

# Roalsen6<sup>®</sup> R6 Series<sup>®</sup>

## DapuStor Enterprise NVMe SSD



The DapuStor<sup>®</sup> Roalsen<sup>®</sup> R6 series, built on DapuStor's in-house DP800 controller and firmware, features a 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<sup>®</sup> R6<sup>®</sup> series PCIe Gen5 SSD offers a 100% improvement in bandwidth and IOPS performance compared with Roalsen5 Series. The new DP800 controller optimizes the IO path, significantly reducing latency and enhancing QoS in mixed read/write operations.

14.5/11 GB/s	3400K/920K	52/7 $\mu$ s
SR/SW (MB/s)	RR/RW (IOPS)	RR/RW latency ( $\mu$ s)

### Industry-Leading NAND Flash

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

### First PCIe5.0 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)	R6101				R6301			
Capacity (TB)	1.92	3.84	7.68	15.36	1.6	3.2	6.4	12.8
Form Factor	U.2 15mm							
Interface	PCIe 5.0x4, NVMe 2.0							
Read Bandwidth (128KB) MB/s	11000	14500	14500	14500	11000	14500	14500	14500
Write Bandwidth (128KB) MB/s	3000	6200	11000	11000	3000	6200	11000	11000
Random Read (4KB) KIOPS	1700	3400	3400	3400	1700	3400	3400	3400
Random Write (4KB) KIOPS	120	270	500	510	290	570	1000	1000
4K Random Latency (Typ.) R/W $\mu$ s	52/10	52/7						
4K Sequential Latency (Typ.) R/W $\mu$ s	7/7							
Typical Power (W)	11	14.5	18.5	21	11	14.5	18.5	21
Idle Power (W)	5	5	5	5	5	5	5	5
Flash Type	3D eTLC NAND Flash							
PN (Model Number)	DPRP510 2T0TG 01T9000	DPRP510 4T0TG 03T8000	DPRP510 8T0TF 07T6000	DPRP510 16TTF 15T3000	DPRP510 2T0TG 01T6000	DPRP510 4T0TG 03T2000	DPRP510 8T0TF 06T4000	DPRP510 16TTF 12T8000
Endurance	1				3			
MTBF	2.5 million hours							
UBER	1 sector per 10 <sup>18</sup> bits read							
Warranty	5yrs							

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

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