



## **NVM Express Organization Initiates "NVM Express over Fabrics" Effort; NVMe Specification Revision 1.2 Approaching Ratification**

*Early Prototype of NVM Express over Fabrics Will Be Shown at the Intel Developers Forum,  
Sept. 9-11*

**WAKEFIELD, Mass. – Sept. 3, 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 that it has initiated an effort to specify a standard for NVM Express over Fabrics. This extends the benefits of NVM Express (NVMe) to usages with hundreds of solid state drives where using a fabric as an attach point is more appropriate than using PCI Express, as in flash appliances that use fabrics such as Ethernet with RDMA, InfiniBand<sup>®</sup> and Intel<sup>®</sup> Omni Scale Fabric.

The organization also announced that Revision 1.2 of the NVM Express Specification is in the final stages of ratification.

Delivering application-focused performance for data-intensive workloads, such as real-time data analytics, NVM Express over Fabrics enables end-users to connect remote subsystems with a flash appliance to achieve faster application response times and better scalability across virtual data centers. While the ability to access remote solid state drives over fabrics exists today, typically a SCSI-based protocol is used. This results in increased latency. By using NVMe end-to-end, the latency-contributing SCSI translation is eliminated, resulting in faster access to data. This provides end-users with the ability to harness the performance of hundreds of solid state drives, achieving similar latency whether the SSDs are local or remote.

An early prototype of NVM Express over Fabrics will be demonstrated at the Intel Developers Forum, September 9-11 in San Francisco. This demonstration showcases the performance and latency benefits for a flash appliance attached via Ethernet with RDMA.

"NVM Express has redefined the standard for performance of next-generation flash storage devices. EMC is working to deliver industry-leading NVMe solutions to the market, including the breakthrough DSSD™ storage system," said Mike Shapiro, Vice President, Software Engineering of DSSD, EMC Corporation and a co-author of the NVMe over Fabrics specification. "As part of that effort, EMC is pleased to be a core contributor to the definition of NVMe over Fabrics, the new NVM Express standard for sharing next-generation flash storage in

an RDMA-capable fabric. NVMe over Fabrics is a key technology to enable the next generation of EMC® storage to deliver unprecedented performance to the Third Platform of IT applications."

The demonstration can be seen at the Intel Developers Forum at the Intel booth, #173, in the NVM Express Community.

### **NVM Express 1.2 Specification**

NVM Express, Inc. is in the final stages of ratifying the NVM Express 1.2 specification, extending 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, the NVMe 1.2 specification enables better power management, and other mobile-oriented capabilities, such as a feature that enables SSDs with less or no DRAM, reducing system costs. These features are especially important in the expanding small form factor computing segment. For enterprises, the NVMe 1.2 specification enhances status reporting and expands capabilities including live firmware updates.

The NVM Express 1.2 specification will be available for download in the fourth quarter of 2014 at <http://www.nvmexpress.org>.

### **About NVM Express**

NVM Express is the optimized, high performance, scalable host controller interface with a streamlined register interface and command set designed for NVM 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 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., the NVM Express organization, was formed as the NVM Express Work Group 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.

Organizations interested in participating in the development and promotion of NVM Express are invited to become Contributors to NVM Express, Inc. Additional information is located at [www.nvmexpress.org](http://www.nvmexpress.org).

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