offers its technology to a select group of vertical markets with particular focus on the area of test and measurement, specifically network traffic and performance analysis.

Speed of Integration

"Our customers look to us to provide solutions to their problems. They expect us to stay ahead of the technology curve and be in a position to bring fully integrated, rigorously tested solutions to them quickly. Speed of integration is a key value add that NextComputing brings to our customers," according to Mr. Labadini. "We stay on top of developments in Commercial Off The Shelf ('COTS') components from the industry's leading suppliers and hammer them into a rugged, fast, and reliable solution that we can stand behind," he added.

When It Absolutely, Positively Has to Be There

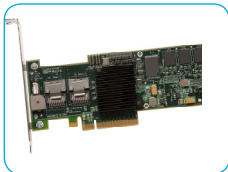
Many of NextComputing's most important customers in network traffic analysis, OEMs that allow their end users to pinpoint problems as well as monitor for threats and application performance, are upgrading to support the migration to 10Gb Ethernet infrastructures. Distributed applications, rich data, security, compliance and Quality of Service ('QoS') requirements all drive the need for bandwidth and control, which has put a lot of pressure on suppliers' abilities to offer line-rate network traffic analysis, recording, monitoring, and reporting using increasingly sophisticated, visually rich and powerful analyzers. Combining the geometric growth in overall traffic with the factors noted above, suppliers of traffic analysis solutions are facing a perfect storm.

Leading OEMs in this space, confronted with this constellation of challenges, gave NextComputing the opportunity to respond with an intimate engineering understanding of the technical requirements for field deployable, next generation platforms. The response: the NextDimension Evo and Evo Plus systems, using MegaRAID at the core of the systems' storage subsystem.

NEXTDIMENSION EVO



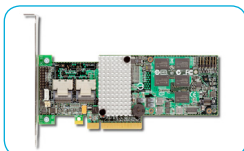
MegaRAID SAS 8708EM2 3Gb/s Controller



NEXTDIMENSION EVO PLUS



MegaRAID SAS 9260-8i 6Gb/s controller



NextComputing Chooses LSI RAID

Using MegaRAID controllers along with dense configurations of enterprise-class 2.5" 10K, 6Gb/s hard drives from Hitachi Global Storage Technologies, NextComputing believes its NextDimension Evo and Evo Plus platforms were able to match the level of performance its customers were getting from the static, data center rackmount servers being used for network analysis and monitoring— but in a portable system that can be taken to any location where the customer needs to capture and analyze high volumes of traffic quickly. The performance testing NextComputing did as part of their qualification process also showed the significant benefits to implementing 6Gb/s SAS RAID from LSI.

NextComputing Performance Testing

DESCRIPTION	NEXTDIMENSION EVO	NEXTDIMENSION EVO PLUS
RAID Controller	MegaRAID SAS 8708EM2 3Gb/s controller	MegaRAID SAS 9260-8i 6Gb/s controller
HDD	7 x Hitachi 300GB 10K RPM 6Gb/s SAS, RAID 0	9260-8i – 7 x Hitachi 300GB 10K RPM 6G SAS, RAID 0
Average Writes	460MB/s	899MB/s
Average Reads	761MB/s	868MB/s

Average Sequential Write Performance jumped by 95% when the MegaRAID SAS 9260-8i is used. Average Sequential Read performance also improved by 15% as measured by NextComputing using IOMeter. More throughput might have been achieved with a higher number of drives.

Testing was performed at NextComputing on an Intel® Xeon® LGA 775 Socket Processor board with the Intel 5000X chipset, one Intel Xeon 2.5GHz L5420 processor, 4GB DDR2 667 MHz ECC memory running RAID 0 with write back cache enabled on the RAID Controller

Challenge

Leading NextComputing customers challenged the company to provide a platform for network installation, maintenance and management with High Performance Computing ('HPC') capabilities in a portable, field deployable package. They were under pressure to upgrade their test and management tools as network infrastructures migrate to 10Gb Ethernet in the face of ubiquitous "triple play" data, rising QoS requirements and continuing growth in overall data volumes in motion.

