DapuStor

PCIe 5.0

Roealsen6® R6 Series

DapuStor® Enterprise NVMe SSD



The DapuStor® Roealsen® R6 series features the latest PCIe 5.0 interface and 3D eTLC NAND Flash. Supporting the NVMe 2.0 protocol, it offers twice the performance of PCIe 4.0 SSDs. This series offers multiple enterprise-grade advanced features, providing industry-leading performance and cost-effective solutions for critical business operations, cloud infrastructure, and AI domains.

| High Performance

DapuStor® R6® series PCIe Gen5 SSD offers a **100%** improvement in bandwidth and IOPS performance compared with Roealsen5 Series. The DP800 controller optimizes the IO path, significantly reducing latency and enhancing QoS in mixed read/write operations.

14.5/10 GB/s	**3400K/890K**	**48/7 µs**
SR/SW (MB/s)	RR/RW (IOPS)	RR/RW latency (µs)

| Industry-Leading NAND Flash

DapuStor R6 series utilizes 3D eTLC NAND Flash for high efficiency. Innovative machine learning technology minimizes NAND retries at the system level and timely predicts NAND workloads in complex scenarios to prevent systemic failures.

| Premier Gen5 Transparent Compression SSD

The first wave to launch a PCIe Gen5 transparent compression SSD, leveraging the built-in application processor platform and compression module in the DP800. It supports user capacity expansion within the same physical capacity and enhances overall data storage density based on compressibility, or improves endurance and steady-state random write performance with data compressed and user capacity unchanged.

| Advanced Features

NVMe 2.0 Features

Supports online upgrades, up to 128 namespaces, multiple streams, atomic writes, and advanced data management functions including sanitizing, copying, verifying, and comparing.

OCP 2.5 Compliance

Follows the OCP 2.5 specification, facilitating advanced features such as Telemetry, Latency Monitor, and Thermal Throttle.

Supports SR-IOV

Supports up to 64 VFs.

Supports Flexible Data Placement (FDP)

Enhances steady-state random write performance and significantly reduces write amplification, achieving WAF=1 in specific conditions.

Supports NVMe-MI 1.2

Features include MCTP Over I2C/SMBUS, Over PCIe VDM, out-of-band upgrades, NVMe-MI Send and NVMe-MI Receive.

End-to-end Data Protection

Includes DIF/DIX, five sector format types, protection information (Type 1, 2, 3) and detailed logging capabilities, ensuring comprehensive user data safety.

Enterprise Security Features

- Supports TCG OPAL2.0
- Supports SM2/SM3/SM4/AES256 encryption.
- Supports Secure Boot, Firmware Security Verification, Format, Sanitize and other enterprise security features.

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| Product Specifications

PCN (Product Code Name)	R6100			R6300		
Capacity (TB)	3.84	7.68	15.36	3.2	6.4	12.8
Form Factor	U.2 15mm					
Interface	PCIe 5.0×4, NVMe 2.0					
Read Bandwidth (128KB) MB/s	14500	14500	14500	14500	14500	14500
Write Bandwidth (128KB) MB/s	7200	9300	10000	7200	9300	10000
Random Read (4KB) K IOPS	3400	3400	3400	3400	3400	3400
Random Write (4KB) K IOPS	340	400	450	700	820	890
4K Random Latency (Typ.) R/W μs	54/7	48/7	48/7	54/7	48/7	48/7
4K Sequential Latency (Typ.) R/W μs	7/7					
Typical Power (W)	19.5	19	22	19.5	19	22
Idle Power (W)	5	5	5	5	5	5
Flash Type	3D eTLC NAND Flash					
PN (Model Number)	DPRP510 4T0TA 03T8000	DPRP510 8T0TJ 07T6000	DPRP510 16TTJ 15T3000	DPRP510 4T0TA 03T2000	DPRP510 8T0TJ 06T4000	DPRP510 16TTJ 12T8000
Endurance	1 DWPD			3 DWPD		
MTBF	2.5 million hours					
UBER	1 sector per 10^18 bits read					
Warranty	5yrs					

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

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