



DATA SHEET

Integrated. Efficient. Intelligent.

## Exos X 5U84 Advanced Storage Array



Seagate® Exos® X advanced storage array is a petabyte-scale, rack-mounted block storage enclosure with self-healing technology, advanced data protection, and software value delivering superefficient mass-capacity storage for conventional data centers and cloud infrastructure.



### Product Highlights

- Self-healing storage technology, ADAPT, and ADR
- Deliver unfettered data access with dual redundant controllers capable of achieving superior sequential read and write performance
- Expand a data center seamlessly with flexible SSD, HDD, and hybrid configuration options
- Efficiently manage hot and cold data with real-time data tiering
- Save space and maximize capacity by stacking 4 enclosures for 336 drives of data storage

### Key Advantages

**Reliable and Self-healing.** Exos X features self-healing storage technology, Advanced Distributed Autonomic Protection Technology (ADAPT), and Autonomous Drive Regeneration (ADR). Field-proven design with five nines (99.999%) availability. Seagate ADAPT erasure code data protection software dramatically reduces array rebuild overhead. Unique Seagate ADR reduces human intervention and e-waste by automatically renewing hard drives "in situ" and on the fly.

**Built for speed and resilience.** Up to two times the performance of the previous generation with redundant active-active controllers powered by the ASIC-based VelosCT controller architecture. Streamline your overhead, with improved throughput, management, and recovery.

**Easy to Set Up, Maintain, and Expand.** All system components—the enclosure, the controller, the firmware, and the drives—are developed and optimized by our engineers to work together seamlessly. The modular architecture makes components interchangeable between systems, and upgrades are simple due to common FRUs, PCMs, controllers, and software.

**Maximum Capacity and Consistent High Performance.** Exos X 5U84 supports up to 84 drives in a single 5U enclosure with high availability and superior sequential read and write throughput. Easily expand to accommodate data proliferation by connecting up to four 5U84 enclosures together for a total of 336 drive slots.

**Build In Security at the Foundation of the Data Life Cycle.** Protect the most valuable business assets with Seagate Secure™ cybersecurity features and intelligent firmware—such as SFTP, SED support, and administrator access controls—that provide built-in security measures for reliable and safe file access, transfer, and management.

**Improve Hardware and Administrative Efficiency and Reduce Cost.** Meet stringent worldwide requirements for recycling and environmental friendliness with a nimble system that minimizes environmental impact and maximizes cost savings through high performance.



| Specifications                     |  |
|------------------------------------|--|
| Controller Performance             | Up to 12GB/s read throughput, 10GB/s write throughput, 725K IOPS (Random Read)   |
| Advanced Software Features         | Auto-tiering, Snapshots, Asynchronous Replication  |
| Base Array Software Features       | Virtual pools, Thin provisioning, ADAPT, SSD read cache, Encryption  |
| High-Availability Features         | Redundant hot-swap controllers, Redundant hot-swap drives, fans, power, Dual power cords, Hot standby spare, Automatic failover, Multi-path support  |
| Device (Drive) Support             | SAS HDD, NL-SAS HDD, SAS SSD (2.5 or 3.5 Form Factors)   |
| Data Protection                    | Seagate ADAPT and RAID levels supported: 0, 1, 5, 6, 10  |
| Self Healing Technology            | Autonomous Drive Regeneration (ADR)  |
| System Maximum Expansion           | 2U12 Arrays, Up to 12 drives per enclosure, 10 enclosures maximum including the master, totaling 120 Drives<br>2U24 Arrays, Up to 24 drives per enclosure, 10 enclosures maximum including the master, totaling 240 Drives<br>5U84 Arrays, Up to 84 drives per enclosure, 4 enclosures maximum including the master, totaling 336 Drives |
| Physical                           | 5U: Height: 222.3mm / 8.75 in   Width: 444.5mm / 17.5 in   Depth: 981mm / 38.63 in   Width w/ear mounts: 483mm / 19.01 in   RBOD weight: 82kg / 180 lb   RBOD weight (with drives): 135kg / 298 lb   EBOD weight: 80kg / 175 lb   EBOD weight (with drives): 130kg / 287 lb  |
| Hosts                              |  |
| External Ports                     | 4 per Controller, 8 per System   |
| Fibre Channel Models               | Host speed: 32/16 Gb/s Fibre Channel, Interface type: SFP+/SFP28   |
| iSCSI Models                       | Host speed: 10Gb/s, 25Gb/s iSCSI, Interface type: SFP+/SFP28   |
| Ethernet                           | 10GBASE-T (auto-negotiation to 1Gb)  |
| SAS Models                         | Host speed: 12Gb/s, 6Gb/s SAS, Interface type: HD Mini-SAS   |
| System Configuration               |  |
| System Memory                      | 48GB per system  |
| Volumes per System                 | 1024   |
| Cache                              | Mirrored cache, Supercapacitor cache backup, Cache backup to flash – nonvolatile   |
| Management                         |  |
| Interface Types                    | 10/100/1000 Ethernet, Micro USB  |
| Protocols Supported                | SNMP, SSL, SSH, SMTP, HTTP(S), REDFISH   |
| Management Consoles                | Web GUI, CLI   |
| Management Software                | Seagate Systems storage management console, Remote diagnostics, Nondisruptive updates, Volume expansion  |
| Power Requirements—AC Input        |  |
| Input Power Requirements           | 200VAC - 240VAC, 50Hz-60Hz   |
| Max Power Output per PSU           | 2200W  |
| Environmental/Temperature Ranges   |  |
| Operating/Nonoperating Temperature | ASHRAE A2, 5°C to 35°C (41°F to 95°F), derate 1°C/300m above 900m, 20°C/hr max rate of change / -40°C to 70°C (-40°F to 158°F)   |
| Operating/Nonoperating Humidity    | -12°C DP and 8% RH to 21°C DP and 80% RH, max DP 21°C / 5% to 100% noncondensing   |
| Operating/Nonoperating Shock       | 3 Gs, 11ms, half sine pulses / 15 Gs, 7ms, half sine pulses  |
| Operating/Nonoperating Vibration   | 0.18 Gs rms 6Hz to 500Hz random / 0.5 (Z-axis) and 0.25 (X&Y-axis) Gs rms 6Hz to 200Hz random  |

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