DATA SHEET

Lightspeed. Solid. Impressive.

Nytro 3000 SAS SSD

The Seagate® Nytro® 3000 SAS SSD family includes the next generation of high-capacity, high-performance SAS SSDs designed with endurance offerings optimized for demanding enterprise applications and improved TCO.

Key Features and Benefits

- Dual-port and wide-port 12Gb/s SAS interface
- Industry-leading storage density range up to 15TB
- Ultra-fast performance of up to 2100MB/s

Best-Fit Applications

- Server virtualization
- OLTP databases
- Software-defined storage
- All flash arrays
- Caching and tiering

SEAGATE SECURE™

Industry-Leading Performance up to 2100MB/s

The Nytro 3000 SSD family delivers ultra-fast, consistent, and easily scalable performance that saturates dual 12Gb/s SAS bandwidth, providing an effective 24Gb/s interface with dual-port dynamic configurations. By removing the storage bottleneck, overall system and application responsiveness is significantly improved.

High-Capacity Solution With Multiple Endurance Offerings

Enterprise applications have different storage workload requirements. Databases or virtualization with a typically mixed read/write workload require the highest random read/write IOPS, ultra-low latency, and high endurance. Content streaming applications demand high sequential read throughput and high storage density at the lowest cost per gigabyte. The Nytro 3000 SSD family offers an industry-leading range of capacities up to 15TB in a 2.5-inch form factor to increase enterprise storage density in data centers. It also enables lower TCO by offering endurance categories to match cost and performance requirements of all enterprise workloads.

Enhanced Reliability, Data Protection, and Security

Seagate has decades of enterprise SAS expertise in mission-critical applications. The Nytro 3000 SSD family helps deliver exceptional data protection and reliability with full internal and external data path protection (T10 DIF), advanced ECC algorithms, media lifecycle management, and other techniques for extending flash memory life. Advanced power-loss data protection helps maintain data integrity in the event of unexpected power interruptions. Advanced security levels to prevent unauthorized access to an SSD and safeguard stored data include Seagate Downloads & Diagnostics, TCG-compliant Self-Encrypting Drive and government-grade FIPS/Common Criteria tamper-resistent drive.[1]

1 Self-Encrypting Drives (SED) are not available in all models or countries. May require TCG-compliant host or controller support.

NYTRO™ ENTERPRISE

Specifications	Nytro 3530—Light Endurance			
Capacity	3.2TB	1.6TB	800GB	400GB
Standard Model Number	XS3200LE10003	XS1600LE10003	XS800LE10003	XS400LE10003
Seagate Secure™ SED Model[1]	XS3200LE10013	XS1600LE10013	XS800LE10013	XS400LE10013
Seagate Secure FIPS 140-2/Common Criteria Model[1]	—	XS1600LE10023	—	—
Features				
Interface	Dual 12Gb/s SAS	Dual 12Gb/s SAS	Dual 12Gb/s SAS	Dual 12Gb/s SAS
NAND Flash Type	3D eMLC	3D eMLC	3D eMLC	3D eMLC
Form Factor	2.5 in × 7mm	2.5 in × 7mm	2.5 in × 7mm	2.5 in × 7mm
Performance at Max Power Limit				
Sequential Read (MB/s) Sustained, 128KB[2,3]	2,100	2,100	2,100	2,100
Sequential Write (MB/s) Sustained, 128KB[2,3]	2,000	2,000	1,710	810
Random Read (IOPS) Sustained, 4KB[2,3]	400,000	400,000	400,000	245,000
Random Write (IOPS) Sustained, 4KB[2,3]	150,000	145,000	95,000	45,000
Random 30% Write (IOPS) Sustained, 4KB[2,3]	270,000	290,000	250,000	120,000
Performance at 9W Power Limit				
Sequential Read (MB/s) Sustained, 128KB[2,3]	2,100	2,100	2,100	2,100
Sequential Write (MB/s) Sustained, 128KB[2,3]	1,260	1,260	1,260	810
Random Read (IOPS) Sustained, 4KB[2,3]	375,000	375,000	375,000	245,000
Random Write (IOPS) Sustained, 4KB[2,3]	80,000	115,000	95,000	45,000
Random 30% Write (IOPS) Sustained, 4KB[2,3]	175,000	225,000	225,000	120,000
Average Latency (µs)[2]	85	85	85	85
Endurance/Reliability				
Lifetime Endurance (Drive Writes per Day)	3	3	3	3
Nonrecoverable Read Errors per Bits Read	1 per 10E18	1 per 10E18	1 per 10E18	1 per 10E18
Annualized Failure Rate (AFR)	0.35%	0.35%	0.35%	0.35%
Limited Warranty (years)	5	5	5	5
Power Management				
+5/+12V Max Start Current (A)	0.44/0.47	0.44/0.42	0.44/0.41	0.44/0.41
Configurable Power Limit Settings (W)	7 to 14	7 to 14	7 to 14	7 to 14
Average Idle Power (W)	3	3	3	3
Physical				
Height (mm/in, max)[4]	7mm/0.276in	7mm/0.276in	7mm/0.276in	7mm/0.276in
Width (mm/in, max)[4]	70.1mm/2.76in	70.1mm/2.76in	70.1mm/2.76in	70.1mm/2.76in
Depth (mm/in, max)[4]	100.45mm/3.955in	100.45mm/3.955in	100.45mm/3.955in	100.45mm/3.955in
Weight (g/lb)	85g/0.187lb	85g/0.187lb	85g/0.187lb	80g/0.176lb
Carton Unit Quantity	10	10	10	10
Cartons per Pallet/Cartons per Layer	90/9	90/9	90/9	90/9

1 Not all drives may be available in all countries. Seagate Secure drives meet ISO/IEC 27040 and NIST 800-88 standards and may require use of TCG-compliant host or controller support.

