Product Overview

KIOXIA RM7 Series Value SAS SSDs[1]

KIOXIA RM7 Series Value SAS SSDs Outperform Enterprise SATA SSDs

KIOXIA Value SAS SSDs Offer Server Applications an Excellent Cost/Performance Option over SATA SSDs

KIOXIA RM7 Series SSDs represent KIOXIA's 3rd generation value SAS SSD product line delivering up to twice the performance of SATA SSDs[4]. With capacity, reliability, manageability and data security benefits over SATA SSDs, and at competitive price points, value SAS SSDs are a great and cost-effective upgrade.
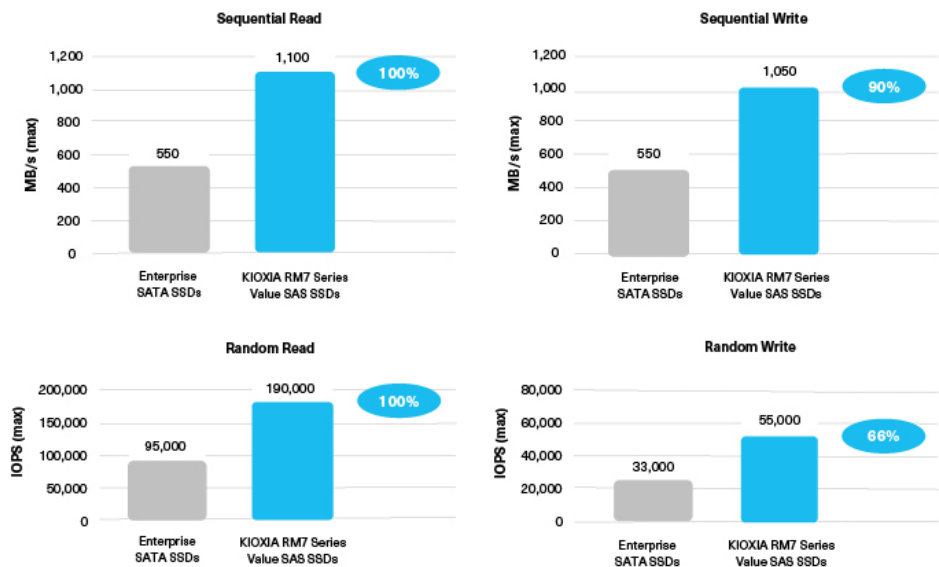
More Value from Value SAS SSDs than Enterprise SATA SSDs

An easy and direct replacement in SAS-enabled servers, KIOXIA RM7 Series Value SAS SSDs are based on the 12 gigabits[3] per second (Gb/s) SAS interface and designed to outperform 6 Gb/s SATA SSDs across the board. These SSDs deliver the robustness needed to support an enterprise-class infrastructure while consuming minimal power to meet certain application requirements.

Upgrade Application Performance with Value SAS SSDs

Value SAS SSDs deliver up to 100% more read bandwidth than enterprise SATA SSDs[5], up to 90% more write bandwidth, up to 100% more random read input/output operations per second (IOPS), and up to 66% more write IOPS, as depicted in the following charts[4]:

KIOXIA RM7 Series Value SAS SSD Specifications[2]

12 Gb/s SAS Performance

Sequential Read: up to 1,100 MB/s*
Sequential Write: up to 1,050 MB/s
Random Read: up to 190K IOPS^
Random Write: up to 55K IOPS

*MB/s -= megabytes[3] per second
^IOPS = input/output operations per second

Supports a Variety of Enterprise Infrastructure and Applications

Data Analytics
Databases
File Servers
Application Services
Backup / Disaster Recovery
Applications supported by SATA SSDs

KIOXIA RM7 Series vs. SATA SSD Performance Comparison

Sequential Read — Enterprise SATA SSDs: 550; KIOXIA RM7 Series Value SAS SSDs: 1,100 (100%)

Sequential Write — Enterprise SATA SSDs: 550; KIOXIA RM7 Series Value SAS SSDs: 1,050 (90%)

Random Read — Enterprise SATA SSDs: 95,000; KIOXIA RM7 Series Value SAS SSDs: 190,000 (100%)

Random Write — Enterprise SATA SSDs: 33,000; KIOXIA RM7 Series Value SAS SSDs: 55,000 (66%)

Easily Replace SATA SSDs/HDDs with Value SAS SSDs

The SAS interface is designed to support the SATA protocol enabling enterprise SATA SSDs/HDDs to connect to SAS backplanes, host bus adapters (HBAs) or redundant array of independent disks (RAID) controllers in servers. Since the majority of today's servers ship with a SAS HBA or RAID card, both SAS and SATA SSDs/HDDs can be used in the same drive bay. As a result, SATA SSDs/HDDs can be easily swapped with KIOXIA RM7 Series Value SAS SSDs.

