

STEC's ZeusIOPS SSDs Benefit From New ASIC Architecture

By Seth Colaner

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Good things are happening at this week's Flash Memory Summit 2011 in Santa Clara, CA, including STEC's announcement of a new architecture for its enterprise-class ZeusIOPS SSDs that it will be demoing. The ASIC (application-specific integrated circuit) architecture is designed to both substantially improve performance and lower costs.

Equipped with the new ASIC architecture, the next generation of ZeusIOPS SSDs will boast over 120,000/70,000 read/write IOPS. To put it in perspective, STEC's current ZeusIOPS SSD products are spec'd at 80,000/20,000 (Fibre Channel interface) and 60,000/7,000 IOPS (SATA interface).

They'll also be available in capacities of up to 1.6TB, far surpassing the current ZeusIOPS SSD generation's capacities of up to 512GB. Non-IOPS read/write performance will reach 500MBps, which is a step up as well. Options will include 2.5-, 3.5-, and eventually 1.8-inch form factors that feature 6GB SAS or Fibre Channel interfaces.

The cost savings will purportedly come from the ASIC architecture's ability to intelligently handle new NAND flash geometries, which themselves deliver savings in the form of smaller dies that do more with less energy and materials.



STEC Showcases New Integrated ZeusIOPS® SSD ASIC Architecture at FMS 2011

Industry Leading Enterprise SSD is now More Cost-Efficient

SANTA CLARA, Calif., Flash Memory Summit 2011, August 9, 2011 – STEC, Inc. (NASDAQ: STEC)

The SSD Company™, a leading global provider of solid-state drive (SSD) technologies and solutions, today announced a new integrated application-specific integrated circuit (ASIC) architecture for its popular ZeusIOPS® enterprise-class SSD family making them more cost-efficient. The new ZeusIOPS SSD ASIC architecture will be demonstrated in the company's booth (#300) at this week's Flash Memory Summit and offers a comprehensive array of options optimized for enterprise system architects that includes 6 Gigabyte (GB) Serial Attached Storage (SAS) and Fibre Channel (FC) interfaces, as well as a broad range of capacities supporting up to 1.6 Terabytes (TB) of user accessible storage.

The new ASIC-based ZeusIOPS SSD product family, based on three previous generations of fieldproven ZeusIOPS SSD success, combines high-performance with cost efficiencies that support enterprise applications. The overall ZeusIOPS SSD cost has been reduced by moving to a customized ASIC controller that intelligently manages the growing complexities associated with shrinking NAND flash memory geometries. In addition, the ASIC controller has been designed to utilize NAND process geometries of either 3X or 2X nanometers, providing more functionality in a smaller footprint, as well as reducing overall device cost and power consumption.

ZeusIOPS SSDs enable server and storage systems to reach the outstanding and sustainable input/output operations per second (IOPS) performance required for today's demanding data center and virtualization requirements. They provide long-lasting reliability, increase server utilization and reduce the total cost of ownership (TCO) in the data center by delivering a high-performance drop-in replacement for enterprise hard disk drives (HDDs). SAS and FC interfaces support 2.5-inch and 3.5-inch form factors, with future products to support 1.8-inch form factors.

“ZeusIOPS SSDs have led the way in enabling businesses to access critical data in the enterprise, overcoming the performance bottlenecks inherent with traditional rotating HDD storage media, and now we provide an even more cost-effective design with our new ASIC architecture,” said Manouch Moshayedi, STEC's Chairman and CEO. “Data is money in today's economy and our new ASIC-based ZeusIOPS SSD family delivers high-performance, advanced wear-leveling, and exceptional data integrity, at a cost that is unmatched in the industry.”

Supporting very high throughput for enterprise storage and server platforms, the transactional performance of ASIC-based ZeusIOPS SSDs exceeds 120,000/70,000 sustained IOPS with sequential large block transfers of up to 500 Megabytes per

second.

To improve the endurance and reliability of its ZeusIOPS SSD multi-level cell (MLC) flash-based architecture, STEC's CellCare™ and Secure Array of Flash Elements™ (S.A.F.E.) technologies have also been further advanced. CellCare utilizes adaptive flash access, signal processing, data management algorithms and error correction codes to improve ZeusIOPS SSD endurance and can handle intensive workloads of up to 10 full capacity writes per day for over five years without limiting ZeusIOPS SSD performance. S.A.F.E. technology eliminates virtually all failures associated with both SLC and MLC flash, providing yet another mechanism to reduce ZeusIOPS SSD failures. This new generation of cost-effective, ASIC-based ZeusIOPS SSDs is now sampling to key customers.