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TITLE

PCI Express: Driving the Future of Storage

ABSTRACT

The data explosion has led to a corresponding explosion in the demand for storage. At the same time, traditional storage interconnects such as SATA are being replaced with PCI Express (PCIe)-attached storage solutions. Leveraging PCIe technology removes the performance bottlenecks and provides long-term bandwidth and performance scalability as PCIe evolves from 8GT/s bit rate to 16GT/s and beyond. PCIe-attached storage delivers a robust solution that is supported natively in all Operating Systems and a wide array of form factors either chip-to-chip or through expansion modules and daughter cards.

This session will describe how storage solutions are coalescing around the PCIe architecture due to:

- Ubiquity: all IP vendors have PCIe IP
- Low latency: moving data between system components happens rapidly without delay
- Scalability: easily scale bandwidth by adding more lanes or through the continually evolving PCIe PHY specifications
- Low power: L1 Sub-states suited for driving link idle power near 0
- Form factors: all robust SSD form factors are being developed on PCIe technology, including SFF-8639, M.2, CEM and so on
- End-to-end solution: delivers both storage I/O capabilities with scalability, and a flexible range of form factors

BIOGRAPHY

Ramin Neshati works at Intel Corporation where he directs a number of technology pathfinding projects in the Data Center Group. He holds a Ph.D. in Technology Management from Portland State University (2014), M.B.A. from Pepperdine University (1993), M.S. in Computer Science from University of Idaho (1982), and B.S. in Computer Science from Washington State University (1980). Dr. Neshati has served as director on the PCI-SIG Board since 1999 and chairs its marketing committee; he also chairs the MIPI Alliance Software Workgroup. He lives in Portland, Oregon.