# Nytro™ XP6302

FLASH ACCELERATOR CARD
Data Sheet

## Key Features and Benefits

- Doubles the capacity and bandwidth common with most full-height cards in a half-height form factor

- Right-sized to enable PCIe flash adoption in low-profile server market

- High throughput with PCIe 3.0 support

- Lower utility costs with NAND flash module (XFF) integration design for bi-directional airflow and improved thermals

- Highly reliable with supercaps onboard for immediate data backup in the case of a power failure

- Seamless deployment with transparency to applications, file systems, operating systems and device drivers

## Maximizing Capacity and Performance for Highly Dense Environments

The top challenges for cloud, big data, web hosting and hyperscale data center managers is often a result of the demands of churning through massive amounts of data while reducing complexity, cost and data center space. The solution they select must not only provide the performance they require, but also accomplish it efficiently and within a very small footprint.

As an expansion of the most comprehensive flash-based solutions, Seagate has responded with a low-profile, high-bandwidth application acceleration solution to alleviate much of these stresses, especially for very dense environments. The Seagate® Nytro™ XP6302 flash accelerator card delivers up to 2TB of flash capacity and competitive performance while packing it all in a half-height form factor.

## High Performance and Capacity for Even the Densest Environments

The multi-planar design of the Nytro XP6302 flash accelerator card delivers high-capacity flash and performance per slot with innovatively designed flash modules (XFF), making it well-suited for the most compact environments. The XP6302 card, with the latest enhancements in PCIe 3.0 and eMLC flash technology, can also achieve over twice the bandwidth as competitive offerings (3.5Gb/s vs. 1.5Gb/s) within a comparable footprint. With improvements such as these, space-constrained server environments and platforms that deploy low-profile boards can now run server-based PCIe flash in their data centers, which had previously been an inhibitor due to the physical limitations of the server.

## It Just Works—Reliability and Seamless Deployment

For these large data centers, implementing a reliable and simple solution across a sea of servers is critical and a key driver in the development of the Nytro XP6302 flash accelerator card. This includes integrated supercaps onboard (versus a remote discrete solution) which provides offload power for ROC to write DRAM cache contents to two XFFs. This allows for immediate data backup in the event of an unplanned power failure.

The Nytro XP6302 card not only addresses the challenges of performance and space, but does so seamlessly with minimal administrator intervention or fine-tuning. Additional sophisticated algorithms and dedicated hardware resources handle complex flash management tasks like garbage collection and wear-leveling. Leveraging these advanced features, the XP6302 cards deliver the performance and endurance needed for critical business applications.

## Higher Efficiency for Lower TCO

The Nytro XP6302 flash accelerator card enables greater efficiency resulting in less power and cooling resources, and reduced TCO. The XP6302 card is right-sized to support the needed flash capacity while fitting in a small space, making it more flexible and easier to integrate into today's low-profile, high-performance system chassis, such as 1U servers. The XP6302 card also introduces a new NAND flash module, XFF, integration design for better bi-directional airflow and thermals, which is well-suited for open-source architectures.

**Flash Acceleration for Today's Demanding Applications and Space-Constrained Environments**

The rise of cloud, big data, open source and hyperscale data centers in the market space is undisputed. These environments require vast computing and storage resources in order to sort through this massive amount of information, and often this must be accomplished in a very dense environment. The Nytro XP6302 application acceleration card delivers the performance acceleration for virtually any environment with seamless deployment, lower TCO and small footprint to enable their organization to achieve the full value and benefits they must deliver.

| Nytro™ XP6302 Card Specifications | |
|---|---|
| Usable Capacity[1] | 1.25TB and 1.67TB |
| Average Latency | <200 |
| End-of-Life Data Retention | >3 months |
| Interface | X8 PCI Express 3.0 |
| Brackets | Full-height spare brackets included with HHHL cards |
| Environmental Compliance | RoHS, WEEE |
| Product Health Monitoring | Self-Monitoring, Analysis and Reporting Technology (S.M.A.R.T.) commands, plus additional SSD monitoring |
| Data Encryption | AES-128/256 |
| Warranty | The lesser of 3 years or the end of the flash or NAND life |
| Regulatory Compliance | Agency Certifications: CE mark, C-Tick mark, KCC, Taiwan BSMI, Japan VCCI, Russia GOST, FCC Class A and B, EN55022 and 55024 (US, Canada, and EU): Emission, Immunity and Safety, cUL (Canada), CCC (China) |
| Environmentals | 0°C to 55°C @ 450 LFM |
| Operating System Support | RHEL: 6.3-6.5<br>CentOS: 6.3-6.5<br>Windows: 2012<br>VMware: ESXi 5.5 |

| Nytro XP6402 Card Ordering Information | | | | |
|---|---|---|---|---|
| Model Number | Usable Capacity[1] | NAND Type | Form Factor | NAND Petabyte Writes (typical) |
| ST1300KN0012 | 1.3TB | eMLC | HHHL | TBD |
| ST1750KN0012 | 1.75TB | eMLC | HHHL | TBD |

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