



DATA SHEET

Integrated. Efficient. Intelligent.

## NyTRO X 2U24



Seagate<sup>®</sup> NyTRO<sup>®</sup> X 2U24 is the datasphere's affordable all-flash array (AFA) system for critical workloads that demand the highest performance.



### Product Highlights

- Deliver unfettered data access with extremely low 250 microsecond latency.<sup>2</sup>
- Ensure data is constantly available with next-gen Seagate ADAPT data protection for 95% faster rebuilds than traditional RAID configurations
- Easily upgrade capacity and speed with hot-swappable Seagate SSDs
- Save time with quick 5-step setup and low maintenance support design
- Rely on factory-tested components that are qualified before delivery

### Key Advantages

**Consistent High Performance.** Get high performance, low latency, and intelligent features at a fraction of the cost of other AFA solutions, with up to 24 super-fast solid state drives (SSD) that can deliver up to 7 GB/s sequential read, 5.5 GB/s sequential write throughput performance. New firmware ensures performance in every model is fast and access to data is virtually immediate. This NyTRO product's dual-redundant controllers enable consistent speed at 320K to 600K IOPS.<sup>1</sup>

**Cost-Optimised Architecture.** This flexible solution's unique design leverages an ASIC-based architecture to deliver ultra-fast data access and predictable AFA performance at consistent low latencies. Now data centres can eliminate the overhead of expensive processors and dynamic random-access memory (DRAM) for high speed and upgrade to uncompromised flash performance.

**Easy to Set Up, Maintain, and Expand.** All system components — the enclosure, the controller, the firmware, and the drives — are developed and optimised by our engineers to work together seamlessly. This reduces support calls and eliminates technical learning curves. Modular architecture makes components interchangeable between systems, and upgrades are simple due to common FRUs, PCMs, controllers and software.

**Get Data to Applications Fast and Protect Valuable Assets.** This system is full of features that enable extreme cost efficiency, performance, and 99.999% data availability. Parallel architecture, multi-core processing, data replication, and fast streaming capabilities make access to data unfettered, while exclusive Seagate ADAPT data protection technology enables fast and efficient drive rebuilds that virtually eliminate system downtime.

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

<sup>1</sup> IOPS based on controller choice: capable of 320K IOPS with 4005 model and 600K IOPS with 5005 model.

