DATA SHEET

Lightspeed. Solid. Impressive.

Nytro 3031 SAS SSD Series

The Seagate® Nytro® 3031 SAS SSD Series delivers high performance, industry-leading security features, and a broad selection of capacity and endurance offerings optimised for demanding enterprise applications and improved TCO.

Key Features and Benefits

- Industry-leading hardware-based data encryption
- Dual-port 12 Gb/s SAS interface
- Broad selection of endurance and capacity options including 15 TB
- Ultra-fast performance of up to 2,200 MB/s

Best-Fit Applications

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

SEAGATE SECURE™

Enhanced Reliability, Data Protection, and Security

Seagate has decades of enterprise SAS expertise in mission-critical applications. The Nytro 3031 SSD Series 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 unauthorised access to an SSD and safeguard stored data include Seagate Downloads & Diagnostics, TCG-compliant self-encrypting drive and government-grade FIPS/Common Criteria tamper-resistant drive.[1]

Consistent Performance up to 2,200 MB/s

The Nytro 3031 SSD Series delivers ultra-fast, consistent, and easily scalable performance that saturates dual 12 Gb/s SAS bandwidth, providing an effective 24 Gb/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 virtualisation 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 3031 SSD Series offers a range of capacities up to 15 TB in a 2.5-inch form factor to increase enterprise storage density in data centres. It also enables lower TCO by offering endurance categories to match cost and performance requirements of all enterprise workloads.

