



SEAGATE STORAGE SYSTEMS

Seagate Storage Systems

Optimized for the future of data center storage

Seagate focuses on a system-based approach.

Features an ASIC-based architecture:

- Efficient cost structure with Predictable High Performance
- Industry Proven Quality
- Competition uses expensive CPUs and Memory to squeeze out performance

Leverages a deep software stack:

- Market-validated
- Strong foundation of features with ongoing innovation and unique data protection
- · Competition requires complex and expensive software add-ons









SEAGATE STORAGE SYSTEMS

SimulCache[™] **Benefits** Improves write performance and data protection with redundancy higher sequential 25%+ write performance SimulCache is a highly-integrated ASIC-based, multi-core architecture delivering higher throughput to enable true active-active controllers. 2xsequential write performance vs. Higher Cache Memory Super Caps & Embedded DDR **NV Memory** Management **Eliminate Performance Penalties** PCle from active-active controller write PCIe to other controler verification by offloading to a CPU Complex PCle RAID processor on the motherboard Write data is recieved from the host, and Companion simultaneously forked to both local cache Processor and the partner controller's cache. Significant Performance Improvement Front-end I/O Back-end I/O FC. iSCSI. SAS PCle PCle SAS versus traditional implementations SimulCache instantly mirrors cache between RAID controllers and improves data access times, in many cases doubling the write performance in dual controller environments HOW IT WORKS Controller SW prepares for write data Embedded management on RAID

- companion processor
- Write command from host is placed in CPU memory
- Controller SW prepares for write data and issues ready command to the host
- Write data from host is forked to local cache and partner controller cache





SEAGATE STORAGE SYSTEMS

Mid-Range Storage Competitive Landscape

		Seagate Exos® X	Competitor A	Competitor B	Competitor C
IOPS	Random Read	600K	450K	542K	Not published
Throughput	Sequential Write	5.5GB/s	3.2GB/s	5.3GB/s	Not published
Block Protocols	FC	\checkmark	\checkmark	\checkmark	\checkmark
	iSCSI	\checkmark	\checkmark	Х	\checkmark
	SAS	\checkmark	\checkmark	\checkmark	\checkmark
Chassis	Standard	2U24, 2U12	2U12, 2U24, 3U16, 4U24	2U12, 2U24, 3U16, 4U24	X
	High Density	5U84	Х	Х	4U48, 4U60
Data Efficiency	Thin Provisioning	\checkmark	\checkmark	Х	Х
	SSD Read Cache	\checkmark	\checkmark	Х	Х
	SSD Tiering	\checkmark	\checkmark	Х	Х
Advanced Data Protection	Dispersed Parity	🗸 (ADAPT)	Х	Х	Х
Copy Services	Snapshots	\checkmark	\checkmark	Х	\checkmark
	Remote Replication	\checkmark	\checkmark	Х	\checkmark

© 2020 Seagate Technology LLC. All rights reserved. Seagate, Seagate Technology, and the Spiral logo are registered trademarks of Seagate Technology LLC in the United States and/or other countries. Exos, the Exos logo, Nytro, and the Nytro logo are either trademarks or 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 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. Seagate reserves the right to change, without notice, product offerings or specifications. SC720.1-2002US, February 2020

Enterprise Features

Virtual Pools

Streamline management by automatically creating storage pools

Auto Tiering

Accelerate performance while providing cost and capacity benefits of HDD

Encryption

Improved Data Security by with arraybased data-at-rest encryption leveraging Seagate SED and FIPS capable devices

Snapshots

Reduce RPO/RTO and mount snapshots for development and testing

Async Replication

Replicate between arrays for business continuity/disaster recovery

ADAPT

Improved storage management and much faster rebuild times

SSD Read Cache

Improved performance for Read intensive workloads while minimizing SSD cost