

STEC Introduces ZeusIOPS Extreme Endurance (XE) MLC-Based SSD

By Lyle Smith
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STEC, Inc, announced that its flagship ZeusIOPS SSD product line has been expanded to include a new ultra-high endurance model. STEC's new SSD is a Multi-Level Cell (MLC) flash-based drive that uses CellCare technology allowing the drive to complete at least 30 full capacity writes per day for five years, which will reduce the total cost of ownership (TCO) in a data center.

Data is growing at a fast rate—predicted to double every year—so the value of using SSDs as a server caching solution is important as ever. This growth, however, comes at a price: more stress on SSDs, requiring it to withstand increasing drive wear and among other issues such as auto-tiering software placing the most active hot data on SSDs as a priority in the storage hierarchy. As a result, higher maintenance costs occur.



The ZeusIOPS XE SSD remedies this by using a combination of STEC's proprietary fourth-generation ASIC-based SSD controllers and its proprietary CellCare technology extending the performance, reliability, and endurance capabilities of these drives when applied to MLC flash. It can write approximately 33 Petabytes of data on a 600GB drive over its lifespan, which equals a workload of 30 times per day for 5 years.

STEC's CellCare technology measures and manages the wear of a drive by using adaptive flash management algorithms and advanced signal processing techniques; it proactively manages the way the flash wears throughout the life of the drive. This results in substantially less wear on a drive. In addition, the use of advanced error correction code (ECC) techniques gives it superior protection against media errors. It also improves SSD endurance for write-intensive workloads without limiting its performance making it ideal for support server-side caching, auto-tiering, metadata management and logging, and analytics.

ZeusIOPS XE SSDs also uses STEC's Secure Array of Flash Elements (S.A.F.E.) technology, which provides the ability to recover from NAND flash page, block, die and chip failures while maximizing the Mean Time Between Failure (MTBF) and Mean Time To Data Loss (MTTDL).

Some of the specifications of the ZeusIOPS XE SSDs include:

- Capacities of 300GB and 600GB
- Supports latency responses up to 50 microseconds
- 6Gb Serial-Attached SCSI (SAS) interface
- Supports up to 500MB/s (sustained Read throughput); up to 275MB/s (sustained Write throughput), up to 115,000 input/output operations per second (IOPS) for Read operations; up to 70,000 IOPS for Write operations; and 38,000 IOPS for 8K random Read/Write operations (70 percent/30 percent).

ZeusIOPS XE SSDs are now sampling to customers.