STEC Addresses Advantages, Key Differentiators and Competitive Aspects of Enterprise Solid State Drives (SSDs)

Releases Whitepaper Addressing Notable Differentiating Features of Its SSDs, Highlights That Most SSDs Are Not Enterprise SSDs

SANTA ANA, Calif., September 21, 2009 – STEC, Inc. (NASDAQ: STEC) today released a whitepaper based upon the growing interest in Solid State Drive technologies for the Enterprise-Storage and -Server markets. The following whitepaper discusses the requirements of SSD products within the Enterprise markets, and the differences between them.

Advantages of a true Enterprise SSD in Enterprise systems

It is now well recognized that SSDs are capable of delivering blistering IOPS performance versus traditional rotating disk drives in server and storage applications. This enormous gap in capability necessitates that Enterprises evaluating the potential of SSDs re-examine the metrics used in the past to determine the affordability relative to HDD-based systems. On a per gigabyte basis the cost of an SSD is higher than the cost of hard disk drives which was the traditional way of measuring cost. However with the performance enhancements of SSDs having been established and proven, that metric no longer applies. The value proposition for SSD's is now measured in dollars per IOPS. This dollar per IOPS approach can translate to significant cost savings over traditional rotating media. This occurs since SSDs improve the speed of results and access to data while typically reducing the number of drives needed to be deployed in order to hit a performance target and therefore saving significant amount of power.

An important consideration: there are differences in costs for SSD's that might raise the question of why one SSD may cost hundreds of dollars and another cost thousands.

This paper will address the cost disparity in today's SSDs.

Enterprise and Consumer class products

Similar to the HDD world, there are different SSDs that are appropriate for different usage models.

A consumer would generally never consider using an Enterprise designed Fibre Channel (FC) 15K RPM HDD for a laptop or desktop computer mainly due to form, fit, power and cost considerations.

Enterprise-Server and -Storage users would likewise never consider a 5400 RPM mobile SATA drive for use in a performance oriented business critical application in the data center, even though a mobile SATA drive reads, writes and stores data the same way as any other 15K RPM drive.

This same reasoning can be applied to not using a consumer-grade SATA SSD in these same mission-critical applications. These low cost SATA SSDs are faster than HDDs but do not have the performance capabilities as a true Enterprise class SSD. So if they store data the same way as the other SAS or FC SSDs, why not use these in order to save some money?

The answers are the same as HDD considerations, data centers don't use the 5400RPM mobile drives for several critical reasons; trust, reliability, life

expectancy, data retention, redundancy and performance.

Under the same considerations, consumer-grade SATA SSD's designed for consumer applications lack the critical 'designed-for-Enterprise' deliverables that are necessary for today's data centers. Key to these designed-for-Enterprise features include dual porting, end to end data integrity inside the drive to protect user data on the fly, rigorous specification and testing of all components, interface compatibility and technologies that work in Enterprise systems (rather than having to adapt the Enterprise infrastructure to support the drive).

Tested and Approved

To better understand the trust question, one must understand that virtually all storage manufacturers have reviewed tested and run all available SSD devices through a comprehensive test and validation process to find and qualify the best SSD for data reliability, functionality and performance for use in their storage and server systems. These tests are implemented to prove the design in reliability, data retention and life expectancy and to meet or exceed specifications with plenty of margin to handle differing environmental and use conditions.

Performance

Enterprise environments are significantly different from consumer environments.
In today's data center and other Enterprise computing environments, information is constantly being accessed, created and moved onto and off of the storage systems, and usage is 24x7x365.

Consumer applications and systems tend to be used at much lower duty cycles with occasional write or read access accompanied by long periods of power off time.

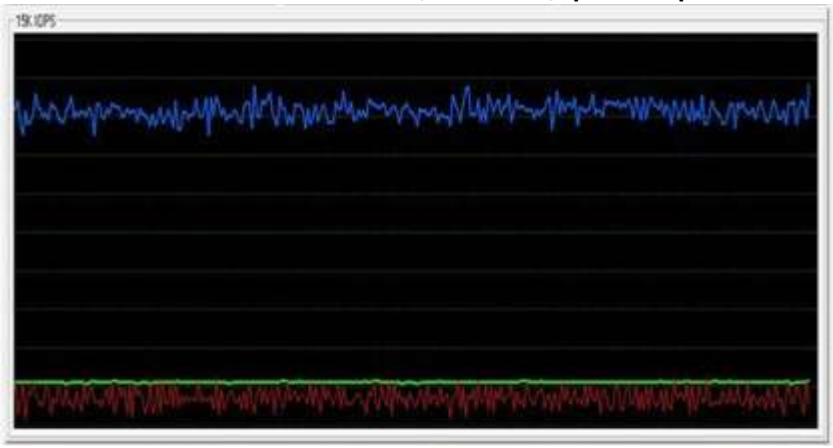
The typical consumer based SSD design may be a great performer in the environment where use is minimal, writing is rare and the system is idle much of the time.