Solution.

NextComputing responded by implementing the latest multicore processors, and 6Gb/s SAS RAID in the NextDimension Evo and Evo Plus systems, using LSI SAS RAID at the core of the system's data storage capabilities. The MegaRAID controllers chosen, when combined with the enterprise level 2.5" HDD's from Hitachi, put leading-edge performance and capacities in a dense, flexible, portable package.

Result

NextComputing pushes the envelope for their customers, delivering datacenter capabilities in rugged, thoroughly tested, next generation platforms built around SAS RAID technologies from LSI. These platforms enable NextComputing's network analysis OEMs to install, maintain and manage today's high performance 10Gb Ethernet infrastructures.

The NextComputing commitment to COTS and open standards architecture meant they had the flexibility to choose the best components to meet the uncompromising requirements of their customers, and that's why they chose LSI RAID technologies to be part of their solutions. After researching competitive products, NextComputing chose the MegaRAID SAS 8708EM2 3Gb/s controller and the MegaRAID SAS 9260-8i 6Gb/s controller.

Not Just for Traffic Analysis

"The challenges our OEM customers share with us in the network traffic analysis segment are — at their core — not that different from the problems we help our customers solve in other markets. Everyone is confronted with the need to increase service levels with fewer, more efficiently deployed resources while supporting the inevitable evolution of technology. NextComputing helps by providing fast versatile portable computing platforms, including 6Gb/s LSI RAID controllers integrated for performance, reliability and flexibility in the storage subsystem," said Bob Labadini. "We look at LSI RAID as one of the key components to our platforms."

"We looked at other industry products but found that none had the right combination of functionality and performance to suit our needs," said Aaron Sherman, marketing director at NextComputing. "We needed to support RAID 0 arrays with up to 8 drives on a single discrete controller," Sherman added. "We found the best solution to be the MegaRAID SAS 9260-8i. It was the best combination of performance, features and design for our compact, dense form factor computers."

Sherman went on to explain, "We also selected Hitachi Global Storage Technologies for all of our high-end, storage intensive customer requirements. They offer high capacities, excellent performance and critical Enhanced Availability (EA) models for our enterprise-class appliance solutions."

LSI offers an extensive portfolio of SATA and SAS solutions, including MegaRAID and 3ware® RAID controllers, host bus adapters (HBAs) and JBOD products. The products are supplied directly to leading server and storage OEMs and through the LSI worldwide network of distributors, system integrators, system builders and VARs.

ABOUT NEXT COMPUTING

NextComputing (www.nextcomputing.com) manufactures high-performance portable and small form-factor servers and workstations. Its products are designed to meet the needs of professional users running demanding applications, but whose business requirements cannot be met using standard computing hardware such as commodity laptops, desktop computers, or traditional rackmount servers.

Build Today

You can use the same LSI RAID technology as NextComputing for your high performance requirements today. Contact David Graas at david.graas@lsi.com for more information.

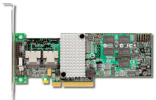
SI MegaRAID SAS 8708EM2

Low-profile MD2 eight-port internal 3Gb/s SATA and SAS PCIe RAID controller



LSI MegaRAID SAS 9260-8i

Low-profile MD2 eight-port internal 6Gb/s SATA and SAS PCIe RAID controller



NextDimension Evo

High-performance, portable workstation and server appliance for high-throughput data streaming applications, featuring dual server-class processors, up to 32GB of memory, over 9TB of internal high-speed RAID storage, and up to 4 full-length, full-height expansion slots.



NextDimension Evo Plus

Small form-factor server appliance for high-throughput data streaming applications, featuring dual server-class processors, up to 32GB of memory, over 13TB of internal high-speed RAID storage, and up to 6 full-length, full-height expansion slots.



For more information and sales office locations, please visit the LSI web sites at: lsi.com/channel



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