SupremeRAID™ SR-1010

The World's Fastest NVMe & NVMeoF RAID Card for PCIe Gen 3, 4, & 5 Servers

Further disrupting the global storage industry, Graid Technology Inc. now offers the world's fastest NVMe and NVMeoF RAID card for PCIe Gen 3, 4, & 5 servers, designed to deliver world class data protection while increasing read and write performance — all at world record performance speeds and extremely low TCO.

THE CHALLENGE

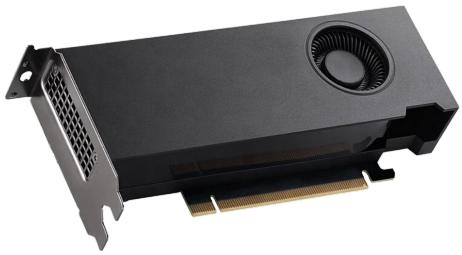
RAID Bottleneck

As NVMe SSD quickly becomes the new standard for storage infrastructure, a challenge arises for data center storage infrastructure design: the industry requires a future-ready solution to deliver NVMe SSD performance without sacrificing data security or business continuity. Simply put: flash storage performance is evolving too fast to be fully utilized by existing storage architecture.

Implementing a basic software RAID via the CPU can only deliver 10-20% SSD performance on average, while unfortunately consuming almost all of the CPU computing power. While utilizing proprietary hardware might achieve improved performance, the architecture still can't maximize the potential of flash storage.

THE SOLUTION

SupremeRAID™ SR-1010



In today's data center world, speed and throughput are everything. Graid Technology recognized the limitations and bottlenecks caused by traditional RAID and developed a GPU-based storage solution to launch RAID technology into the future.

Graid Technology is proud to introduce the world's first NVMe and NVMeoF RAID card created to unlock the full potential of your SSD performance. Our innovative GPU-based solution delivers world-record performance while increasing scalability, improving flexibility, and lowering TCO. With proven performance tests and partnerships with global industry leaders, SupremeRAID™ delivers maximum SSD performance, comprehensive enterprise data protection, unmatched flexibility, and unbeatable ROI.

19M IOPS

110GB/s Throughput

UP TO 100% SSD Performance

80% Cost Savings

5x Faster

	SupremeRAID™ SR-1010	High-end Hardware RAID
4k Random Read	**19 M IOPS**	6.9 M IOPS
4k Random Write	**1.5 M IOPS**	651 k IOPS
1M Sequential Read	**110 GB/s**	28.2 GB/s
1M Sequential Write	**22 GB/s**	10.4 GB/s
4k Random Read In Rebuild	**5.5 M IOPS**	1 M IOPS
4k Random Write In Rebuild	**1.1 M IOPS**	548 k IOPS

*Based on Linux RAID5 with Intel Xeon Gold 6338 CPU 32-Core with 2.0GHz x 2

Unbeatable Performance

SupremeRAID™ SR-1010 increases read performance to 19 M IOPS and 110GB/s throughput and increases write performance to 1.1 M IOPS and 22 GB/s throughput in RAID 5/6, while maintaining the superior level of data protection our customers and partners have come to expect.

Flexible & Future Ready

Unmatched flexibility with features like new O/S support, compression, encryption, thin provisioning, or boot drive protection easily added with software releases

World Record Performance

SupremeRAID™ SR-1010 increases read performance to 19M IOPS and 110GB/s throughput and write performance to 1.5M IOPS and 22GB/s throughput in RAID5/6

Highly Scalable

Easily manage 32 direct attached NVMe SSDs; extend data protection without sacrificing performance with Software Composable Infrastructure

Plug & Play

Effortless installation, no cabling or motherboard re-layout required; direct connect to SSD without PCIe switches

Free Up CPU Resources

Offload your entire RAID computation to SupremeRAID™ to free-up CPU computing resources for 5G, AI and AIoT applications

Easy to Use

SupremeRAID™ doesn't rely on memory caching technology, eliminating the need for battery backup modules

GIGABYTE KIOXIA AMD SEAGATE NVIDIA

"The SupremeRAID™ SR-1010 arrives with a substantial performance uplift... it's light years beyond even the most high-end hardware RAID arrays."

TOM'S HARDWARE
INDEPENDENT REVIEW

tom's HARDWARE

Are You Ready to Unleash Your Data Performance?

Don't get left behind, join the future of enterprise data protection. Contact us today.

Learn more about award-winning SupremeRAID™—the world's first NVMe and NVMeoF RAID card created to unlock the full potential of your SSD performance, enabling enterprise data centers to achieve record-breaking performance without sacrificing data security or business continuity.

Graid Technology Inc. is headquartered in Silicon Valley, with a sales office in Ontario and an R&D center in Taipei, Taiwan. Our leadership is composed of a dedicated team of experts with decades of experience in the SDS, ASIC and storage industries. Learn more at www.graidtech.com/news.

