

SupremeRAID™ HE (HPC Edition)

Engineered for clustered HPC, AI factories, and enterprise workloads, SupremeRAID™ HE redefines high-performance data delivery by harnessing GPUs to overcome the unique challenges of clustered storage at scale.



Are you focused on protecting mission-critical operations, preventing costly downtime, or meeting strict compliance requirements in your HPC environment?

If so, SupremeRAID™ HE is purpose-built for you. Engineered for high-performance computing, AI factories, and enterprise workloads that demand both speed and resilience, this GPU-accelerated, high-availability solution safeguards data, maintains compliance, and ensures critical applications run without interruption.

Designed for environments where uptime is essential, SupremeRAID™ HE delivers cross-node RAID protection and seamless array migration—without data replication. The result: greater usable capacity, lower TCO, and simplified failover, even at scale.

By shifting RAID operations from the CPU to the GPU, SupremeRAID™ HE (HPC Edition) achieves exceptional performance in clustered and distributed systems—up to 132GB/s reads and 83GB/s writes after RAID processing. The outcome: faster throughput, more available CPU resources, and optimized efficiency for your most demanding workloads.

SupremeRAID™ HE Ideal For:

High-availability HPC and clustered computing environments

AI model training and inference at massive scale

Enterprise analytics and database platforms

Petascale virtualized or cloud data infrastructures

GPU-powered HPC RAID

Unmatched NVMe performance and efficiency

Cross-node High Availability

Seamless protection with no replication required

File System Agnostic

Integrates with leading parallel file systems

Award Winning Innovation

Winner, Best of Show, Enterprise HPC at FMS 2025

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Key Features & Benefits

Intelligent GPU-Accelerated RAID

SupremeRAID™ HE maximizes efficiency by shifting intensive RAID tasks from the CPU to the GPU, unleashing up to 132GB/s read and 83GB/s write throughput after RAID for clustered and distributed systems—and providing more CPU headroom for core applications.

Cross-Node High Availability

Unique cross-node RAID architecture delivers high availability and seamless failover without the complexities of replication, ensuring uninterrupted access and simplified disaster recovery, resulting in reduced NVMe Costs and maximum scalability.

NVMe-oF & Parallel File System Support

HE supports NVMe-oF, enabling scale-out storage across multiple hosts. It integrates with major file systems; including Ceph, Lustre, MinIO, IBM SpectrumScale, and BeeGFS, streamlining large-scale dataset management in any infrastructure.

Enterprise-Grade Data Protection

Double failure protection, distributed journaling across drives and controllers, and automated bad block recovery ensure resilient, reliable data storage for mission-critical workloads.

Flexible Deployment

Supports up to 32 NVMe SSDs per array (scalable), dual controllers, JBOF integration with Broadcom switches, and tested compatibility with Supermicro Petascale platforms. Linux OS support: Ubuntu 20–24.04 and RHEL 8.x–9.x.

RESTful API & Automation

Comprehensive RESTful API allows integration with orchestration platforms and DevOps workflows, enabling automated monitoring, management, and reporting for optimized operations.

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Detailed Technical Specifications

For questions about product specs, email us at info@graidtech.com

Supported RAID Levels	RAID 0/1/5/6/10
GPU Options	NVIDIA RTX A1000 (8GB) or RTX 2000 Ada (16GB)
Maximum Drives per Array	Up to 32 NVMe SSDs
Throughput	132GB/s (read), 83GB/s (write) post-RAID
File Systems	Ceph, Lustre, MinIO, IBM SpectrumScale, BeeGFS
Network Support	NVMe-oF, dual controller, Broadcom BF3 switches
Host OS Compatibility	RHEL 8 and 9, Ubuntu 20.04 / 22.04 / 24.04
Supported NVMe SSDs	Dapustor, FADU, Hagiwara, Kingston Technologies, KIOXIA, Memblaze, Micron, Petaio, Phison, Samsung, Scaleflux, Seagate, Solidigm, Western Digital
Management Interfaces	RESTful API, CLI

To learn how SupremeRAID™ HE performs in a 2U dual-node all-flash system with BeeGFS and Supermicro's Petascale High Availability Dual Node All-Flash platform, check out our full solution brief.

[Get the Solution Brief](#)

 Graid Technology Inc.

Learn more: www.graidtech.com/product/supremeraid-he

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**MOST INNOVATIVE
ENTERPRISE BUSINESS
APPLICATION: HPC
CATEGORY**