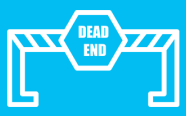
KIOXIA

Dell + KIOXIA = Better Together

- Together: 20+ years of storage collaboration*
- SSDs shipping across all of Dell's major server and storage product lines
- All KIOXIA SSDs are VMware vSAN™ certified for your virtualized data center environments
- Introducing the new Enterprise and Datacenter Standard Form Factor (EDSFF) E3.S PCIe® 5.0 NVMe™ SSD for use in select Dell PowerEdge™ 16G servers

Life after SATA

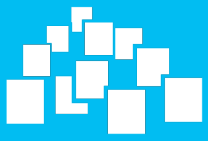
Upgrade your application performance in Dell PowerEdge™ servers with value SAS (KIOXIA RM7 Series) and data center NVMe™ (KIOXIA CD8 and CD8P) SSDs.



SATA performance roadmap has ended

Competitively priced to SATA

Better performance, latency and capacities



Embraces more architectures/management

KIOXIA PM7 Series Enterprise SAS SSD

PM7 Series Enterprise 24G SAS SSDs are designed for enterprise server and storage environments providing uncompromising performance and reliability.

KIOXIA RM7 Series Value SAS SSD

RM7 Series 12Gb/s value SAS SSDs are priced to replace SATA in servers, delivering improved performance and reliability, with no change to the server infrastructure.

KIOXIA CM7 Series Enterprise NVMe™ SSD

Built on KIOXIA BiCS FLASH™ technology, the CM7 Series is a dual port drive that brings PCIe 5.0 performance to enterprise NVMe SSDs in both a 2.5" and E3.S form factor. Offering high reliability, 1 or 3 DWPD, and up to 30.72 TB[3] capacities

KIOXIA CD8 and CD8P Series Data Center NVMe™ SSDs

As a SATA replacement CD8 Series SSDs deliver PCIe 4.0 (CD8) and PCIe 5.0 (CD8P) performance in 2.5" and E3.S form factors respectively for PowerEdge Servers. They are available as single port drives with 1 and 3 DWPD endurance options.

Faraz Velani (Global)	John Salcido (Americas)	Don Morton (Americas)	Kenji Nakajima (Japan)	Hung Chye Ngiam (SE Asia, India & ANZ)	Sang-Kook Han (Korea)	Tricky Tao (Mainland China)	Johnson Hua (Taiwan)	Andy Gehlot
Head of Go-To-Market	*Sr. Go-To-Market & Business Development Manager, SSD & Storage Solutions*	*Director of Sales*	*Senior Expert, SSD Application Engineering Dept.*	*Director, SSD Sales & Marketing*	*Engineering Manager*	*Director, SMBD BU*	*Senior Manager*	*Senior Manager, Enterprise SSD*
KIOXIA America, Inc.	KIOXIA America, Inc.	KIOXIA America, Inc.	KIOXIA Corporation	KIOXIA Singapore Pte. Ltd.	KIOXIA Korea Corporation	KIOXIA Asia, Limited	KIOXIA Taiwan Corporation	KIOXIA Europe GmbH
faraz.velani@kioxia.com	john.salcido@kioxia.com	Don.Morton@kioxia.com	kenji7.nakajima@kioxia.com	hungchye2.ngiam@kioxia.com	sangkook.han@kioxia.com	Jin1.Tao@kioxia.com	johnson.hua@kioxia.com	agehlot@kioxia.com
+1 512-769-0666	+1 512-745-2676	+1 346-260-7400	+81 45 890 2710	+65 6350 5241		+86 21 6139 3888		+44 (0)7712 791 062