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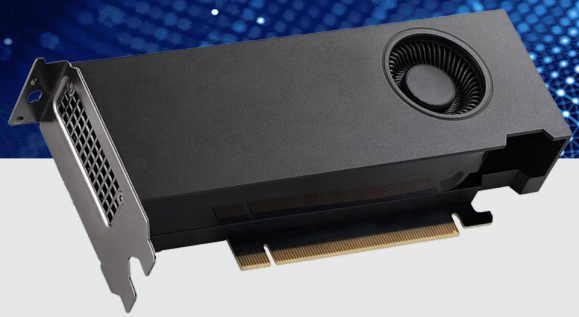
SupremeRAID™ SR-1010

For PCIe Gen 3, 4, & 5 Servers

Test Environment Specifications | **Software:** Linux Version: CentOS 8.5; Windows Version: Windows Server 2019 | **Hardware:** CPU: Intel(R) Xeon(R) Gold 6338 CPU 32-Core with 2.0GHz x 2, Memory: SK Hynix HMA82GR7CJR8N -XN DIMM DDR4 3200 MHz 16GB x 16, SSD: INTEL SSDPF2KX038TZ 3.8TB | **RAID Configuration:** Random performance based on a drive group with 12 physical drives and 1 virtual drive; sequential performance based on a drive group with 20 physical drives and 1 virtual drive



SR-1010 Software Specs

Supported RAID levels	RAID 0, 1, 5, 6, 10
Max Physical Drives	32
Max Drive Groups	4
Max Virtual Drives per Drive Group	1023
Max Drive Group Size	Defined by physical drive size
OS Support	AlmaLinux 8.5, 8.6 (Kernel 4.18) Rocky Linux 8.5, 8.6 (Kernel 4.18) CentOS 7.9, 8.3, 8.4, 8.5 (Kernel 4.18) openSUSE Leap 15.2, 15.3 (Kernel 5.3) RHEL 7.9, 8.3, 8.4, 8.5, 8.6 (Kernel 4.18) RHEL 9.0 (Kernel 5.14) SLES 15 SP2, 15 SP3 (Kernel 5.3) Ubuntu 20.04.0-20.04.5 (Kernel 5.15) Ubuntu 22.04 (Kernel 5.15) Windows Server 2019 x86-64 Windows Server 2022 x86-64 Windows 11 x86-64

SR-1010 Card Specs

Host Interface	x16 PCIe Gen 4.0
Max Power Consumption	70 W
Form Factor	2.713” H x 6.6” L, Dual Slot
Product Weight	306 g

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Unmatched flexibility with features like new O/S support, compression, encryption, thin provisioning, or boot drive protection can be easily added with software releases

World Record Performance

SupremeRAID™ SR-1010 increases read performance to up 19M IOPS and 110GB/s throughput and write performance up to 1.5M IOPS and 22GB/s throughput in RAID5/6

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Easily manage 32 direct attached NVMe SSDs; extend data protection without sacrificing performance with Software Composable Infrastructure

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Contact Graid Technology

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RELEASE NOTES & DOCUMENTATION

SupremeRAID™ SR-1010

For PCIe Gen 3, 4, & 5 Servers

The ultimate in flexibility and choice. SupremeRAID™ SR-1010 is the world's fastest NVMe/NVMeoF RAID card, designed to deliver the full potential of PCIe Gen 3, 4, & 5 systems in enterprise data centers. The SR-1010 increases performance of both reads and writes while maintaining the superior level of data protection our customers and partners have come to expect.

Unbeatable Performance

Chosen by CRN as one of the Ten Hottest Data Storage Startups of 2021 and a 2022 Emerging Vendor in the Storage & Disaster Recovery category, Graid Technology Inc. has developed the world's fastest NVMe and NVMeoF RAID card to unlock the full potential of enterprise SSDs for high performance applications: SupremeRAID™ SR-1010 NVMe/NVMeoF RAID card for PCIe Gen 3, 4, & 5 servers.

	Linux Environment			Windows Environment		
OPTIMAL	**RAID 5**	**RAID 6**	**RAID 10**	**RAID 5**	**RAID 6**	**RAID 10**
4k Random Read IOPS	19 M IOPS	19 M IOPS	19 M IOPS	2 M IOPS	2 M IOPS	2 M IOPS
4k Random Write IOPS	1.5 M IOPS	1 M IOPS	6 M IOPS	600 k IOPS	450 k IOPS	1 M IOPS
1M Sequential Read THROUGHPUT	110 GB/s	110 GB/s	110 GB/s	74 GB/s	68 GB/s	70 GB/s
1M Sequential Write THROUGHPUT	22 GB/s	21 GB/s	25 GB/s	15 GB/s	15 GB/s	35 GB/s

	Linux Environment			Windows Environment		
REBUILD REBUILD_SPEED=SLOW						
4k Random Read IOPS	5.5 M IOPS	5.5 M IOPS	9 M IOPS	300 k IOPS	350 k IOPS	2 M IOPS
4k Random Write IOPS	1.1 M IOPS	800 k IOPS	5 M IOPS	500 k IOPS	500 k IOPS	1 M IOPS
1M Sequential Read THROUGHPUT	23 GB/s	24 GB/s	55 GB/s	21 GB/s	21 GB/s	15 GB/s
1M Sequential Write THROUGHPUT	21 GB/s	21 GB/s	25 GB/s	12 GB/s	12 GB/s	13 GB/s

BASED ON TESTING SPECIFICATIONS LISTED ON PREVIOUS PAGE

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RELEASE NOTES & DOCUMENTATION

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