However, these drives simply are not designed for an Enterprise environment where the access is constant and write operations are consistent and the expectation is to have no data loss or limit access to that data.

A key difference in the design of an SSD vs. that of an HDD is the ability to handle and manage the NAND FLASH memory inside the drive with error handling, block management routines and wear leveling routines while writing and reading from the drive.

An Enterprise SSD must manage these conditions while keeping the IO rates high and consistent in order to deliver the performance expected to

SQLIO 100% Random Write, 4K blocks, queue depth 8



3.0Gb SAS (13K) 1.5Gb SATA (2K) 3.0Gb SATA(1.5K)

keep the data center running without impact to access or performance of the systems in use. This performance must be maintained while checking all of the data and circumvent any kind of an error.

This chart demonstrates the performance difference in write IO between SATA SSD's (green and red lines) and an Enterprise SSD with a SAS interface (blue line) while running an SQL database for many days non-stop. Notice that the Enterprise class SSD maintains a steady state performance 5X higher than the SATA SSD drive.

Another critical difference between the consumer grade SSD and the Enterprise SSD is the level of reliability, checking, error recovery and testing that both drives undergo. Enterprise class drives are designed to a very exacting standard in order to achieve MTBF numbers greater than that of HDDs. These standards require that parts be used that have more robustness or that redundancy be used to be able to withstand failures.

It is well understood that NAND Flash components will wear out commensurate to the number of writes done. An Enterprise class drive is designed with more robust Error Correction and detection and with overprovisioning so that the SSD will be able to operate at its specified write performance the entire life expected in a demanding Enterprise application.

Enterprise-class SSDs are put through very rigorous qualification tests to ensure that the NAND Flash parts used along with all the other components can meet the write endurance, reliability requirements, temperature range, as well as all critical conditions that might occur. These drives are designed and tested to contain error recovery and reporting so that in the rare event of a problem, the system can continue operation, allowing the customer access to all his data while securing its integrity.

While consumer grade SSDs have sufficient reliability and write endurance to meet the usage models they are subjected to, they fail to meet the stringent requirements of Enterprise storage manufacturers whose goal is to deliver high-performance, highly reliable, and robust systems..

Conclusion

Not all SSDs that are being directed at the high-end Enterprise market are equally-suited for these applications. While consumer grade solid state drives may be available from multiple sources and may be offered at seemingly attractive price points, these SSDs are not capable of or well-suited for deployment in a mission critical data center. In these high duty cycle workloads environments where data redundancy, multiple paths to the data, endurance and data protection are a must, only true Enterprise-class drives can deliver the required high performance.

The "Difference between SSDs" whitepaper is available online at www.stec-inc.com/whitepaper/differSSD.pdf

For more information regarding this announcement and other important SSD topics, please visit the company's web site at www.stec-inc.com.

About STEC

STEC, Inc., with headquarters in Santa Ana, California and offices around the globe, designs, manufactures and markets high performance storage solutions. The Company's product portfolio includes the industry's broadest SSD offerings. For more information, visit the company's web site at http://www.stec-inc.com

The STEC logo is available at http://www.globenewswire.com/newsroom/prs/?pkgid=1079

Safe Harbor Statement Under the Private Securities Litigation Reform Act of 1995

This release contains forward-looking statements that involve risks and uncertainties, including, but not limited to, statements concerning SSD capabilities, costs and cost savings, and the usages and performance of Enterprise and consumer class SSDs. Such forward-looking statements are based on current expectations and involve inherent risks and uncertainties, including factors that could delay, divert or change any of them, and could cause actual outcomes and results to differ materially from current expectations. Although STEC believes that the forward looking statements contained in this release are reasonable, it can give no assurance that its expectations will be fulfilled. Important factors which could cause actual results to differ materially from those expressed or implied in the forward-looking statements are detailed in filings with the Securities and Exchange Commission made from time to time by STEC, including its Annual Report on Form 10-K, its Quarterly Reports on Form 10-Q, and its Current Reports on Form 8-K. The information contained in this press release is a statement of STEC's present intention, belief or expectation. STEC may change its intention, belief, or expectation, at any time and without notice, based upon any changes in such factors, in STEC's assumptions or otherwise. STEC undertakes no obligation to release publicly any revisions to any forward-looking statements to reflect events or circumstances occurring after the date hereof or to reflect the occurrence of unanticipated events.

CONTACT: STEC, Inc.

Mitch Gellman, Vice President of Investor Relations

(949) 260-8328

ir@stec-inc.com