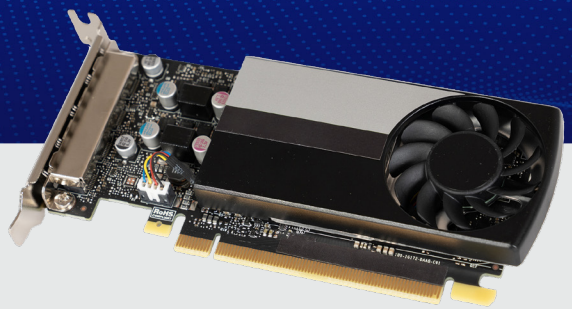
SupremeRAID™ SR-1000

FOR PCIe GEN 3, 4, & 5

Graid Technology Inc.

Test Environment Specifications | Hardware Specs: Server: Supermicro AS -2125HS-TNR; CPU: AMD EPYC 9654 96-Core Processor x 2; Memory: Samsung M321R2GA3BB6-CQKVS DDR5 16GB x 24; SSD: Kioxia CM7 KCMY1RUG3T84 x 24; RAID Controller: SR-1010 x 1 | Software Environment: OS: Ubuntu 20.04.4 LTS; Kernel: 5.4.0-155-generic; Benchmarking tool: fio-3.16; SupremeRAID™ Driver version: 1.5.0-rc1-20230804.gcf5e69d8



SR-1000 Software Specs

Supported RAID levels:
RAID 0, 1, 5, 6, 10

Max Physical Drives: 32

Max Drive Groups: 8

Max Virtual Drives per Drive Group:
1023

Max Drive Group Size:
Defined by physical drive size

OS Support:

AlmaLinux 8.5, 8.6, 8.7 (Kernel 4.18)
CentOS 7.9 (Kernel 3.10 or 4.18), 8.3, 8.4, 8.5 (Kernel 4.18)
Debian 11.6 (Kernel 5.10)
openSUSE Leap 15.2, 15.3 (Kernel 5.3)
Oracle Linux 8.7 (RHCK 4.18 or UEK 5.15)
Oracle Linux 9.1 (RHCK 5.14 or UEK 5.15)
SLES 15 SP2, 15 SP3 (Kernel 5.3)
RHEL 7.9 (Kernel 3.10 or 4.18) , 8.3, 8.4, 8.5, 8.6, 8.7 (Kernel 4.18)
RHEL 9.0, 9.1 (Kernel 5.14)
Rocky Linux 8.5, 8.6, 8.7 (Kernel 4.18)
Ubuntu 20.04.0-20.04.5 (Kernel 5.15)
Ubuntu 22.04.0-22.04.2 (Kernel 5.15)
Windows Server 2019 x86-64
Windows Server 2022 x86-64
Windows 11 x86-64

SR-1000 Card Specs

Host Interface:
x16 PCIe Gen 3.0

Max Power Consumption:
50 W

Form Factor:
2.713" H x 6.137" L, Single Slot

Product Weight:
132.6 g

Flexible & Future Ready

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

Unprecedented NVMe/NVMeoF performance up to 16M IOPS and 220GB/s throughput with a single SupremeRAID™ card delivers the full value of your server investment

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

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RELEASE NOTES & DOCUMENTATION

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SupremeRAID™ SR-1000

FOR PCIe GEN 3, 4, & 5

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Introducing the world's first NVMe and NVMeoF RAID card to unlock the full potential of your SSD performance. SupremeRAID™ cutting edge technology eliminates the traditional RAID performance bottleneck to deliver world-record performance, comprehensive data protection, and unmatched flexibility at the lowest TCO on the market.

Unbeatable Performance

Designed for performance-demanding workloads, SupremeRAID™ is the world's fastest NVMe and NVMeoF RAID solution for PCIe Gen 3, 4 and 5 servers. A single SupremeRAID™ card blasts performance to 16M IOPS and 220GB/s and supports up to 32 native NVMe drives, delivering superior NVMe/NVMeoF performance while increasing scalability, improving flexibility, and lowering TCO.

	Linux Environment			Windows Environment		
OPTIMAL	**RAID 5**	**RAID 6**	**RAID 10**	**RAID 5**	**RAID 6**	**RAID 10**
4K Random Read IOPS	16 M IOPS	16 M IOPS	16 M IOPS	2 M IOPS	2 M IOPS	2 M IOPS
4K Random Write IOPS	900 K IOPS	500 K IOPS	8 M IOPS	500 K IOPS	450 K IOPS	1 M IOPS
1M Sequential Read THROUGHPUT	220 GB/s	220 GB/s	220 GB/s	65 GB/s	60 GB/s	70 GB/s
1M Sequential Write THROUGHPUT	90 GB/s	90 GB/s	70 GB/s	9 GB/s	9 GB/s	35 GB/s

	Linux Environment			Windows Environment		
REBUILD						
4K Random Read IOPS	3 M IOPS	3 M IOPS	12 M IOPS	350 K IOPS	350 K IOPS	2 M IOPS
4K Random Write IOPS	600 K IOPS	400 K IOPS	8 M IOPS	400 K IOPS	370 K IOPS	1 M IOPS
1M Sequential Read THROUGHPUT	12 GB/s	13 GB/s	110 GB/s	12 GB/s	13 GB/s	15 GB/s
1M Sequential Write THROUGHPUT	11 GB/s	11 GB/s	70 GB/s	8 GB/s	8 GB/s	13 GB/s

BASED ON TESTING SPECIFICATIONS LISTED ON PREVIOUS PAGE

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RELEASE NOTES & DOCUMENTATION

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