NVM Express Delivers 1.2 Specification with New Data Center and Client Features for PCI Express® Solid-State Drives

NVM Express Also Developing New Capabilities Including Management Interface and Fabrics

WAKEFIELD, Mass. – Nov. 12, 2014 – NVM Express, Inc., the organization that developed the NVM Express specification for accessing solid-state drives (SSDs) on a PCI Express (PCIe) bus, today announced the release of its 1.2 specification. NVM Express (NVMe) 1.2 extends the specification to a new level of enterprise and client functionality. NVMe is the preeminent high-performance standard for enterprise and client non-volatile memory based storage solutions, such as PCIe solid state drives.

The NVMe 1.2 specification adds features for both enterprise and client systems. For client systems, additions include enhanced power management and other mobile oriented capabilities, such as a feature that supports designing high performance SSDs without local DRAM. This reduces SSD costs and enables smaller BGA (Ball Grid Array) based form factors. These features allow the compelling performance of NVMe to be used in solutions like fan-less two-in-one laptops.

For enterprises, there are expanded capabilities including live firmware updates and a feature that provides reduced latency when many NVMe devices are used in an environment with one or more PCIe switches.

"As a world leader in storage, Seagate is intently focused on delivering innovative solutions tailored to address our customers' workloads and maximize application performance," said Phil Brace, Seagate's executive vice president of electronic solutions. "The new NVMe revision 1.2 specification raises the bar, delivering a high-bandwidth, low-latency storage interface, fueling the growth of standards-based PCIe SSDs in both the client and the data center segments and empowering us to provide our customers with the industry-leading technology they demand."

The NVM Express 1.2 specification is available for download at http://www.nvmexpress.org/specifications/.

NVM Express Management Interface and NVM Express over Fabrics Specifications
NVM Express, Inc. is also developing specifications to provide a management command set for NVMe devices and to bring the benefits of NVM Express to fabrics such as Ethernet, InfiniBand™ and Fibre Channel. The Management Interface Specification will define a software interface to support IT managers' ability to manage PCIe SSDs. NVM Express over Fabrics will extend the benefits of NVMe to usages with hundreds of solid state drives where using a fabric

as an attach point is more appropriate than using PCI Express. The Management Interface specification is targeted for publication in the first quarter of 2015, and the NVM Express over Fabrics specification is targeted for availability in the second half of 2015.

About NVM Express

NVM Express (NVMe) is the optimized, high-performance, scalable host controller interface with a streamlined register interface and command set designed for non-volatile memory based storage. NVM Express was developed to reduce latency and provide faster performance with support for security and end-to-end data protection. The first NVM Express products began shipping in 2014 and have demonstrated up to six times greater 4k Random and Sequential Read/Write performance, and lower latency than SATA solid state drives. NVM Express specifications are owned by NVM Express, Inc.

About NVM Express, Inc.

NVM Express, Inc. was formed to define a new storage interface protocol, NVM Express, to enable the full performance potential provided by non-volatile memory storage technology, such as PCI Express solid state drives, in a standards-based approach to enable broad ecosystem adoption. NVM Express, Inc. is a non-profit organization and includes more than 60 member companies.

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