<sup>2</sup> When configuration supports 500K IOPS



Specifications	
4005 Controller Performance	320,000 IOPS @ 1 ms latency   7 GB/s read throughput   5.5 GB/s write throughput
5005 Controller Performance	600,000 IOPS @ 1 ms latency   500,000 IOPS @ 250µs latency   7 GB/s read throughput   5.5 GB/s write throughput
Expansion BODs	J1224 (2U24)   Maximum of 3 EBODs
Advanced Features	Thin provisioning   Snapshots   Replication
High-Availability Features	Redundant hot-swap controllers   Redundant hot-swap devices, fans, power   Dual power cords   Hot standby spare   Automatic failover   Multi-path support
Device Support	SATA SSD, SAS SSD
Data Protection	Seagate ADAPT   RAID levels supported: 0, 1, 3, 5, 6, 10, and 50
System Configuration (24, 2.5-in devices)	46 TB max (4005), 91 TB max (5005)   With 3 EBODs: 184 TB (4005), 364 TB (5005)
Physical	Height: 87.9 mm / 3.46 in   Width: 443 mm / 17.44 in   Depth: 630 mm / 24.8 in   Width w/ear mounts: 483 mm / 19.01 in   Weight: 17 kg / 38 lb   Weight (with drives): 30 kg / 66 lb
Hosts	
External Ports	8 per system
Fibre Channel Models	Host speed: 16 Gb/s, 8 Gb/s Fibre Channel   Interface type: SFP+
iSCSI Models	Host speed: 10 Gb/s, 1 Gb/s iSCSI   Interface type: SFP+
SAS Models	Host speed: 12 Gb/s, 6 Gb/s SAS   Interface type: HD Mini-SAS
System Configuration	
System Memory	16 GB per system (4005), 32 GB per system (5005)
Volumes per System	1,024
Cache	Mirrored cache: Yes   Super-capacitor cache backup: Yes   Cache backup to flash: Yes – nonvolatile
Management	
Interface Types	10/100/1000 Ethernet, Mini USB
Protocols Supported	SNMP, SSL, SSH, SMTP, HTTP(S)
Management Consoles	Web GUI, CLI
Management Software	Seagate Systems storage management console   Remote diagnostics   Non-disruptive updates   Volume expansion
Power Requirements — AC Input	
Input Power Requirements	100V-200V AC 50Hz/60Hz (346W maximum continuous)
Heat Dissipation	1181 BTUs/hour   Gold-rated power supplies
Environmental/Temperature Ranges	
Operating/Non-operating Temperature	RBOD: 5°C to 35°C (41°F to 95°F), EBOD: 5°C to 40°C (41°F to 104°F) / -40°C to +70°C (-40°F to +158°F)
Operating/Non-operating Humidity	20% to 80% non-condensing / 5% to 100% non-condensing
Operating/Non-operating Shock	5.0 Gs, 10 ms, half sine pulses, Y-axis / 30.0 Gs, 10 ms, half sine pulses
Operating/Non-operating Vibration	0.21 Gs rms 5 Hz to 500 Hz random / 1.04 Gs rms 2Hz to 200Hz random
Standards/Approvals	
Safety Certifications	UL 60950-1 (United States)   CAN/CSA-C22.2 No.60950-1- 07 (Canada)   EN 60950-1 (European Union)   IEC 60950-1 (International)   CCC (China PRC – CCC Power Supplies)   BIS (India – BIS Power Supplies)
Emissions (EMC)	FCC CFR 47 Part 15 Subpart B Class A (United States)   ICES/NMB-003 Class A (Canada)   EN 55022/EN 55032:2012 Class A (EU)   AS/NZS CISPR 22/CISPR 32 Class A (Australia/New Zealand)   VCCI Class A (Japan)   KN 22/KN 32 Class A (S. Korea)   CNS 13438 Class A (Taiwan)
Harmonics	EN 61000-3-2 (EU)
Flicker	EN 61000-3-3 (EU)
Immunity	EN 55024 (EU)   KN 24/KN 35 (S. Korea)
Environmental Standards	The RoHS Directive (2011/65/EU)   The WEEE Directive (2012/19/EU)   The REACH Directive (EC/1907/2006)   The Batteries Directive (2006/66/EC)
Standard Marks/Approvals	Australia/New Zealand (RCM), Canada (cUL/ICES/NMB-003 Class A), China (CCC –PSU only), European Union (CE), Japan (VCCI), South Korea (MSIP), Taiwan (BSMI), United States (FCC/UL)

AMERICAS Seagate Technology LLC 10200 South De Anza Boulevard, Cupertino, California 95014, United States, 408-658-1000  
ASIA/PACIFIC Seagate Singapore International Headquarters Pte. Ltd. 7000 Ang Mo Kio Avenue 5, Singapore 569877, 65-6485-3888  
EUROPE, MIDDLE EAST, AND AFRICA Seagate Technology SAS 16-18, rue du Dôme, 92100 Boulogne-Billancourt, France, 33 1-4186 10 00

© 2018 Seagate Technology LLC. All rights reserved. Seagate, Seagate Technology, and the Spiral logo are registered trademarks of Seagate Technology LLC in the United States and/or other countries. Nytro, Nytro , and the Seagate Secure logo are either trademarks or registered trademarks of Seagate Technology LLC or one of its affiliated companies in the United States and/or other countries. All other trademarks or registered trademarks are the property of their respective owners. When referring to drive capacity, one gigabyte, or GB, equals one billion bytes; and one terabyte, or TB, equals one trillion bytes. Your computer's operating system may use a different standard of measurement and report a lower capacity. In addition, some of the listed capacity is used for formatting and other functions, and thus will not be available for data storage. Actual data rates may vary depending on operating environment and other factors, such as chosen interface and disk capacity. The export or re-export of Seagate hardware or software is regulated by the U.S. Department of Commerce, Bureau of Industry and Security (for more information, visit [www.bis.doc.gov](http://www.bis.doc.gov)), and may be controlled for export, import and use in other countries. Seagate reserves the right to change, without notice, product offerings or specifications. DS1979.1-1805GB May 2018