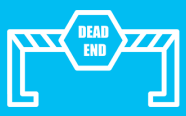
KIOXIA

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

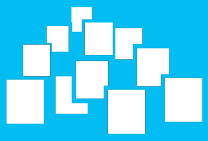
Upgrade your application performance in Dell PowerEdge™ servers with value SAS (KIOXIA RM7 Series) and data center NVMe™ (KIOXIA CD8 and CD8P Series) SSDs.



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 12 Gb/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

The CM7 Series is a dual port drive that brings PCIe 4.0 (2.5-inch) and PCIe 5.0 (E3.S) to enterprise NVMe SSDs. 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 CD Series SSDs deliver PCIe 4.0 (CD8) and PCIe 5.0 (CD8P) performance in 2.5-inch and E3.S form factors respectively for PowerEdge servers. They are available as single port drives with 1 and 3 DWPD endurance options.

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Family	DWPD *1 (for 5 years)	Platform	Data Security & Encryption Options *2	Capacity *3 (GB)	Dell P/N	Random Read IOPS *4 *5	Random Write IOPS *4 *5	Seq. Read MB/s *5	Seq. Writes MB/s *5	Min. TBW
RM7 2.5-inch	Read Intensive 1 DWPD	PowerEdge	SED	960	6RNXC	180,000	40,000	1,100	850	1,752
				1,920	86XW7	190,000	40,000	1,100	1,050	3,504
				3,840	VJNDD	190,000	40,000	1,100	1,050	7,008
				7,680	D480G	190,000	40,000	1,100	1,050	14,016
	Mixed Use 3 DWPD			1,920	59XF2	190,000	55,000	1,100	1,050	10,512
				3,840	M0JVN	190,000	55,000	1,100	1,050	21,024
PM7 2.5-inch	Read Intensive 1 DWPD	PowerEdge PowerStore PowerScale PowerMax	FIPS	1,920	VGMCD	720,000	155,000	4,200	3,400	3,504
				3,840	YTVTF	720,000	155,000	4,200	3,650	7,008
				7,680	HCTYM	720,000	175,000	4,200	4,100	14,016
				15,360	7VV3M	720,000	160,000	4,200	4,100	28,032
			ISE	1,920	6K35K	720,000	155,000	4,200	3,400	3,504
				3,840	MT0R5	720,000	155,000	4,200	3,650	7,008
				7,680	7N1WT	720,000	175,000	4,200	4,100	14,016
				15,360	19VGM	720,000	160,000	4,200	4,100	28,032
	Mixed Use 3 DWPD		FIPS	1,600	G4NY4	720,000	320,000	4,200	3,400	8,760
				3,200	RGP9J	720,000	340,000	4,200	3,650	17,520
				6,400	HDKT0	720,000	355,000	4,200	4,100	35,040
				12,800	XWD5X	720,000	330,000	4,200	4,100	70,080
			ISE	1,600	4TRHM	720,000	320,000	4,200	3,400	8,760
				3,200	V0X40	720,000	340,000	4,200	3,650	17,520
				6,400	R0MNR	720,000	355,000	4,200	4,100	35,040
				12,800	G3DNT	720,000	330,000	4,200	4,100	70,080
CD8 2.5-inch	Read Intensive 1 DWPD	PowerEdge	ISE	960	YNGYD	1,000,000	80,000	7,200	1,800	1,752
				1,920	NNKCT	1,250,000	150,000	7,200	3,500	3,504
				3,840	N1MK1	1,250,000	195,000	7,200	3,800	7,008
				7,680	MXD8J	1,150,000	200,000	7,100	6,000	14,016
				15,360	WGVJX	1,050,000	195,000	6,600	6,000	28,032
			SED	960	P28PV	1,000,000	80,000	7,200	1,800	1,752
				1,920	CH6D3	1,250,000	150,000	7,200	3,500	3,504
				3,840	M5F8G	1,250,000	195,000	7,200	3,800	7,008
				7,680	2CG11	1,150,000	200,000	7,100	6,000	14,016
				15,360	0Y0KV	1,050,000	195,000	6,600	6,000	28,032
	Mixed Use 3 DWPD		ISE	800	30HYT	1,000,000	160,000	7,200	1,800	4,380
				1,600	16MJ9	1,250,000	310,000	7,200	3,500	8,760
				3,200	MXM95	1,250,000	340,000	7,200	3,800	17,520
				6,400	23VJP	1,150,000	380,000	7,100	6,000	35,040
				12,800	P1P59	1,050,000	380,000	6,600	6,000	70,080
			SED	800	5TN4W	1,000,000	160,000	7,200	1,800	4,380
				1,600	R2XRY	1,250,000	310,000	7,200	3,500	8,760
				3,200	D58FG	1,250,000	340,000	7,200	3,800	17,520
				6,400	8529W	1,150,000	380,000	7,100	6,000	35,040
				12,800	JXXPP	1,050,000	380,000	6,600	6,000	70,080
CM7 2.5-inch	Read Intensive 1 DWPD	PowerEdge PowerStore PowerScale PowerMax	FIPS	1,920	JPK03	2,000,000	155,000	14,000	3,500	3,504
				3,840	VHWRY	2,700,000	310,000	14,000	6,750	7,008
				7,680	0J6J0	2,450,000	300,000	14,000	6,750	14,016
				15,360	0PMX8	2,400,000	300,000	14,000	7,000	28,032
				30,720	75DPR	1,600,000	150,000	10,000	4,900	56,064
			ISE	1,920	M8YW0	2,000,000	155,000	14,000	3,500	3,504
				3,840	XHYGF	2,700,000	310,000	14,000	6,750	7,008
				7,680	VV2M7	2,450,000	300,000	14,000	6,750	14,016
				15,360	DX2PD	2,400,000	300,000	14,000	7,000	28,032
				30,720	8WK55	1,600,000	150,000	10,000	4,900	56,064
	Mixed Use 3 DWPD		FIPS	1,600	60XJH	2,000,000	310,000	14,000	3,500	8,760
				3,200	N0G5X	2,700,000	600,000	14,000	6,750	17,520
				6,400	6GR2H	2,450,000	550,000	14,000	6,750	35,040
				12,800	JCK10	2,400,000	550,000	14,000	7,000	70,080
			ISE	1,600	MP4F2	2,000,000	310,000	14,000	3,500	8,760
				3,200	XFNX0	2,700,000	600,000	14,000	6,750	17,520
				6,400	8RJJ9	2,450,000	550,000	14,000	6,750	35,040
				12,800	092P6	2,400,000	550,000	14,000	7,000	70,080