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 3131 — Read Intensive		
Capacity	15.36 TB	7.68 TB	3.84 TB
Standard Model	XS15360TE70004	XS7680TE70004	XS3840TE70004
Seagate Secure™ SED Model[1]	XS15360TE70014	XS7680TE70014	XS3840TE70014
Seagate Secure FIPS 140-2/Common Criteria Model[1]	XS15360TE70024	—	—
Features			
Interface	Dual 12 Gb/s SAS	Dual 12 Gb/s SAS	Dual 12 Gb/s SAS
NAND Flash Type	3D eTLC	3D eTLC	3D eTLC
Form Factor	2.5 in × 15 mm	2.5 in × 15 mm	2.5 in × 15 mm
Performance — Single Port 12 Gb\s			
Sequential Read (MB/s) Sustained, 128 KB[2]	1,050	1,100	1,100
Sequential Write (MB/s) Sustained, 128 KB[2]	1,000	1,000	1,000
Random Read (IOPS) Sustained, 4 KB[2]	120,000	160,000	180,000
Random Write (IOPS) Sustained, 4 KB[2]	14,000	45,000	55,000
Random 30% Write (IOPS) Sustained, 4 KB[2]	40,000	120,000	130,000
Performance — Dual Port 12 Gb\s			
Sequential Read (MB/s) Sustained, 128 KB[2]	2,100	2,000	2,100
Sequential Write (MB/s) Sustained, 128 KB[2]	1,000	1,550	1,550
Random Read (IOPS) Sustained, 4 KB[2]	150,000	230,000	230,000
Random Write (IOPS) Sustained, 4 KB[2]	14,000	45,000	55,000
Random 30% Write (IOPS) Sustained, 4 KB[2]	40,000	120,000	130,000
Endurance/Reliability			
Lifetime Endurance (Drive Writes per Day)	0.7	0.8	0.8
Total Bytes Written (TB)	19,000	7,000	3,000
Non-recoverable Read Errors per Bits Read	1 per 10E17	1 per 10E17	1 per 10E17
Mean Time Between Failures (MTBF, hrs)	—	—	—
Annualised Failure Rate (AFR)	0.35%	0.35%	0.35%
Warranty, Limited (years)	5	5	5
Power Management			
+5/+12 V Max Start Current (A)	0.80/0.21	0.80/0.21	0.80/0.21
Average Idling Power (W)	4.4	4.4	4.4
Physical			
Height (in/mm, max)[3]	0.591 in/15 mm	0.591 in/15 mm	0.591 in/15 mm
Width (in/mm, max)[3]	2.76 in/70.1 mm	2.76 in/70.1 mm	2.76 in/70.1 mm
Depth (in/mm, max)[3]	3.955 in/100.45 mm	3.955 in/100.45 mm	3.955 in/100.45 mm
Weight (lb/g)	0.364 lb/165 g	0.364 lb/165 g	0.364 lb/165 g
Carton Unit Quantity	10	10	10
Cartons per Pallet	90	90	90
Cartons per Layer	9	9	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 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 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 3331 — Scaled Endurance			
Capacity	7.68 TB	3.84 TB	1.92 TB	960GB
Standard Model	XS7680SE70004	XS3840SE70004	XS1920SE70004	XS960SE70004
Seagate Secure™ SED Model[1]	XS7680SE70014	XS3840SE70014	XS1920SE70014	XS960SE70014
Seagate Secure FIPS 140-2/Common Criteria Model[1]	XS7680SE70024	XS3840SE70024	XS1920SE70024	XS960SE70024
Features				
Interface	Dual 12 Gb/s SAS	Dual 12 Gb/s SAS	Dual 12 Gb/s SAS	Dual 12 Gb/s SAS
NAND Flash Type	3D eTLC	3D eTLC	3D eTLC	3D eTLC
Form Factor	2.5 in × 15 mm	2.5 in × 15 mm	2.5 in × 15 mm	2.5 in × 15 mm
Performance — Single Port 12 Gb\s				
Sequential Read (MB/s) Sustained, 128 KB[2]	1,100	1,100	1,100	1,100
Sequential Write (MB/s) Sustained, 128 KB[2]	1,000	1,000	1,000	1,000
Random Read (IOPS) Sustained, 4 KB[2]	170,000	180,000	180,000	165,000
Random Write (IOPS) Sustained, 4 KB[2]	70,000	85,000	85,000	70,000
Random 30% Write (IOPS) Sustained, 4 KB[2]	140,000	160,000	150,000	120,000
Performance — Dual Port 12 Gb\s				
Sequential Read (MB/s) Sustained, 128 KB[2]	2,000	2,200	2,200	2,150
Sequential Write (MB/s) Sustained, 128 KB[2]	1,550	1,550	1,550	1,000
Random Read (IOPS) Sustained, 4 KB[2]	230,000	230,000	230,000	210,000
Random Write (IOPS) Sustained, 4 KB[2]	70,000	85,000	80,000	70,000
Random 30% Write (IOPS) Sustained, 4 KB[2]	160,000	160,000	160,000	140,000
Endurance/Reliability				
Lifetime Endurance (Drive Writes per Day)	1	1	1	1
Total Bytes Written (TB)	14,000	7,000	3,500	1,700
Non-recoverable Read Errors per Bits Read	1 per 10E17	1 per 10E17	1 per 10E17	1 per 10E17
Mean Time Between Failures (MTBF, hrs)	—	—	—	—
Annualised Failure Rate (AFR)	0.35%	0.35%	0.35%	0.35%
Warranty, Limited (years)	5	5	5	5
Power Management				
+5/+12 V Max Start Current (A)	0.80/0.21	0.80/0.21	0.80/0.21	0.80/0.21
Average Idling Power (W)	4.4	4.4	4.4	4.4
Physical				
Height (in/mm, max)[3]	0.591 in/15 mm	0.591 in/15 mm	0.591 in/15 mm	0.591 in/15 mm
Width (in/mm, max)[3]	2.76 in/70.1 mm	2.76 in/70.1 mm	2.76 in/70.1 mm	2.76 in/70.1 mm
Depth (in/mm, max)[3]	3.955 in/100.45 mm	3.955 in/100.45 mm	3.955 in/100.45 mm	3.955 in/100.45 mm
Weight (lb/g)	0.364 lb/165 g	0.364 lb/165 g	0.364 lb/165 g	0.364 lb/165 g
Carton Unit Quantity	10	10	10	10
Cartons per Pallet	90	90	90	90
Cartons per Layer	9	9	9	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 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 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 3531 — Mixed Workloads			
Capacity	6.4 TB	3.2 TB	1.6 TB	800GB
Standard Model	XS6400LE70004	XS3200LE70004	XS1600LE70004	XS800LE70004
Seagate Secure™ SED Model[1]	XS6400LE70014	XS3200LE70014	XS1600LE70014	XS800LE70014
Seagate Secure FIPS 140-2/Common Criteria Model[1]	—	XS3200LE70024	XS1600LE70024	XS800LE70024
Features				
Interface	Dual 12 Gb/s SAS	Dual 12 Gb/s SAS	Dual 12 Gb/s SAS	Dual 12 Gb/s SAS
NAND Flash Type	3D eTLC	3D eTLC	3D eTLC	3D eTLC
Form Factor	2.5 in × 15 mm	2.5 in × 15 mm	2.5 in × 15 mm	2.5 in × 15 mm
Performance — Single Port 12 Gb\s				
Sequential Read (MB/s) Sustained, 128 KB[2]	1,100	1,100	1,100	1,100
Sequential Write (MB/s) Sustained, 128 KB[2]	1,000	1,000	1,000	1,000
Random Read (IOPS) Sustained, 4 KB[2]	170,000	180,000	180,000	165,000
Random Write (IOPS) Sustained, 4 KB[2]	115,000	130,000	130,000	120,000
Random 30% Write (IOPS) Sustained, 4 KB[2]	160,000	170,000	170,000	140,000
Performance — Dual Port 12 Gb\s				
Sequential Read (MB/s) Sustained, 128 KB[2]	2,000	2,200	2,200	2,150
Sequential Write (MB/s) Sustained, 128 KB[2]	1,550	1,550	1,550	1,000
Random Read (IOPS) Sustained, 4 KB[2]	230,000	230,000	230,000	210,000
Random Write (IOPS) Sustained, 4 KB[2]	115,000	130,000	130,000	120,000
Random 30% Write (IOPS) Sustained, 4 KB[2]	210,000	220,000	220,000	170,000
Endurance/Reliability				
Lifetime Endurance (Drive Writes per Day)	3	3	3	3
Total Bytes Written (TB)	35,000	17,000	8,700	4,300
Non-recoverable Read Errors per Bits Read	1 per 10E17	1 per 10E17	1 per 10E17	1 per 10E17
Mean Time Between Failures (MTBF, hrs)	—	—	—	—
Annualised Failure Rate (AFR)	0.35%	0.35%	0.35%	0.35%
Warranty, Limited (years)	5	5	5	5
Power Management				
+5/+12 V Max Start Current (A)	0.80/0.21	0.80/0.21	0.80/0.21	0.80/0.21
Average Idling Power (W)	4.4	4.4	4.4	4.4
Physical				
Height (in/mm, max)[3]	0.591 in/15 mm	0.591 in/15 mm	0.591 in/15 mm	0.591 in/15 mm
Width (in/mm, max)[3]	2.76 in/70.1 mm	2.76 in/70.1 mm	2.76 in/70.1 mm	2.76 in/70.1 mm
Depth (in/mm, max)[3]	3.955 in/100.45 mm	3.955 in/100.45 mm	3.955 in/100.45 mm	3.955 in/100.45 mm
Weight (lb/g)	0.364 lb/165 g	0.364 lb/165 g	0.364 lb/165 g	0.364 lb/165 g
Carton Unit Quantity	10	10	10	10
Cartons per Pallet	90	90	90	90
Cartons per Layer	9	9	9	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 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.

