HighPoint and Graid Technology Announce Breakthrough Gen5 Parity Storage Benchmark for AI, HPC, and Data-Intensive Workloads

Fremont, CA – December 2025 – HighPoint Technologies, Inc., a leader in PCIe storage and connectivity solutions, has announced the successful completion of a landmark performance benchmark in collaboration with Graid Technology, the pioneer of GPU-accelerated RAID and creators of SupremeRAID™, and Sandisk, a leading provider of enterprise-class NVMe SSDs.

This joint project showcases a single-slot Gen5 parity storage solution that delivers unprecedented performance metrics, affirming the feasibility of ultra-fast, high-capacity, and secure storage for the most demanding applications, including Machine Learning, Deep Learning, High-Performance Computing (HPC), Media & Entertainment, and Data Center Storage.

Benchmark Performance Highlights

The solution delivered sustained top-tier Gen5x16 I/O performance:

Metric	Result
Sequential Read Throughput	56.7 GB/s
Sequential Write Throughput	46.4 GB/s
Random Read IOPS (4K)	3,788K IOPS
Random Write IOPS (4K)	1,574K IOPS

Unified, High-Performance Architecture

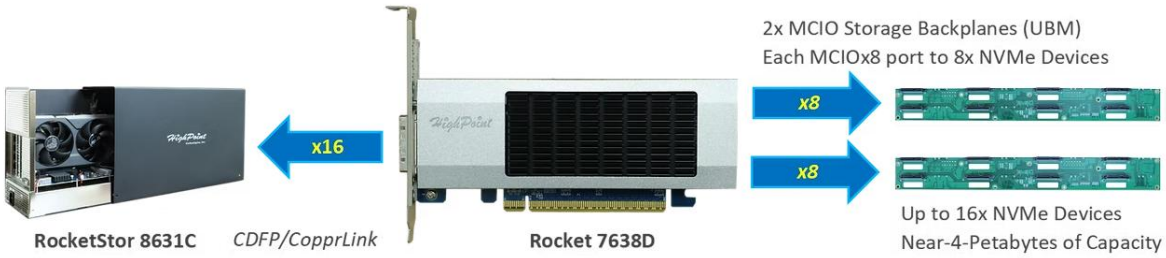
The project was built around HighPoint's Rocket 7638D, which was deployed to serve as a centralized PCIe Gen5 switching hub. The adapter's PCIe Switching technology and unique port configuration – an external CDFP/CopprLink port and dual internal MCIO 8i ports – provided a robust and flexible hardware foundation, proving that massive capacity and performance can be consolidated into a minimalist, single-slot footprint.

HighPoint Rocket 7638D – The Centralized Gen5 Switching Hub

The adapter's innovative design and 48-Lane PCIe Switching Architecture served as the **core fabric**, providing:

- **A dedicated Gen5 x16 upstream link** to the host platform
- **A dedicated Gen5 x16 downstream data path to the SupremeRAID™ engine's** dedicated GPU via the external CDFP/CopprLink port
- **Direct pathway to 16× Sandisk SN861 U.2 NVMe SSDs via the two MCIO 8i ports and a UBM backplane**

HighPoint deployed a **customized UBM firmware configuration for the Rocket 7638D, which enabled the** 16 Sandisk NVMe SSDs to operate as a unified, high-bandwidth storage array with full PCIe Gen5 signal integrity.



SupremeRAID™ GPU-Accelerated RAID – Mass Storage and Data Redundancy at Full Gen5 Speeds

SupremeRAID™'s GPU-accelerated RAID engine utilized a dedicated GPU installed into a Rocket 8631C enclosure, connected through the Rocket 7638D's external **CDFP/CopprLink x16** port. Graid's proven technology provided:

- **Full RAID-6 parity offload** with near-zero CPU overhead
- **Full utilization of all 16 7.68TB SANDISK® SN861 NVMe SSDs** via a direct Gen5 x16 PCIe pathway
- **Ultra-low latency peer-to-peer performance** essential for AI and HPC pipelines

This single-slot PCIe Gen5 GPU direct RAID storage solution addressed three critical industry demands simultaneously: **ultra-fast performance, massive storage capacity (up to 16x NVMe devices), and critical data redundancy protection.**

SANDISK® SN861 Series Enterprise Class NVMe SSDs

The solution incorporated Sandisk's cutting-edge PCIe® Gen5 SN861 Enterprise NVMe™ SSDs. The storage media was connected to the Rocket 7638D's dual MCIO 8i ports using HighPoint CIO8-CI08-110 cables via two UBM backplanes, and configured into a RAID 5 array using the Graid RAID engine. The resulting configuration delivered over 100TB of storage capacity and astounding performance - nearly 57GB/s, and over 3,700K IOPS.

Insights from the Collaborating Partners

HighPoint Technologies, Inc.

"*The Rocket 7638D is the realization of our vision for a modular, single-slot Gen5 fabric*," **said May Hwang, Marketing Director at HighPoint Technologies, Inc.** "*By acting as the central switch hub, the 7638D eliminates the traditional two-slot requirement for high-speed I/O, providing a standard and flexible building block that guarantees uncompromised Gen5 x16 bandwidth from the GPU to the storage array. This benchmark proves our design delivers on uncompromised speed, density, and efficiency*."

"This collaboration proves just how far we can push Gen5 performance," **said Tom Paquette, Senior Vice President and General Manager at Graid Technology**. *"Together with HighPoint and Sandisk, we've demonstrated a single-slot GPU-accelerated RAID solution that delivers remarkable speed, capacity, and resilience for AI and HPC workloads."*

"This solution demonstrates the power of Sandisk enterprise-class NVMe™ SSDs in delivering breakthrough Gen5 performance. By collaborating with HighPoint and Graid, we've proven that ultra-fast, high-capacity, and reliable storage is not just possible—it's ready for the most demanding workloads in AI, HPC, and data-intensive environments." **Said Zaki Hassan, Senior Director – Technical Product Marketing at Sandisk Corporation**

Immediate Availability

This jointly validated solution is available for immediate integration. For more information, please visit:

- HighPoint Rocket 7638D PCIe Gen5 x16 Switching Adapter
- SupremeRAID™ GPU-accelerated RAID by Graid Technology
- Sandisk SN861 Enterprise NVMe SSDs

About HighPoint Technologies

HighPoint Technologies stands as a global leader in PCIe connectivity solutions and a premier manufacturer of high-performance, high-density NVMe Switch and RAID AIC & Adapter solutions. 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.

About Graid Technology

At Graid Technology, we're pioneering the future of data storage with our groundbreaking flagship product, SupremeRAID™. Designed for high-performance NVMe servers, data centers, and edge computing, SupremeRAID™ leverages GPU acceleration to eliminate traditional RAID bottlenecks, offering unparalleled SSD performance while freeing up CPU resources. Our commitment to innovation is driven by a global team, with headquarters in Silicon Valley and an R&D center in Taiwan. We collaborate with partners worldwide to deliver cutting-edge solutions that meet the demands of modern data infrastructure. Discover more about GPU-based SupremeRAID™ at graidtech.com.