NSC-055s
NETWORK-BASED METADATA ACCELERATOR
Enhance the performance and extend the life of NAS systems

infinite io™

KEY BENEFITS

ULTRA-HIGH PERFORMANCE

3,000,000 metadata operations per second

Average latency
40 – 100 microseconds

TOTALLY TRANSPARENT

Installs like a network switch. No new mount points, file systems or virtualization

ALWAYS HOT

Metadata map collects metadata for all stored files regardless of usage patterns

COMPATIBLE

Works with all NAS systems supporting NFSv3

The Challenge
As data continues to grow at exponential rates, storage administrators are burdened with storage systems that cannot scale to the performance required. All too often, storage systems become the bottleneck to actual file system performance. End-users experience poor and unpredictable performance as storage system resources become overwhelmed by requests for data. In many workloads, over eighty percent of this burden comes from metadata requests.

IT administrators face the additional challenge of limited budgets and the desire to extend the life of existing systems.
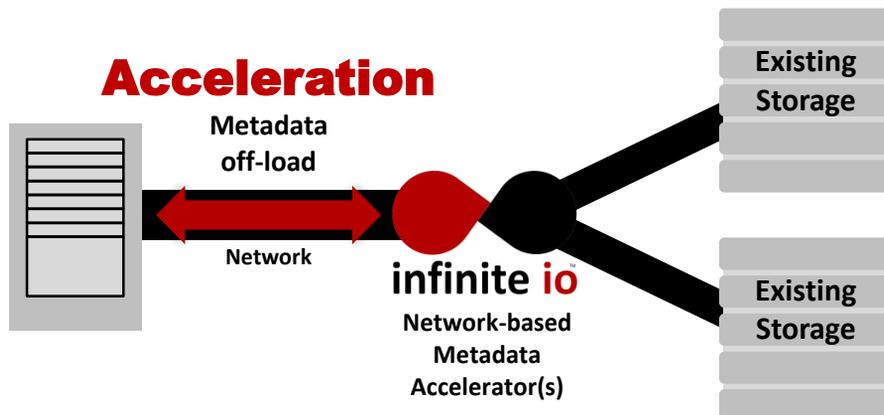
The NSC-055s installs in-band, like a network switch, and uses a combination of DRAM and flash memory to off-load metadata requests from attached NAS storage systems

The Solution
The NSC-055s Network-based Metadata Accelerator offers IT managers a low-cost, easy-to-install and easy-to-integrate solution for improving the metadata performance of existing NAS systems.

Installing in the network in front of existing NAS systems like an ethernet switch, the NSC-055s is totally invisible to installed applications, servers, and clients. It appears as the primary storage that it is supporting, and uses deep-packet inspection to manage and respond to metadata activity. The NSC-055s requires no changes to existing workflows and introduces no new file systems, no new mount points, no virtualization software, and no storage domain mapping – it is completely transparent.

FAULT-TOLERANT

Clusterable for system fault-tolerance and port scaling

CONNECTIVITY

- Eight 10Gbps port pairs per accelerator.
- Minimum twenty-four port pairs in a cluster.

NON-DISRUPTIVE MODES:

- Out-of-band (analytics)
- In-line (passive)
- In-line (active)

AGENCY APPROVALS

- UL60950
- CSA 60950
- EN60950
- FCC /ICES-003
- CE – EMC Directive 2004/108EC

The NSC-055s is packaged in a standard 2U form factor x86 platform

Highest Metadata Performance
The NSC-055s creates a memory-based metadata map by initially scanning all the file systems and mounts it is supporting. After the initial scan, deep packet inspection is used to keep metadata current and respond to requests. Unlike a cache, all of it is always hot

By serving metadata requests out of DRAM memory as fast as 40 microseconds and delivering up to 3,000,000 metadata operations per second, the NSC-055s is able to performance-enhance even flash-based NAS systems.

Easy to Manage and Deploy
The NSC-055s is easily managed with a standard web browser using the embedded infiniview™ software. IT administrators can view real-time analytics regarding which metadata operations are being off-loaded to the NSC-055s across all NAS systems. The NSC-055s can even be installed in an out-of-band or passive in-line mode, allowing IT administrators to view metadata analytics.

Specifications
NSC-055 are configured with eight 10Gbps port pairs. Units are clustered with a backplane switch. Clustered accelerators act as one logical unit and provide fault-tolerance that meets or exceeds attached storage and can withstand network, controller and storage failures. Minimum cluster size is three accelerators with twenty-four 10Gbps port pairs. Clustered accelerators support rolling upgrades and can be upgraded while in service. Additional accelerators can be added as needed to meet connectivity and file system requirements.

Specifications	NSC-055s-1610
CPU cores	40
DRAM	786GB
SSD flash	5TB
10Gbps Ethernet port pairs	8
Form factor	2U

Upgradeable to a NSC-110s
The NSC-055s is upgradeable to a full-featured NSC-110s Network-based Storage Controller via the purchase of a NSC-110U software upgrade. In addition to metadata acceleration, the NSC-110s provides seamless integration of a private or public cloud into existing NAS systems.

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