NSS SAN Accelerator

Intelligent, predictable storage acceleration

Solid state storage is quickly gaining momentum as an alternative solution for application acceleration. To help organizations capitalize on this growing technology, the FalconStor® NSS SAN Accelerator enables application and global SAN acceleration for cost-effective implementation of solid state memory arrays.

Highlights

- Seamless integration of solid state memory
- Supports any storage environment
- Significant boost to legacy storage system performance
- Effective use of solid state memory as a cache
- Immediate acceleration with quick response to sudden application requests
- Application read and write acceleration
- Global acceleration to all storage resources
- Twice the performance at one-third the cost

Organizations depend on their business applications and process automation to improve productivity and gain a competitive edge with regards to electronic transactions. Applications such as online services are differentiated by their ability to quickly respond to customer and user queries regardless of the variation of demand level over time.

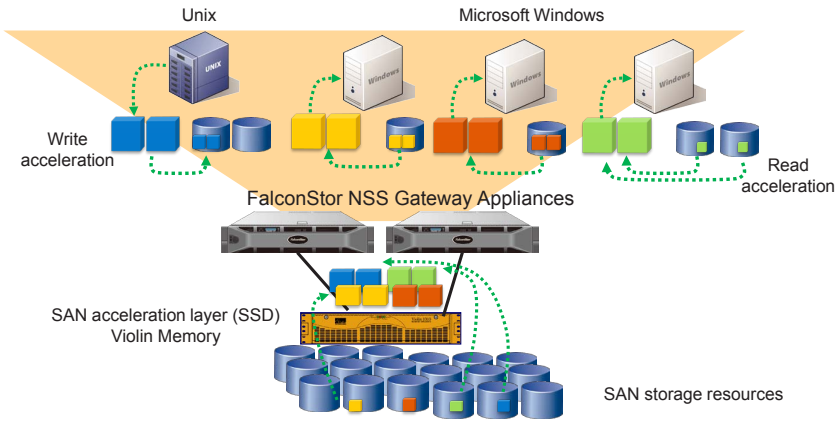
When it comes to storage, organizations have traditionally dealt with random I/O application performance bottlenecks in two ways: by dedicating high-performance disk resources such as Fibre Channel (FC) or SAS drives to those applications requiring high levels of IOPS and low latency, and by adding more disks to match the most demanding I/O profile of those supported applications.

Application performance

FalconStor NSS SAN Accelerator leverages new technologies such as solid state disk (SSD) in a whole new way, to deliver intelligent, predictable, performance acceleration across heterogeneous storage resources. The performance of SSD makes it an ideal fit for high performance environments by providing a high level of IOPS and low latency to respond to heavy load transactional applications. FalconStor NSS SAN Accelerator integrates SSD as a cache to offer all of the performance benefits of a high-performance, low-latency storage tier without the penalty of high costs associated with large SSD deployments.

When it comes to application performance, organizations need to address two scenarios: application writes and application reads. FalconStor NSS SAN Accelerator leverages the SSD storage tier to accelerate both writes and reads with two functionalities – SafeCache™ and HotZone® technology respectively. SSD resources can be dedicated to specific workloads or can be global to the whole storage environment, allowing the intelligent algorithms of SafeCache and HotZone to accelerate application performance where it is needed the most.

Intelligent, predictable acceleration for legacy storage and SAN resources



Accelerating application writes

SafeCache allows users to define a segment of the SSD storage as a caching device. This segment of the SSD tier dedicated to writes will receive all disk writes to the SAN, providing a very high-performance and low-latency acknowledgment of application writes, significantly accelerating application write processes. The data is then transparently written to the destination LUNs on the SAN in a sequential write process which further accelerates the writes to SAN resources.

SafeCache allows organizations to optimally leverage SSD to accelerate write processes to all applications hosted on the SAN instead of being exclusive to one or a few applications, maximizing return on investment (ROI) and providing a cost-effective way to maximize SAN write performance.

Accelerating application reads

HotZone also leverages SSD as a cache, but it uses that cache differently. HotZone is designed to work with random access database applications by monitoring the disk access pattern and intelligently copying the highly accessed data to a HotZone cache for fast read access. As the access profile of the data changes and the frequency of accessing these blocks is reduced, the data is automatically deleted from the cache and referenced back to where it resides on the SAN. This allows data blocks with higher access patterns to be placed in the HotZone.

This intelligent profiling of the data allows users to proactively predict application behavior and optimize the distribution of the data to maximize the performance of the entire SAN with minimal investment. HotZone is also enabled with a Quality of Service (QoS) feature that can prioritize HotZone access according to applications.

Cost-effective global SAN acceleration

The FalconStor NSS SAN Accelerator provides cost-effective global SAN acceleration, improving the performance of existing storage infrastructures without requiring additional hardware investments. It can seamlessly integrate within any storage environment and provide exceptional performance enhancement to an organization's applications. This product provides more than double the storage environment IOP at less than one-third of the cost of adding new spindles. This makes FalconStor NSS SAN Accelerator the ideal storage solution to easily exploit SSD performance – out of the box – to substantially improve SAN performance without a huge expense or a forklift upgrade.

Specifications

Physical Characteristics	
Usable capacity	500GB, expandable to 4TB
Direct attachment: PCIe interfaces	Dual (Q1 10) PCIe x 4 interfaces
Dimensions	• Height: 2U (3.5 inches/88.9 mm) • Width: 17.5 inches (420 mm) • Depth: 28.4 inches (725 mm) • Cable Mgmt.: 6 inches (150 mm) • Weight: 45 pounds (20 kilograms)
Power	• Dual 12VDC inputs • 550W for 5TB • Redundant power: 1U per 8TB
Reliability and data integrity	
Details	• 32-bit error correction per 4K block (ECC) • RAID over multiple VIMMs (4 + 1P) • Additional 128 bit integrity check over 4K block • VIMM hot-swap with 1 - 4 spares • Redundant hot swap fan trays, power, PCIe
Environmental	
Operating temperature (ambient)	41°F to 95°F (5°C to 35°C)
Operating humidity	Operating humidity: 5% to 85% (non-condensing)
Regulatory	• Emissions: FCC Part B Class A • Safety: UL

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