

STEC ZeusIOPS XE SSD Claims Industry's Highest Endurance MLC Flash Based SSD

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Arguably the second most important reason for choosing solid-state drives over traditional hard drives is data reliability.

You can practically rest assured that an SSD will keep your data intact, but there are examples where consistency does not always hold true.

An SSD, while more enduring, can malfunction in the same fashion as a regular hard drive.

Thankfully, The SSD Company™, a leading global provider of solid-state drive (SSD) technologies and products, today announced that its flagship ZeusIOPS® SSD family has been expanded to include a new ultra-high endurance model:

“The new ZeusIOPS XE SSD utilizes a combination of STEC’s proprietary fourth-generation ASIC-based SSD controller and its proprietary CellCare technology, which when applied to MLC flash, extends the performance, reliability and endurance capabilities of these drives (available in 300GB and 600GB flavours). As a result, STEC enables at least 30 full capacity writes per day for five years and an improvement in random write performance. It can fully write about 33 Petabytes of data over the working life of a 600GB drive (which equates to a workload of writing the full capacity of the drive 30 times per day for 5 years).”

While I am typically skeptical about such claims, I cannot say the same for this one. Anything that extends the life of an SSD is a welcome relief, may it be factual or theoretical. However, the technology at the moment is limited to enterprise-based settings, which is generally the case with new storage advancements. It should prove to be invaluable to enterprise networks, data centers, and essentially any architecture whose base revolves around servers. Not only does it deliver endurance and reliability, but is also cost-efficient. The less drives that fail, the less money in replacing them and restoring data. The best way to save money and information is to engineer something that takes malfunction out of the equation. Simple, yet something that has been strived for since the beginning of virtual storage.

“One of the most important features of STEC’s CellCare technology is its unique ability to measure and manage the wear of the drive using adaptive flash management algorithms and advanced signal processing techniques. As MLC flash will wear out faster over time if not properly monitored and managed, CellCare technology dynamically and proactively manages the way the flash wears throughout the life of the drive. The additional use of advanced error correction code (ECC) techniques enables higher protection against media errors and improves SSD endurance for write-intensive workloads without limiting the performance of ZeusIOPS XE SSDs. As a result, ZeusIOPS XE SSDs are ideally suited for write-intensive applications with the high endurance necessary to support server-side caching, auto-tiering, metadata management and logging, and analytics.”

For technology like this, it is more of a matter of ‘when’, not ‘if’ it will be introduced to the consumer market. Interestingly enough, Intel’s upcoming SSD’s claim to allow both TRIM and RAID functionality, both of which were not possible with the others’ presence. Now consumers will not have to make compromises on whether they want faster SSD’s and maximum capacity, or longevity. Inject the The SSD Company’s new CellCare technology into the concoction, and your result is a potentially phenomenal creation.