

LSI adds solid-state drive, iSCSI support to denser Engenio 7900 disk array

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LSI Corp. gave the [Engenio 7900](#) disk array a facelift this week with the addition of new support for STEC Inc. Fibre Channel (FC) [solid-state drives \(SSDs\)](#), Gigabit Ethernet iSCSI host connections, expanded cache and more storage density per cubic inch in a newly designed disk enclosure.

The new support for Ethernet and FC host connections with this release marks the first multiprotocol support in the product, which IBM sells as the System Storage DS5000 and Sun Microsystems Inc. sells as its Sun StorageTek 6000 Series Array through OEM deals with LSI. The controller unit supports up to eight network loop pairs to new DE6900 disk enclosures, and customers can mix and match up to eight FC or iSCSI network cards for a total of 16 ports. The same controller can now also be used with Fibre Channel-attached STEC ZeusiOPS SSDs.

The new enclosures were previously shipped with LSI's high-performance computing (HPC) systems and pack up to 480 drives into 36U with 16-drive, 3U building blocks under the 7900 controller head. The previous array enclosures, FC4600s, took up 82U, encompassing an additional rack, to support 416 drives. The new enclosures are also field-serviceable using horizontal trays for groups of four disk drives. Each group of four drives can be pulled out like a drawer without losing access to data because of new flexible cables inside the chassis.

Multiprotocol support a first for Engenio 7900; NAS to follow

The array doesn't offer Quality of Service or bandwidth throttling features to guarantee constant bandwidth for higher-priority applications in a multiprotocol environment, but Engenio product marketing manager Rip Wilson argues that's not needed. "We've always done very well handling lots of I/O," he said. "There can be places for a Quality of Service manager, but it tends to be more of a performance limiter rather than a performance enhancer. It's not something that's really come up with customers' servers sucking up the bandwidth another needs."

In real-world environments, organizations rarely split an array between Fibre Channel and iSCSI traffic, said Rick Villars, vice president, storage systems and executive strategies at Framingham, Mass.-based IDC. He said it's more likely to combine iSCSI with network-attached storage (NAS) interfaces, which LSI can now supply after its acquisition of [ONStor Inc.](#) "Once you get into the iSCSI environment, the discussion usually becomes about how to include NAS," he said.

Steve Gardner, director of outbound marketing for the Engenio Storage Group, said the plan is also to integrate ONStor NAS gateways with the 7900 and offer them to OEMs, but he declined to offer a time frame.

"The question of whether OEMs will be interested in offering the NAS gateway will be interesting to evaluate," IDC's Villars said. "Typically [OEMs] have their own solutions for [NAS], but LSI may be looking to branch out to tier 2 OEMs and new channel partners."

LSI jumps into Flash-as-cache vs. Flash-as-disk debate

With the addition of SSDs, LSI is jumping into an ongoing debate in the industry about the right place for [Flash](#). Some disk array vendors and storage experts argue that solid-state drives make the entire network loop faster even if they sit behind a disk controller; others contend that SSDs are best used as cache, as close to the server bus as possible.

"Flash as cache sounds interesting, but you have to have an application that's able to take advantage of it," Villars said. "Flash in its arrays has uses, too," especially if data sets requiring higher I/O performance are relatively consistent and easily identifiable.

Vendors that began offering SSDs last year have begun to add data placement software that can recognize the most performance-intensive volumes on the array and migrate them automatically between solid-state and hard disk drive tiers. LSI OEM partner [IBM has been working on its own version](#) of such software. LSI doesn't have such software available inside the Engenio array, but revealed a new meet-in-the-channel co-marketing agreement with Tek-Tools Software Inc. that will allow its Profiler storage resource management (SRM) software visibility into the Engenio 7900 for SSD provisioning and capacity planning. It remains unclear which partners will combine Profiler with the 7900.

LSI joined Compellent Technologies Inc., EMC Corp., Fujitsu, Hewlett-Packard Co., Hitachi Data Systems, IBM and Sun in using [STEC solid-state drives](#). "This announcement is yet another indication to us that STEC has a very strong position as the primary supplier of enterprise-class SSDs into the external disk storage array market," financial analyst Aaron Rakers of Stifel Nicolaus Equity Research wrote Monday in a note to clients. "The company remains the only supplier of enterprise-class SSDs supporting FC interface, which while likely to decline over time, will remain an important interface technology in the storage market going forward, in our opinion."