HighPoint M.2/E1.S NVMe RAID AICs Deliver Unparalleled Speed and Scalability for GPU Server Applications

December 2024, Fremont CA - HighPoint Technologies, a leader in advanced PCIe Switch and RAID AIC, Adapter and Storage Enclosure solutions, has announced an extensive line of M.2 and E1.S RAID AICs engineered to accommodate high-performance GPU-centric workloads.
Designed for enterprise and datacenter class computing environments, HighPoint NVMe RAID AICs deliver class-leading performance and unmatched scalability, enabling modern x86/AMD and ARM platforms to support 4 to 16 NVMe SSDs via a single PCIe Gen4 or gen5 x16 slot.
State-of-the-art PCIe Switching Architecture and flexible RAID technology enable administrators to custom tailor M.2 and E1.S storage configurations for a broad range of data-intensive applications, and seamlessly scale or expand existing storage configurations to meet the needs of evolving workflows.

Unprecedented Storage Density

HighPoint NVMe AICs have established a new milestone for M.2 NVMe storage. HighPoint's revolutionary Dual-Width AIC architecture enables a single PCIe Gen4 or Gen5 x16 slot to directly host up to 16 M.2 NVMe SSDs, and 128TB of storage capacity, at speeds up to 28GB/s; a truly unprecedented advancement in compact, single-device storage expansion solutions. State-of-the art PCIe switching technology and advanced cooling systems maximize transfer throughput and ensure M.2 configurations operate at peak efficiency by halting the performance sapping threat of thermal throttling in tis tracks.

Datacenter Class E1.S Solutions

HighPoint's advanced dual-width E1.S NVMe AICs enable customers to seamlessly integrate over 6oTB of datacenter class NVMe storage media into their GPU server infrastructure via a single PCIe Gen4/5 x16 slot. The combination of unmatched transfer speed, enterprise reliability, flexible RAID technology and 8 independent device ports provides unmatched storage expansion capability, delivers a dedicated x16 lanes of transfer bandwidth, and maintains consistent, low-latency data throughput critical for AI/ML training, complex simulations, and high-fidelity rendering tasks.

Key Benefits:

Maximized Performance for GPU Workloads:
HighPoint RAID 0 striping technology optimizes read and write performance by aggregating multiple independent drives to operate as a single virtual disk. This approach ensures that continuous high-speed data streams are fed to each of the platform's GPUs to accelerate processing times for data-intensive workflows including AI inference, 3D modeling, and ultra-high-resolution video editing.

Optimizes Bandwidth Utilization:
HighPoint NVMe AIC solutions unlock the full performance potential of the platform's PCIe connectivity. Proven Switching technology leverages Broadcom's class-leading PEX Series Gen4 and Gen5 switch ICs to deliver x16 lanes of dedicated upstream bandwidth, and x4 lanes of downstream bandwidth for each

hosted SSD. The AIC's architecture ensures that data flows unimpeded to each GPU to maximize computational efficiency and power parallel-processing workloads that demand rapid data throughput.

Accelerates the Efficiency of Data-Intensive Workflows:
State-of-the-art PCIe switching architecture optimizes the flow of data from hosted NVMe devices to the host CPU. Ultra-low latency access enables near-instant data retrieval and significantly reduces processing times. This leads to faster project completion, smoother real-time analysis, and improved responsiveness for applications that rely on immediate, high-bandwidth data delivery.

Provides Massive Storage Capacity for Large Datasets:
HighPoint's proven RAID technology can consolidate multiple NVMe devices into a single logical volume to maximize storage density. A single AIC can host up to 16 NVMe devices, and 128TB of storage. HighPoint's innovative **Cross-Sync** technology can take things even further; administrators can link as many as 16 drives and 4 AICs to function as a single, massive storage volume. From AI training sets and real-time analytics, to complex simulations and rendering projects, this architecture provides a scalable, future-proof storage foundation without compromising transfer performance or accessibility.

HighPoint NVMe RAID AICs Significantly Streamline Data Acquisition and Processing workflows for modern data-driven applications

With an unwavering commitment to performance, scalability, and innovation, HighPoint's M.2 and E1.S NVMe RAID AICs empower organizations to keep pace with evolving GPU-driven workloads—both now and into the future.

M.2 NVMe AIC Products

Gen5 RAID AICs:
Rocket 7608A 8x M.2 PCIe 5.0 x16

Gen4 RAID AICs:
SSD7749M2 16x M.2 PCIe 4.0 x16
SSD7749M 16x M.2 PCIe 4.0 x16
SSD7540 8x M.2 PCIe 4.0 x16
SSD7505 4x M.2 PCIe 4.0 x16

E1.S Datacenter NVMe AIC Products

Gen4 RAID AICs:
SSD7749E 8x E1.S PCIe 4.0 x16

About HighPoint Technologies, Inc.

HighPoint Technologies stands at the forefront of storage innovation as the industry's -premier manufacturer of high-performance, high-density NVMe Switch and RAID AIC & Adapter solutions for off-the-shelf x86 AMD/Intel and ARM platforms. With a rich history spanning nearly three decades, our dedication to delivering innovative, reliable, and high-performance storage solutions has consistently set us ahead in the marketplace. HighPoint's NVMe storage solutions are powered by industry-proven PCIe Switching technology, and are designed to address the dynamic requirements of AI/ML/LLM applications, Data Centers, Edge Servers, and high-performance workstations, enabling customers to keep pace with today's rapidly evolving technology landscape.