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NYTRO ENTERPRISE

Specifications	Nytro 3731 — Write Intensive			
Capacity	3.2 TB	1.6 TB	800GB	400GB
Standard Model	XS3200ME70004	XS1600ME70004	XS800ME70004	XS400ME70004
Seagate Secure™ SED Model[1]	XS3200ME70014	XS1600ME70014	XS800ME70014	XS400ME70014
Seagate Secure FIPS 140-2/Common Criteria Model[1]	XS3200ME70024	XS1600ME70024	—	—
Features				
Interface	Dual 12 Gb/s SAS	Dual 12 Gb/s SAS	Dual 12 Gb/s SAS	Dual 12 Gb/s SAS
NAND Flash Type	3D eTLC	3D eTLC	3D eTLC	3D eTLC
Form Factor	2.5 in × 15 mm	2.5 in × 15 mm	2.5 in × 15 mm	2.5 in × 15 mm
Performance — Single Port 12 Gb\s				
Sequential Read (MB/s) Sustained, 128 KB[2]	1,100	1,100	1,100	1,100
Sequential Write (MB/s) Sustained, 128 KB[2]	1,000	1,000	1,000	1,000
Random Read (IOPS) Sustained, 4 KB[2]	170,000	180,000	180,000	165,000
Random Write (IOPS) Sustained, 4 KB[2]	190,000	190,000	200,000	170,000
Random 30% Write (IOPS) Sustained, 4 KB[2]	170,000	190,000	180,000	150,000
Performance — Dual Port 12 Gb\s				
Sequential Read (MB/s) Sustained, 128 KB[2]	2,000	2,200	2,200	2,150
Sequential Write (MB/s) Sustained, 128 KB[2]	1,550	1,550	1,550	1,000
Random Read (IOPS) Sustained, 4 KB[2]	230,000	230,000	230,000	210,000
Random Write (IOPS) Sustained, 4 KB[2]	190,000	190,000	200,000	170,000
Random 30% Write (IOPS) Sustained, 4 KB[2]	250,000	260,000	260,000	190,000
Endurance/Reliability				
Lifetime Endurance (Drive Writes per Day)	10	10	10	10
Total Bytes Written (TB)	58,000	29,000	14,000	7,300
Non-recoverable Read Errors per Bits Read	1 per 10E17	1 per 10E17	1 per 10E17	1 per 10E17
Mean Time Between Failures (MTBF, hrs)	—	—	—	—
Annualised Failure Rate (AFR)	0.35%	0.35%	0.35%	0.35%
Warranty, Limited (years)	5	5	5	5
Power Management				
+5/+12 V Max Start Current (A)	0.80/0.21	0.80/0.21	0.80/0.21	0.80/0.21
Average Idling Power (W)	4.4	4.4	4.4	4.4
Physical				
Height (in/mm, max)[3]	0.591 in/15 mm	0.591 in/15 mm	0.591 in/15 mm	0.591 in/15 mm
Width (in/mm, max)[3]	2.76 in/70.1 mm	2.76 in/70.1 mm	2.76 in/70.1 mm	2.76 in/70.1 mm
Depth (in/mm, max)[3]	3.955 in/100.45 mm	3.955 in/100.45 mm	3.955 in/100.45 mm	3.955 in/100.45 mm
Weight (lb/g)	0.364 lb/165 g	0.364 lb/165 g	0.364 lb/165 g	0.364 lb/165 g
Carton Unit Quantity	10	10	10	10
Cartons per Pallet	90	90	90	90
Cartons per Layer	9	9	9	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.

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