KIOXIA RM7 Series Model Numbers

Model	Capacity (GB[3])	SED[7] (TCG Opal[8]/Ruby) Model Number	Max. Sequential Read (MB/s)	Max. Sequential Write (MB/s)	Max. Random Read (IOPS)	Max. Random Write (IOPS)
RM7-R Read-intensive (1 DWPD[6])	960	KRM7VRUG960G	1,100	850	180,000	40,000
	1,920	KRM7VRUG1T92	1,100	1,050	190,000	40,000
	3,840	KRM7VRUG3T84	1,100	1,050	190,000	40,000
	7,680	KRM7VRUG7T68	1,100	1,050	190,000	40,000
RM7-V Mixed use (3 DWPD)	960	KRM7VVUG960G	1,100	1,050	190,000	55,000
	1,920	KRM7VVUG1T92	1,100	1,050	190,000	55,000
	3,840	KRM7VvUG3T84	1,100	1,050	190,000	55,000

More Information

https://americas.kioxia.com/en-us/business/ssd/life-after-sata.html

Recommended Resources

KIOXIA Resource Library for the latest marketing assets and application-tested performance comparisons: https://americas.kioxia.com/en-us/business/resources.html

2-1/2 minute video: Value SAS Smashes the SATA Bottleneck

FAQ: Value SAS - A New Class of SSD
https://americas.kioxia.com/content/dam/kioxia/en-us/business/ssd/life-after-sata/asset/KIOXIA_Value_SAS_SSDs_New_Class_of_SSD_FAQ.pdf

NOTES:

[1] The KIOXIA RM7 Series Value SAS SSD product image shown is a representation of the design model and not an accurate product depiction.

[2] KIOXIA RM7 Series Value SAS SSD performance specifications are publicly available and accurate as of this publication date. Specifications are subject to change. Read and write speed may vary depending on the host device, read and write conditions, and file size.

[3] Definition of capacity: KIOXIA Corporation defines a megabyte (MB) as 1,000,000 bytes, a gigabyte (GB) as 1,000,000,000 bytes, a terabyte (TB) as 1,000,000,000,000 bytes and a petabyte (PB) as 1,000,000,000,000,000 bytes. A computer operating system, however, reports storage capacity using powers of 2 for the definition of 1Gbit = 2^{30} bits = 1,073,741,824 bits, 1GB = 2^{30} bytes = 1,073,741,824 bytes, 1TB = 2^{40} bytes = 1,099,511,627,776 bytes and 1PB = 2^{40} bytes = 1,125,899,906,842,624 bytes and therefore shows less storage capacity. Available storage capacity (including examples of various media files) will vary based on file size, formatting, settings, software and operating system, and/or pre-installed software applications, or media content. Actual formatted capacity may vary.

[4] Performance comparisons are based on publicly available specifications as of this publication date.

[5] The enterprise SATA performance specifications are publicly available from a leading vendor and accurate as of this publication date. Specifications are subject to change. Read and write speed may vary depending on the host device, read and write conditions, and file size.

[6] DWPD: Drive Write(s) Per Day: One full drive write per day means the drive can be written and re-written to full capacity once a day, every day, for the specified lifetime. Actual results may vary due to system configuration, usage, and other factors.

[7] Optional security feature compliant drives are not available in all countries due to export and local regulations.

[8] SED model supports Trusted Computing Group® (TCG) Opal SSC except for some features.

TRADEMARKS:

Trusted Computing Group is a registered trademark of Trusted Computing Group. All other company names, product names and service names may be trademarks of third-party companies.

DISCLAIMERS:

KIOXIA America, Inc. may make changes to specifications and product descriptions at any time. The information presented in this product overview is for informational purposes only and may contain technical inaccuracies, omissions and typographical errors. Any performance tests and ratings are measured using systems that reflect the approximate performance of KIOXIA America, Inc. products as measured by those tests. Any differences in software or hardware configuration may affect actual performance, and KIOXIA America, Inc. does not control the design or implementation of third party benchmarks or websites referenced in this document. The information contained herein is subject to change and may render inaccuracies for many reasons, including but not limited to any changes in product and/or roadmap, component and hardware revision changes, new model and/or product releases, software changes, firmware changes, or the like. KIOXIA America, Inc. assumes no obligation to update or otherwise correct or revise this information.

KIOXIA America, Inc. makes no representations or warranties with respect to the contents herein and assumes no responsibility for any inaccuracies, errors or omissions that may appear in this information.

KIOXIA America, Inc. specifically disclaims any implied warranties of merchantability or fitness for any particular purpose. In no event will KIOXIA America, Inc. be liable to any person for any direct, indirect, special or other consequential damages arising from the use of any information contained herein, even if KIOXIA America, Inc. are advised of the possibility of such damages.