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Family	DWPD (for 5 years) *1	Platform	Data Security & Encryption Options *2	Capacity (GB) *3	Dell P/N	Random Read IOPS *4 *5	Random Write IOPS *4 *5	Seq. Read MB/s *5	Seq. Writes MB/s *5	Min. TBW
CD8P E3.S	Read Intensive 1 DWPD	PowerEdge	ISE	1,920	59Y5J	1,600,000	150,000	12,000	3,500	3,504
				3,840	6RC59	1,900,000	200,000	12,000	5,500	7,008
				1,920	W4JNM	1,600,000	150,000	12,000	3,500	3,504
				3,840	1936G	1,900,000	200,000	12,000	5,500	7,008
				7,680	NPVXY	2,000,000	200,000	12,000	5,500	14,016
				7,680	DF4JD	2,000,000	200,000	12,000	5,500	14,016
				15,360	T82MD	2,000,000	200,000	12,000	5,300	28,032
				15,360	YW71V	2,000,000	200,000	12,000	5,300	28,032
	Mixed Use 3 DWPD			1,600	8VMW3	1,600,000	300,000	12,000	3,500	8,760
				3,200	X2YXD	1,900,000	400,000	12,000	5,500	17,520
				1,600	R64H4	1,600,000	300,000	12,000	3,500	8,760
				3,200	GP5GV	1,900,000	400,000	12,000	5,500	17,520
				6,400	HVH8K	2,000,000	400,000	12,000	5,500	35,040
				6,400	PPTDY	2,000,000	400,000	12,000	5,500	35,040
				12,800	DDPD1	2,000,000	400,000	12,000	5,300	70,080
				12,800	W89P1	2,000,000	400,000	12,000	5,300	70,080
CM7 E3.S	Read Intensive 1 DWPD	PowerEdge PowerStore PowerScale	ISE	1,920	77GXG	2,000,000	155,000	14,000	3,500	3,504
				3,840	YGK8R	2,700,000	310,000	14,000	6,750	7,008
				7,680	G27W5	2,450,000	300,000	14,000	6,750	14,016
				15,360	YRN98	2,000,000	260,000	13,000	5,300	28,032
			FIPS	3,840	4VJDW	2,700,000	310,000	14,000	6,750	7,008
				7,680	8K9DV	2,450,000	300,000	14,000	6,750	14,016
				15,360	RWFF6	2,000,000	260,000	13,000	5,300	28,032
	Mixed Use 3 DWPD		ISE	1,600	N9W7V	2,000,000	310,000	14,000	3,500	8,760
				3,200	6J3Y1	2,700,000	600,000	14,000	6,750	17,520
				6,400	V4DNH	2,450,000	550,000	14,000	6,750	35,040
				12,800	T3GVH	2,000,000	470,000	13,000	5,300	70,080
			FIPS	3,200	F1C6W	2,700,000	600,000	14,000	6,750	17,520

NOTES:

*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 committee (SCSI) 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. IOPS: Input output operations per second (or the numbers of I/O operations per second)
5. Read and write speed may vary depending on various factors such as host devices, software (drivers, OS etc.), and read/write conditions.

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