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https://www.kioxia.com/

Family	DWPD (for 5 years) *1	Platform	Data Security & Encryption Options *2	Capacity (GB) *3	Dell P/N	Random Read IOPS *4 *5 *6	Random Write IOPS *4 *5 *6	Seq. Read MB/s *6	Seq. Writes MB/s *6	Min. TBW
RM7	Read Intensive 1 DWPD	PowerEdge	SED	960	6RNXC	180,000	40,000	1,049	811	1,752
				1,920	86XW7	190,000	40,000	1,049	1,001	3,504
				7,680	D480G	190,000	40,000	1,049	1,001	14,016
	Mixed Use 3 DWPD			1,920	59XF2	190,000	55,000	1,049	1,001	10,512
				3,840	M0JVN	190,000	55,000	1,049	1,001	21,024
PM7	Read Intensive 1 DWPD"	PowerEdge Isolon PowerScale PowerMax PowerStore XtremIO	FIPS	3,840	YTVTF	720,000	155,000	4,005	3,481	7,008
				7,680	HCTYM	720,000	175,000	4,005	3,910	14,016
			ISE	1,920	6K35K	720,000	155,000	4,005	3,242	3,504
				3,840	MT0R5	720,000	155,000	4,005	3,481	7,008
				7,680	7N1WT	720,000	175,000	4,005	3,910	14,016
	Mixed Use 3 DWPD		FIPS	800	81G77	720,000	320,000	4,005	3,242	4,380
				1,600	G4NY4	720,000	340,000	4,005	3,481	8,760
				3,200	RGP9J	720,000	355,000	4,005	3,910	17,520
			ISE	800	X96H8	720,000	320,000	4,005	3,242	4,380
				1,600	4TRHM	720,000	340,000	4,005	3,481	8,760
CD8	Read Intensive 1 DWPD	PowerEdge	ISE	960	YNGYD	1,000,000	80,000	6,866	1,717	1,752
				1,920	NNKCT	1,250,000	150,000	6,866	3,338	3,504
				3,840	N1MK1	1,250,000	195,000	6,866	3,624	7,008
				7,680	MXD8J	1,150,000	200,000	6,771	5,722	14,016
	Mixed Use 3 DWPD			800	30HYT	1,000,000	160,000	6,866	1,717	4,380
				1,600	16MJ9	1,250,000	310,000	6,866	3,338	8,760
				3,200	MXM95	1,250,000	340,000	6,866	3,624	17,520
CM7	Read Intensive 1 DWPD	PowerEdge Isolon PowerScale PowerMax PowerStore	FIPS	1,920	JPK03	200,000	155,000	13,351	3,338	3,504
				3,840	VHWRY	2,700,000	310,000	13,351	6,437	7,008
				7,680	0J6J0	2,450,000	300,000	13,351	6,437	14,016
				15,360	0PMX8	2,400,000	300,000	13,351	6,676	28,032
			ISE	1,920	M8YW0	2,00,000	155,000	13,351	3,338	3,504
				3,840	XHYGF	2,700,000	310,000	13,351	6,437	7,008
				7,680	VV2M7	2,450,000	300,000	13,351	6,437	14,016
				15,360	DX2PD	2,400,000	300,000	13,351	6,676	28,032
	Mixed Use 3 DWPD		FIPS	1,600	60XJH	2,000,000	310,000	13,351	3,338	8,760
			ISE	1,600	MP4F2	2,000,000	310,000	13,351	3,338	8,760
				3,200	XFNX0	2,700,000	600,000	13,351	6,437	17,520
				6,400	8RJJ9	2,450,000	550,000	13,351	6,437	35,040
CD8P E3.S/EDSFF	Read Intensive 1 DWPD	PowerEdge	ISE	1,920	59Y5J	1,600,000	150,000	11,444	3,338	3,504
				3,840	6RC59	1,900,000	200,000	11,444	5,245	7,008
	Mixed Use 3 DWPD			1,600	R64H4	1,600,000	300,000	11,444	3,338	8,760
				3,200	GP5GV	1,900,000	400,000	11,444	5,245	17,520
CM7 E3.S/EDSFF	Read Intensive 1 DWPD	PowerEdge Isolon PowerScale PowerStore	ISE	3,840	YGK8R	2,700,000	310,000	13,351	6,437	7,008
				7,680	G27W5	2,450,000	300,000	13,351	6,437	14,016
				15,360	YRN98	2,000,000	260,000	13,351	5,054	28,032
	Mixed Use 3 DWPD"			3,200	6J3Y1	2,700,000	600,000	13,351	6,437	17,520
				6,400	V4DNH	2,450,000	550,000	13,351	6,437	35,040
Power Loss Protection (PLP) Supported										
BiCS FLASH™ Memory										

*Dell and KIOXIA collaboration includes hard disk drive (HDD) technology with Toshiba Corporation. KIOXIA does not currently offer HDDs.

1. DWPD: Drive Writes 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. Read and write speed may vary depending on the host device, read and write conditions, and file size.
2. Data Security
   - Sanitize Instant Erase (SIE) option supports Crypto Erase, which is a standardized feature defined by the technical committees (T10/T13) of INCITS (the Inter National Committee for Information Technology Standards).
   - SED (Self-Encrypting Drive) with SAS interface supports TCG Enterprise SSC and SED with NVMe protocol supports TCG Opal and Ruby SSC. For a complete list of supported features, please review the product manual.
   - FIPS SED optional models utilize security modules designed to comply with FIPS 140-2 or 140-3 which defines security requirements for cryptographic module by NIST (National Institute of Standards and Technology). For the latest validation status, please contact us in each region's website, https://www.kioxia.com/.
3. Definition of capacity: KIOXIA Corporation defines a megabyte (MB) as 1,000,000 bytes, a gigabyte (GB) as 1,000,000,000 bytes and a terabyte (TB) as 1,000,000,000,000 bytes. A computer operating system, however, reports storage capacity using powers of 2 for the definition of 1GB = 2^{30} bytes = 1,073,741,824 bytes and 1TB = 2^{40} bytes = 1,099,511,627,776 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. KiB: A kibibyte (KiB) means 2^{10}, or 1,024 bytes.
5. IOPS: Input output operations per second (or the numbers of I/O operations per second)
6. Read and write speed may vary depending on various factors such as host devices, software (drivers, OS etc.), and read/write conditions.