

PCIe 4.0 SSD

Dual Port, High Availability



PBlaze[®] 6 6641 Series NVMe[™] SSD

PBlaze6 6641 Series based on the Memblaze self-developed Unified Framework Platform, support dual-port, advanced enterprise SSD optimized for PCIe4.0 server that delivers a massive 150% improvement in energy efficiency over the previous generation PCIe 3.0 PBlaze5 920, dramatically reducing power consumption of data center. PBlaze6 6641 Series offers capacity from 1.6TB to 7.68TB, all capacities come in 2.5-inch U.2 form factor.

High Availability of System with Dual-port

PBlaze6 6641 series supports dual-port and allows access via two ports simultaneously, which solves the single-path failure, ensures continuous data access and meets enterprise high availability requirement. Suitable for multi-path highly available storage system architecture and all-flash arrays. With no impact on enterprise business-critical continuity, minimising QoS impact.

Based on MUFP[®] with next-generation NAND

The PBlaze6 6641 Series offer 7.68TB capacity up to 1DWPD over 5 years for read-intensive workloads; the PBlaze6 6647 Series offer 6.4TB capacity up to 3 DWPD over 5 years for mixed read-write workloads, all capacity support 2.5-inch U.2 form factors.

High Performance to Accelerate Enterprise Applications

The PBlaze6 6641 series has a built-in optimised IO scheduling mechanism that ensures QoS and performance consistency of IO access, guaranteeing the high and consistent performance required by enterprise-class applications. PBlaze6 6541 series combined performance of the dual-port PBlaze6 6641 series is essentially equivalent to that of the single-port PBlaze6 6541 series, meeting the high-performance requirements of enterprise-level users.

Rich Enterprise Features, make Data Safe

PBlaze6 6641 series support richer enterprise features: Firmware Upgrade Without Reset, Telemetry, Persistent Event Log, Latency Statistics & High Latency Logging, NVMe-MI for Out-of-Band Management, Trim etc. to meet different business needs.

Key Features

- Dual Port
- PCIe 4.0, NVMe1.4
- Random Read 1100K IOPS
- Sequential Read 6.8 GB/s
- Latency Read/Write 67/9 μ s

Reliability

- AES 256 Data Encryption
- Full Data Path Protection
- Power Failure Protection
- Variable Sector Size Management
- Sanitize

Easy-to-use

- Firmware Upgrade without Reset
- Telemetry
- Persistent Event
- Log/Latency Statistics & High Latency Logging
- NVMe-MI for Out-of-Band Management

Advanced Feature Support

- Timestamp
- Weighted Round Robin
- 8TB/s Enterprise TRIM

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PBlaze® 6 6641 Series NVMe™ SSD

PRODUCT BRIEF

PBlaze6 6641 Series ^[1]	6641			6647		
User Capacity (TB)	1.92	3.84	7.68	1.6	3.2	6.4
128KB Sequential Read(GB/s)	6.8	6.8	6.8	6.8	6.8	6.8
128KB Sequential Write(GB/s)	2.8	5.4	5.9	2.8	5.4	5.9
Sustained Random Read (4KB) IOPS	1050K	1100K	1100K	1050K	1100K	1100K
Sustained Random Write (4KB) IOPS (Steady State) ^[2]	150K	200K	230K	310K	450K	460K
Lifetime Endurance DWPD ^[3]	1			3		
Random R/W Latency (µs) ^[4]	67 / 9					
Sequential R/W Latency (µs) ^[4]	33 / 9					
Form Factor	2.5-inch U.2					
Interface	PCIe 4.0 2 x 2, Dual Port					
Operating Temperature	Case: 0°C to 79°C					
Uncorrectable Bit Error Rate	< 10 ⁻¹⁷					
Mean Time Between Failures	2 million hours					
Protocol	NVMe 1.4					
NAND Flash Memory	3D TLC NAND					
Operation System	RHEL, SLES, CentOS, Ubuntu, Windows Server, VMware ESXi					
Power Consumption	<14 W					
Basic Feature Support	Power Failure Protection, Full Data Path Protection, S.M.A.R.T, Flexible Power Management, Hot Pluggable					
Advanced Feature Support	Dual Port, TRIM, Multi-namespace, EUI64/NGUID, AES 256 Data Encryption & Crypto Erase, Firmware Upgrade without Reset, Timestamp, Weighted Round Robin, Sanitize, Variable Sector Size Management, Latency Statistics & High Latency Logging, Telemetry, Write Zeroes, Persistent Event Log					
Software Support	Open-source management tool, CLI debug tool OS in-box driver (Easy system integration)					

Applications & Workloads

Database
Searching, Indexing, CDN
Cloud and Hyper-scale Computing
High Performance Software-defined Storage
Deep Learning and Big Data Analytics
High Performance Storage System
ERP, SAP HANA
BOSS, Banking, Taxing
High Frequency Trading
Online Payment



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NOTES:

[1] Performance may vary due to different system configurations and firmware version.

[2] Measurement is performed at Steady State.

[3] DWPD, Drive Writes per Day for 5 years.

[4] Average latency & Sequential latency measured with 4KB random I/O pattern.

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