

# NyTRO™ XP6200 Series

## APPLICATION ACCELERATOR CARDS Data Sheet

### Key Features and Benefits

- Cost-effective for low-latency applications
- Offload architecture minimizes requirements on host CPU and memory
- Plug and Play—no user configuration required
- Enterprise quality and reliability
- Optimized design for reduced thermal dissipation and power requirements
- DuraWrite™ advanced wear leveling technology minimizes NAND wear
- Ultra-low write amplification provides consistent high performance
- Self-healing from block and page level failures—helps reduce field failures
- Bootable solutions
- In-box drivers for most operating systems
- Advanced Secure Erase support protects sensitive data

Purpose-built for the demanding hyperscale and mega datacenters, the Seagate® NyTRO XP6200 series delivers accelerated performance for read-intensive applications, optimized power and thermals, and an overall lower cost per gigabyte PCIe flash solution. By plugging flash directly into the server's PCIe slot, these cards can help improve performance and reduce the physical space needed to support high-density enterprise applications.

### Accelerate Read-Intensive Applications

Hyperscale datacenters require cost-effective scaling to thousands of servers to meet the compute and storage demands of Web 2.0, cloud computing and big data analytics applications. These applications, which search data for content or comb data for trends, are primarily reading data from storage. NyTRO XP6200 flash accelerator cards are designed to reduce latency and deliver high performance by connecting flash closer to the CPU. Multiple NyTRO XP6200 cards can be installed in the same server to get even higher application performance.

### Reduce Power, Cooling and Resource Overhead

Delivering leading endurance and reliability using low-cost flash, this new design is optimized for low power and thermal characteristics. The NyTRO XP6200 series requires up to 30% less power than similar cards using eMLC flash technology. Unlike other cards with flash memory, this efficient design does not require heat sinks to control temperature. The lower power and cooling translates into lower OpEx. The NyTRO XP6200 cards require minimal resources from the CPU and host memory when compared with other cards. The NyTRO XP6200 storage controllers offload storage management tasks and use enterprise hardened, standard drivers that are typically in-box with most operating systems. And, with the Seagate Enterprise Storage Manager—a web-based management tool—users can easily create and manage Seagate flash configurations from a single interface.

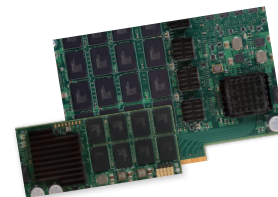
### Enterprise Flash Management With SandForce® Technology

The NyTRO XP6200 cards use SandForce flash controllers. The cards are designed to deliver consistently high levels of performance, endurance and reliability under demanding workload conditions. Seagate DuraWrite™ technology optimizes the number of program cycles to the flash storage, effectively extending its rated write endurance by 8× or more, depending on the use case, when compared to standard controllers for compressible data.



# Nytrio™ XP6200 Series

APPLICATION ACCELERATOR CARDS



| Nytrio™ XP6200 Card Specifications    |  |                                |
|---------------------------------------|--|--------------------------------|
| Product Specification                 | XP6209   | XP6210                         |
| Usable Capacity <sup>1</sup>          | 1.79TB   | 1.86TB                         |
| Form Factor                           | Half Height (half-length, MD2)   | Full Height (half-length, MD2) |
| Interface                             | x8 lane PCIe 2.0   | x8 lane PCIe 2.0               |
| Read Bandwidth (256K) <sup>2</sup>    | Up to 2.0GB/s  | Up to 2.0GB/s                  |
| Write Bandwidth (256K) <sup>2</sup>   | Up to 1.27GB/s   | Up to 1.27GB/s                 |
| Read IOPS (8K)                        | Up to 121,000  | Up to 162,000                  |
| Write IOPS (8K)                       | Up to 45,000   | Up to 46,000                   |
| Average Latency (Microseconds)        | <50  | <50                            |
| NAND Petabyte Writes                  | 7  | 10                             |
| Flash Memory Type                     | eMLC   | eMLC                           |
| End-of-Life Data Retention            | >3 months  |                                |
| Product Health Monitoring             | Self-Monitoring, Analysis and Reporting Technology (S.M.A.R.T.) commands, plus additional SSD monitoring   |                                |
| Warranty                              | The lesser of 5 years or the end of the flash or NAND life   |                                |
| Environmentals                        | 0°C to 50°C @ 250 LFM  |                                |
| Management Tools                      | CLI, Seagate Enterprise Storage Manager (GUI-based)  |                                |
| Operating System Support <sup>3</sup> | RHEL : 5.0-5.10, 6.0-6.5, 7.0<br>CentOS: 5.3-5.10, 6.0-6.5<br>OEL: 5.4-5.9, 6.0-6.5<br>SLES: 10 SP0-SP4, 11 SP1-SP3<br>Debian: 6.0.5, 6.0.7, 7<br>Fedora: 17, 18<br>Ubuntu: 10.04, 11.1, 12.04, 14.04 LTS<br>Windows: XP SP2, Windows7-SP1, 8, Windows Server: 2003 R2 SP2, 2008 R2-SP1, 2012 R2 SP1<br>Solaris 10U10, 11 (x86 & SPARC)<br>FreeBSD: 7.2, 7.4, 8.2, 8.3, 9.0<br>VMware: ESX4.0U4, 4.1U2, 5.0 U1, 5.1, 5.5 |                                |
| Regulatory Compliances                | Safety: US/Canada UL, Europe CB<br>Agency Certifications: CE mark, C-Tick mark, Canadian Compliance Statement, KCC, HF, Taiwan BSMI, Japan VCCI, Russia GOST, FCC Class B, and CISPR Class B   |                                |
| Environmental Compliance              | RoHS, WEEE   |                                |

| Nytrio XP6200 Card Ordering Information |              |                       |            |                          |
|---|--------------|-----------------------|------------|--------------------------|
| Product                                 | Model Number | Capacity <sup>1</sup> | Flash Type | Form Factor              |
| XP6209                                  | ST1796KN000  | 1.79TB                | eMLC       | Half Height, Half Length |
| XP6210                                  | ST1860KN000  | 1.86TB                | eMLC       | Full Height, Half Length |

1 One gigabyte, or GB, equals one billion bytes and one terabyte, or TB, equals one trillion bytes when referring to product capacity.

2 Highly tuned configuration for maximum performance. Subject to change.

3 See the complete list in the latest release notes.

seagate.com

AMERICAS  
ASIA/PACIFIC  
EUROPE, MIDDLE EAST AND AFRICA

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