

Revolutionizing Storage Performance through SSD Technology

EMC Symmetrix DMX-4 gains significant system-level performance and a 98% reduction in energy consumption with the adoption of Zeus^{IOPS} Solid State Drive.

For more than a decade, EMC Symmetrix systems have continuously held the market leadership position for high end storage. To stay on top, industry leaders like EMC know that change is inevitably part of the game. But to further enhance performance while reducing the system's power consumption would be a challenge. EMC turned to STEC, a pioneering leader in solid state drive (SSD) technology focused solely on the demanding enterprise storage space.

The Challenge

To increase storage performance while reducing overall system's power consumption.

The Solution

STEC Zeus^{IOPS} Solid State Drive: unrivaled IOPS performance.

The Benefit

By enabling unmatched performance, 200 times faster transactional performance than the fastest HDD, Zeus^{IOPS} Solid State Drive is able to greatly reduce power consumption and total cost of ownership.

New Levels of Performance

The Symmetrix DMX-4 is the premier platform for the first ever enterprise-class deployments of solid state storage and is the result of more than a year of comprehensive testing and qualification. EMC's strong position as the industry leader in terms of performance and reliability is reinforced in its ability to integrate SSD into its existing systems and introduce this highest tier of storage to customers with the most demanding performance requirements.

STEC was able to provide the Zeus^{IOPS} Fibre Channel SSD that was system compatible with the hard disk drives they were already using. More importantly, integration of Zeus^{IOPS} into EMC's Symmetrix DMX-4 high-end networked storage systems created unprecedented levels of performance and energy efficiency for their most demanding applications.

"We believe that flash-based solid state storage is a game changing technology and that STEC is at the forefront of the SSD market," said Brian Gallagher, senior vice president and general manager, Symmetrix Product Group at EMC. "Over the past year, EMC and STEC have collaborated to ensure that the Zeus^{IOPS} Fibre Channel drive meets the stringent quality, availability and reliability requirements of the enterprise storage market."

Energy efficiency advantages of the Zeus^{IOPS} within EMC's Symmetrix DMX-4 per 100K IOPS Performance:

	73GB Zeus ^{IOPS}	146GB 15K FC HDD	300GB 10K FC HDD	500GB 7.2K FC HDD
Power Consumption (kWh/yr)	3,013	133,493	193,608	354,055
Zeus ^{IOPS} Power Savings		97.7%	98.4%	99.1%

Table 1: per-IOPS comparison, ZeusIOPS require 98% less energy.

Zeus^{IOPS} SSDs, in the same form factor as industry standard 3.5" hard disk drives, provide significant performance improvements, power savings and improved total cost of ownership. In terms of performance, while hard drive access times are measured in milliseconds, access times for Zeus^{IOPS} SSDs are measured in microseconds, enabling significant improvement in data input/output and latency.

The Zeus^{IOPS} is the fastest SSD available, based on all critical facets of sustained sequential throughput and, most importantly, sustained read and write input/output per second ("IOPS"). Given the transaction-intensive nature of high-end enterprise storage systems, the Zeus^{IOPS} drives are optimized to deliver the highest levels of transactional performance.

Prominent product specifications include:

- Up to 45,000 Sustained Random Read IOPS
- Up to 16,000 Sustained Random Write IOPS
- Up to 220MB/sec sustained, sequential reads; 115MB/sec sustained, sequential writes
- Interfaces: Fibre Channel, SAS and SATA
- Form Factor: 3.5-inch standard HDD dimensions
- Weight of less than 0.4 kg

STEC's technology gives EMC a significant advantage in system-level performance and further validates the surge in SSD adoption, marking an important milestone in the evolution of enterprise storage.