

SSD product news wrap-up

By Dave Simpson and Kevin Komiega | InfoStor

July 10, 2009 -- A number of vendors made announcements related to **solid-state disk (SSD) drives** this week, including Compellent and STEC, Fusion-io, Texas Memory Systems, and LSI.

STEC added to the roster of OEMs for its ZeusIOPS SSDs with the announcement that Compellent is offering the drives in its SAN arrays. Other STEC SSD OEMs include EMC, Fujitsu, Hewlett-Packard, Hitachi Data Systems (HDS), IBM and Sun. The ZeusIOPS SSDs are available in capacities ranging from 73GB to 1TB, with Fibre Channel, SAS or SATA interfaces.

Compellent touts the combination of SSD drives and its Data Progression software, which automatically moves inactive data to/from SSDs and tiers of less expensive, high-capacity drives such as Fibre Channel or SATA. Data Progression can be used in conjunction with Compellent's Dynamic Block Architecture, which tracks the characteristics and usage of every data block in the SAN arrays.

Compellent officials claim that the starting configuration of two 146GB ZeusIOPS SSDs can deliver 30,000 to 50,000 I/Os per second (IOPS) while reducing latency to 20 to 120 microseconds. Customers can add the SSDs to existing Compellent arrays for \$16,999 per drive. (A third SSD is required as a global hot spare.)

A Compellent SAN with automated tiered storage and SSDs starts at \$84,785, including three 146GB SSDs, 4.5TB of Fibre Channel drive capacity, and Data Progression, Dynamic Capacity, Data Instant Replay and Enterprise Manager applications.

"Data Progression is the only software that allows a volume to be spread between different classes of disk drives," claims Bruce Kornfeld, Compellent's vice president of marketing. "Other storage vendors using SSDs have to put the whole volume on the SSD. Our approach can lead to huge cost savings, because by spreading volumes across drives customers only have to buy the amount of SSD drives needed to support active data."

Also this week, Fusion-io announced a new technique for managing multi-level cell (MLC) flash technology that the company claims combines the high reliability of single-level cell (SLC) technology with economical, consumer-grade MLC flash technology.

Fusion-io calls the technology single mode level cell (SMLC), and will integrate it into its ioDrive (160GB) and ioDrive Duo (320GB) product lines later this quarter.

Company officials claim that SMLC has bandwidth equal to SLC, with comparable endurance and write performance levels, at a cost that is substantially lower than traditional SLC solutions. The company has not released specific pricing yet.

Texas Memory Systems announced that its RamSan-500 flash-based SSD system has been certified as interoperable with Microsoft's Windows Server 2008. Texas Memory claims that the RamSan-500 can deliver 100,000 IOPS of sustained random reads, 25,000 IOPS of sustained random writes, and 2GBps of sustained random read/write bandwidth. The device consumes 250 watts of power, and can be configured with up to eight 4Gbps Fibre Channel ports.

LSI this week released new controller firmware for its 3ware 9650SE SATA RAID controller cards that supports Intel's SATA-based X25-E Extreme SSDs. The X25E is based on SLC NAND technology with ten parallel NAND flash channels. The drives are available in 32GB or 64GB capacities.

Intel claims sustained sequential read performance of up to 250MBps, and write performance of up to 170MBps, with a read latency of 75 microseconds. With 4KB blocks, the company specifies random read throughput of more than 35,000 IOPS and random write throughput of more than 3,300 IOPS.