2 Dual-port performance. All performance measured at queue depth of 32 per PHY at beginning of life. System application performance may vary based on SAS host and prior system workload.

3 The single-port performance will be the same as the dual-port performance up to the limits of the single port interface as follows: 1100MB/s of 64KB sequential reads and writes; 225,000 IOPS of 4KB random reads and writes.

4 These base deck dimensions conform to the Small Form Factor Standard (SFF-8201) found at www.sffcommittee.org. For connector-related dimensions, see SFF-8223 (SAS models).

NYTRO™ ENTERPRISE

Specifications	Nytro 3330—Scaled Endurance				
Capacity	15.36TB	7.68TB	3.84TB	1.92TB	960GB
Standard Model Number	XS15360SE70103	XS7680SE70103	XS3840SE10103	XS1920SE10103	XS960SE10003
Seagate Secure™ SED Model[1]	XS15360SE70113	XS7680SE70113	XS3840SE10113	XS1920SE10113	XS960SE10013
Seagate Secure FIPS 140-2/Common Criteria Model[1]	—	—	—	XS1920SE10123	—
Features					
Interface	Dual 12Gb/s SAS	Dual 12Gb/s SAS	Dual 12Gb/s SAS	Dual 12Gb/s SAS	Dual 12Gb/s SAS
NAND Flash Type	3D eTLC	3D eTLC	3D eTLC	3D eTLC	3D eTLC
Form Factor	2.5 in × 15mm	2.5 in × 15mm	2.5 in × 7mm	2.5 in × 7mm	2.5 in × 7mm
Performance at Max Power Limit					
Sequential Read (MB/s) Sustained, 128KB[2,3]	2,100	2,100	2,100	2,100	2,100
Sequential Write (MB/s) Sustained, 128KB[2,3]	1,690	1,850	1,720	1,200	640
Random Read (IOPS) Sustained, 4KB[2,3]	260,000	400,000	400,000	375,000	245,000
Random Write (IOPS) Sustained, 4KB[2,3]	60,000	115,000	115,000	70,000	35,000
Random 30% Write (IOPS) Sustained, 4KB[2,3]	150,000	230,000	230,000	185,000	95,000
Performance at 9W Power Limit					
Sequential Read (MB/s) Sustained, 128KB[2,3]	2,100	2,100	2,100	2,100	2,100
Sequential Write (MB/s) Sustained, 128KB[2,3]	990	990	990	990	650
Random Read (IOPS) Sustained, 4KB[2,3]	260,000	275,000	275,000	275,000	245,000
Random Write (IOPS) Sustained, 4KB[2,3]	45,000	55,000	55,000	55,000	35,000
Random 30% Write (IOPS) Sustained, 4KB[2,3]	105,000	125,000	125,000	125,000	95,000
Average Latency (µs)[2]	120	120	120	120	120
Endurance/Reliability					
Lifetime Endurance (Drive Writes per Day)	1	1	1	1	1
Nonrecoverable Read Errors per Bits Read	1 per 10E18	1 per 10E18	1 per 10E18	1 per 10E18	1 per 10E18
Annualized Failure Rate (AFR)	0.35%	0.35%	0.35%	0.35%	0.35%
Limited Warranty (years)	5	5	5	5	5
Power Management					
+5/+12V Max Start Current (A)	0.44/0.47	0.44/0.47	0.44/0.42	0.44/0.41	0.44/0.41
Configurable Power Limit Settings (W)	7 to 14	7 to 14	7 to 14	7 to 14	7 to 14
Average Idle Power (W)	3	3	3	3	3
Physical					
Height (mm/in, max)[4]	15mm/0.591in	15mm/0.591in	7mm/0.276in	7mm/0.276in	7mm/0.276in
Width (mm/in, max)[4]	70.1mm/2.76in	70.1mm/2.76in	70.1mm/2.76in	70.1mm/2.76in	70.1mm/2.76in
Depth (mm/in, max)[4]	100.45mm/3.955in	100.45mm/3.955in	100.45mm/3.955in	100.45mm/3.955in	100.45mm/3.955in
Weight (g/lb)	165g/0.364lb	165g/0.364lb	85g/0.187lb	80g/0.176lb	80g/0.176lb
Carton Unit Quantity	10	10	10	10	10
Cartons per Pallet/Cartons per Layer	90/9	90/9	90/9	90/9	90/9

1 Not all drives may be available in all countries. Seagate Secure drives meet ISO/IEC 27040 and NIST 800-88 standards and may require use of TCG-compliant host or controller support.

2 Dual-port performance. All performance measured at queue depth of 32 per PHY at beginning of life. System application performance may vary based on SAS host and prior system workload.

3 The single-port performance will be the same as the dual-port performance up to the limits of the single port interface as follows: 1100MB/s of 64KB sequential reads and writes; 225,000 IOPS of 4KB random reads and writes.

4 These base deck dimensions conform to the Small Form Factor Standard (SFF-8201) found at www.sffcommittee.org. For connector-related dimensions, see SFF-8223 (SAS models).

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