

STEC PCIe solid state accelerators take on enterprise storage

By Janine Love

Sun August 07 10:47 AM EDT

These aren't solid state drives (SSDs), but a new solid-state approach to storage in the enterprise. In advance of the Flash Memory Summit, STEC Inc. has released the Kronos family of PCIe solid-state accelerators (SSAs). This is the company's first PCIe offering. I talked with the STEC team about their recent announcements. In these designs, the storage is "right up next to the processor, so you can eliminate latencies," said Scott Stetzer, STEC's Vice President, Technical Marketing. "Think of it as a nice fat multi-lane freeway between the host processor and the memory."



STEC tells me that these new products are designed to allow everything to run off of the card, with no need for host resources to manage the I/O. The idea is not to tax the server to manage drive storage, freeing up the server to run applications.

So, let's get to the details....

Kronos PCIe SSA

- Capacity: up to 960GB
- Type: X4 PCIe 2.0
- Form Factor: HH-HL
- Read IOPS: >110,000 random read

- Write IOPS: >100,000 random write
- Average latency: <50us
- Transfer rate: >1Gb/s sustained read and write

Kronos PCIe Turbo SSA

- Capacity: up to 960GB
- Type: X8 PCIe 2.0
- Form Factor: FH-HL
- Read IOPS: >220,000 random read
- Write IOPS: >200,000 random write
- Average latency: <50us
- Transfer rate: >2Gb/s sustained read and write

Featured technologies in the SSA:

- Integrated ASIC architecture: Integrates flash subsystem and PCIe technology in a single ASIC. This means there are no hosted DRAM or CPU resources taxing the host.
- PowerSafe technology: on board supercapacitors for backup and recovery in the event of a power failure
- STEC S.A.F.E. technology: provides ability to recover from NAND flash page, block, die and chip failures and maximizes the Mean Time Between Failure (MTBF) and Mean Time To Data Loss (MTTDL)
- STEC CellCare Technology : "We reach inside, measure how it is being used, and change parameters on the fly in order to get the most life out of that flash cell as is possible," explains Stetzer. "This is a step beyond an E-MLC variant. That's what extends endurance up to 60-80,000 cycles for something that's normally in 5,000 cycle ranges."

The product also features a full five year warranty.

Availability

STEC is now sampling the Kronos PCIe SSD family to key customers.

More Information

[Web Site](#)

[Product web page](#)