DapuStor | 大普微

Roealsen5 Series

DapuStor Enterprise NVMe SSD

The DapuStor R5 Series is designed and built on DapuStor DP600 controller firmware with the latest 3D enterprise TLC NAND from KIOXIA. Such a unique combination creates industry-leading SSDs with high speed, superior reliability, low latency, and excellent power efficiency, bringing optimised TCO to enterprise IT and cloud facilities. DapuStor R5 series is an ideal solution for core data storage scenarios in different fields, such as enterprise IT, logistics, Internet, finance, intelligent manufacturing, and AI.

Advanced Features

- Flash Raid 2.0 tolerating multiple flash die failures without affecting service and performance
- Latest NVMe 1.4a key features
- Advanced power loss protection that protects user data against power failure in various scenarios.
- Nine levels of adjustable power consumption: more convenient operation, maintenance, and better TCO.

Superior Performance

DapuStor R5 series PCIe Gen4 SSD offers a 100% improvement in bandwidth and IOPS performance compared with the Haishen3 series. In terms of latency, thanks to the new DP600 controller having carried out many optimisations on the IO path, the Roealsen5 series has significantly improved latency and QoS under mixed read-write scenarios.
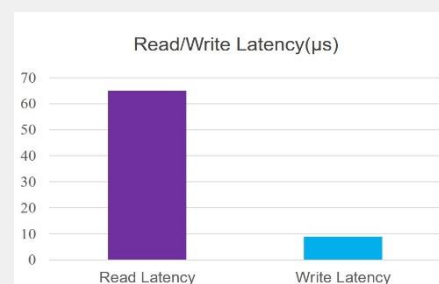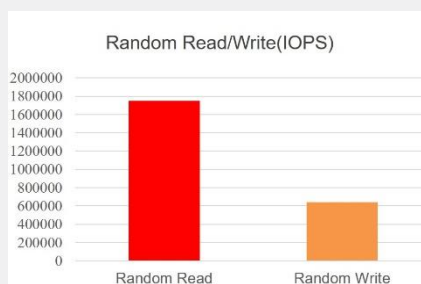
Industry Mainstream NAND Flash

DapuStor R5 Series is equipped with the latest 112L 3D NAND Flash from KIOXIA, realising an extremely high-power efficiency. It reduces NAND Retry at the system level through innovative machine learning technologies that predict the NAND workload in complex scenarios to prevent systemic failures.

Computing And Storage Converged Platform

The DapuStor DP600 controller for PCIe 4.0 SSD has a built-in APPLICATION processor and the DPU-Link heterogeneous computing interface. It delivers faster speed when running Linux, conveniently transplants applications and algorithms, and improves system efficiency for database, AI, and big data applications.

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Feature

PCN (Product Code Name)	R5101		R5301		R5100		R5300	
Capacity	1.92 TB	3.84 TB	1.6 TB	3.2 TB	7.68 TB	15.36TB	6.4TB	12.8TB
Form Factor	U.2 15mm							
Interface	PCIe 4.0 x4, NVMe 1.4a							
Read Bandwidth (128KB) MB/s	6200	7400	6200	7400	7400	7400	7400	7400
Write Bandwidth (128KB) MB/s	2600	5350	2600	5350	5700	6400	5700	6400
Random Read (4KB) KIOPS	1000	1750	1000	1750	1750	1750	1750	1750
Random Write (4KB) KIOPS	120	240	240	540	280	320	550	640
4K Random Latency (Typ.) R/W µs	65/9							
4K Sequential Latency (Typ.) R/W µs	8/9							
Power	Typical: ≤ 17.5 W, Idle: ≤ 6 W				Typical: ≤ 22 W, Idle: ≤ 6.5 W			
Flash Type	KIOXIA 3D NAND, 112 layer, 4 plane eTLC				KIOXIA 3D NAND, 112 layer, 2 plane eTLC			
Endurance	1 DWPD		3 DWPD		1 DWPD		3 DWPD	
MTBF	2 million hours							
UBER	1 sector per 10^17 bits read							
Warranty	5yrs							

*Differences in hardware, software, or configuration will affect actual test results.

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