

# 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 PCle 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 PCle 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 PCle 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 <sup>1</sup>	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				
<b>Environmental Compliance</b>	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 CentOS: 6.3-6.5 Windows: 2012				
	VMware: ESXi 5.5				

Nytro XP6402 Card Ordering Information					
Model Number	Usable Capacity <sup>1</sup>	NAND Type	Form Factor	NAND Petabyte Writes (typical)	
ST1300KN0012	1.3TB	eMLC	HHHL	TBD	
ST1750KN0012	1.75TB	eMLC	HHHL	TBD	

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

## 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, 331-4186 1000

© 2014 Seagate Technology LLC. All rights reserved. Printed in USA. Seagate, Seagate Technology and the Wave logo are 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 or registered 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. 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), and may be controlled for export, import and use in other countries. Seagate reserves the right to change, without notice, product offerings or specifications. DS1832.1-1409US, September 2014