

AMD64 Technology: Providing Storage Customers With a Competitive Advantage

EXECUTIVE OVERVIEW

The storage market is breaking away from the legacy model (application servers with islands of difficult-to-manage storage) to on-demand, networked storage where systems are more fault tolerant and accessible. Storage customers are measuring the performance of I/O and data throughput, in addition to reliability, manageability, and scalability. As a result of this evolution, storage manufacturers are finding it can benefit their system design to carefully consider the microprocessor, which has not been historically viewed as a differentiating or value-added component.

With systems based on AMD64 technology, storage customers can take advantage of one of the fastest growing business computing platforms and incorporate leading performance, cost savings and ease of management into their storage strategy.

agāmi Systems Takes Advantage of a 4P AMD Opteron Processor-Based Solution to Address the Mission-Critical Performance Needs of Their Customers



agāmi Systems took advantage of the AMD Opteron™ processor's throughput performance and scalability to create the world's fastest 4P network attached storage (NAS) appliance. This mission-critical storage system can achieve data throughput of more than 1,000 megabytes per second according to VeriTest analysis.¹ It also incorporates mission-critical operating features such as replication, snapshots, and automatic live fail-over.

The system design of the agāmi AIS6112 storage server underpins this high performance. agāmi Systems is the first to make use of four AMD Opteron processors in a storage system.

AMD's Direct Connect Architecture allows all four processors within the box direct access to their own main memory and to directly connect to each of the other processors. agami's design extends the HyperTransport™ technology links to the disk and network controllers, eliminating I/O bottlenecks that typically constrain throughput. It further uses the AMD Opteron processor's 64-bit architecture and memory address space to employ more than 12 Gigabytes of system memory and 2 Gigabytes of non-volatile memory to cache disk array data. Finally, AMD's industry-standard x86 platform allows agami to use a widely available Linux® 64-bit/ccNUMA kernel as a solid foundation for its high-performance services.

agami customer Katera Technologies, which helps large corporations control and reduce spending, recognized a 10x throughput improvement over their legacy NAS systems – a performance improvement that can be traced to both agami's system design and the incomparable throughput offered by the AMD Opteron processor. Katera expects their business to rapidly grow and have said they will look to agami Systems to provide additional storage. With AMD64 technology as a foundation of their storage choice, scalability and management are expected to be as simple as the initial implementation.

Adaptec Selected AMD Opteron Processor's Price/Performance Leadership for SMB Storage



Adaptec had a different set of requirements when developing its Snap Server 500 Series storage servers. Their designers recognized that price/performance and power consumption were major criteria, since this product was developed for Adaptec's small and medium business customers and would be deployed in a 1U form factor.

The Snap Server 500 Series uses AMD Opteron processors as the engine for this networked storage solution, relying on AMD's Direct Connect Architecture and HyperTransport technology to deliver an uncompromising price/performance ratio. AMD PowerNow!™ technology, coupled with the inherent low wattage of the AMD Opteron processor, enables Adaptec customers to reduce power consumption without compromising the storage server performance.

Customers evaluating the combination of Adaptec's Snap Server technology and the AMD Opteron processor's price/performance, throughput, and low power consumption can find measured results in the Snap Server's benchmarking analysis. In independent testing by

VeriTest, the testing service of Lionbridge and Toigo Partners' TPI Technologies Lab, the Snap Server 500 Series outperformed competitors, providing 3 times greater throughput and 4 times faster response times than the Dell PowerVault 745N and Hewlett Packard DL100 G2. And Toigo Partners found that "In every category of our standard assessment methodology, the Snap Server 550 is a clear and undisputed winner." ²

CONCLUSION

Increasingly, system designers are turning to AMD as a way to boost performance in key areas for networked storage. AMD64 technology with Direct Connect Architecture provides industry-leading throughput, lowest memory latency, and an energy saving performance-per-watt ratio. All on a standard x86 platform that delivers remarkable scalability, ease of management and extensive software support.

Beyond the industry-leading technology innovations, AMD supports component longevity for system design stability and has developed a unique subscription offering our customers a dedicated team of Professional Design Support Service engineers. AMD is committed to helping storage vendors and their customers discover the performance advantages and cost savings of AMD64 technology.

For more information on AMD's full line of industry-leading products, please visit www.amd.com.

¹<http://www.agami.com/public/PR052406.pdf>

²<http://www.snapserver.com/Products/500.shtml>



Advanced Micro Devices
One AMD Place
P.O. Box 3453
Sunnyvale, CA 94088-3453
www.amd.com