

Enhance FAS Performance with Infinio Accelerator

The Challenge

Organizations expect storage to provide both a sufficient amount of capacity as well as ample performance. However, infrastructure growth, particularly in virtualized environments, occurs at a rapid pace. Aggregate expansion is guaranteed, but it is only half the story.

As additional I/O requests increase the stress on shared services, storage performance can suffer, plaguing both application owners and virtual desktop users. This poor performance is often the result of high-latency spikes due to a blend of I/O profiles in a virtualized environment. IT professionals try to absorb this heaving I/O in a variety of ways. The addition of further spinning drives requires updates to aggregates including operational changes and restriping of existing data. The transition to faster disks to increase I/O throughput, from 10k to 15k, for example, is destructive behavior. Adding SSDs or PAM cards, although they are high performing, is not always something the department can afford. Brand-new storage arrays are rarely in the budget more often than once every three to five years.

Providing on-demand performance improvement at a reasonable cost is the foundation of Infinio Accelerator. Infinio's strategy is built on several key observations:

- Although flash is increasingly used as an alternative to traditional spinning hard drives, RAM is an even faster medium.
- Virtual machines typically display very high levels of data redundancy, requesting the same content frequently across a cluster.
- People running data centers want solutions that are affordable and that preserve their existing investments and operations.

Addressing the need for additional storage performance without high operational cost or capital expenditure is a needed link to maintaining application performance and customer satisfaction. The benefit of keeping storage investment loved and understood in the data center while getting the performance needed today is why NetApp and Infinio are a winning combination to alleviate potential bottlenecks.

The Solution

Infinio complements an investment in NetApp® FAS by offering a frictionless way to add more performance without adding operational complexity. Designed for NFS, many NetApp Infinio Accelerator handles growing demands on storage, quickly and simply.

HIGHLIGHTS

- Sustained 65–85% read request offload
- Reduced peak latency by as much as 10x
- Improved VDI user experience
- No change to storage architecture
- No disruption during installation or removal of Infinio Accelerator™

SOLUTION COMPONENT

List NetApp Products

- NetApp FAS3000 series
- NetApp FAS2240

List Partner Products

- Infinio Accelerator 1.5

“Why spend a lot of money on one isolated shelf of SSDs when you can get that benefit across the environment for less with Infinio?”

Sean Lutner
Director of IT Operations, Attivio

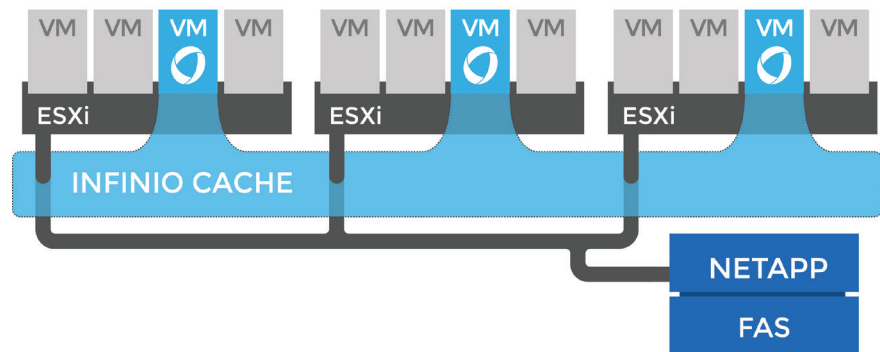
Handle Peak Workloads

Nearly all administrators have seen storage suffer from high latency caused by bursts of I/O interrupting normal, smooth operation of the FAS system. Application owners and virtual desktop users begin to complain, and suddenly projects are off-track or can't be expanded. With Infinio Accelerator, administrators benefit from technology that successfully absorbs these I/O bursts to enable FAS arrays to provide consistent performance to applications and virtual desktops.

Infinio's content-based architecture tracks commonly requested data within cache rather than what other caches do, which is track commonly requested locations. This enables Infinio to deduplicate at a granular level, which is the key to best utilizing small amounts of RAM from each host. With just 8GB of RAM from each ESX® host, Infinio's distributed and shared cache design provides read offload rates of 65–85% from storage, enabling smooth performance, even during peak times.

Preserve Storage Investment

The addition of Infinio Accelerator enables existing FAS environments to meet today's growing demand for IOPS. This solution allows administrators to scale performance independently from capacity in a way that keeps users happy as demand grows. As VMware® clusters gets bigger, performance with Infinio Accelerator gets better. Each additional host contributes more RAM to the pool



INFINIO INSERTS A DISTRIBUTED CACHING LAYER BETWEEN THE HYPERVISOR AND STORAGE. AT INSTALLATION, AN INFINIO ACCELERATOR IS AUTOMATICALLY DEPLOYED TO EACH ESXi SERVER WITHOUT HOST INTERRUPTION OR NEED FOR REBOOTS.

of cache, and each additional application provides more opportunity for deduplication. Nodes and datastores can be added nondisruptively, and the uniform distribution of content, key to Infinio Accelerator's architecture, enables all nodes to contribute equally to the caching work. Applications receive consistent performance that users can rely on.

Both current and future investments in FAS products can see extended lives in production with Infinio Accelerator offloading duplicate requests. Administrators maintain their value using the NetApp Data ONTAP® operating system and additional features such as NetApp SnapMirror® technology without added complexity. As existing aggregates approach higher latencies because of increasing VM density, the addition of Infinio Accelerator absorbs requests in a way that maintains current investments.

Achieve Operationally Transparent Operations

Infinio Accelerator is an in-place I/O optimization layer that customers add to NetApp FAS deployments without interruption or rearchitecture. Infinio can be added to any NetApp deployment in just a few clicks, without any downtime or storage configuration changes. All operational behaviors, from SnapMirror configuration to updating Data ONTAP, remain identical.

Customers benefit from the quality of FAS with the additional offload provided by Infinio Accelerator at the server tier without additional hardware. This offload of duplicate content allows NetApp FAS to deliver its high-performance storage to a virtualized infrastructure even as peak workloads continue to grow.

ABOUT INFINIO

Infinio Systems, Inc. is a market leader in I/O optimization for VMware vSphere environments, offering a software-only solution to improve the data storage performance of virtualized environments without the need for expensive hardware upgrades. Learn more at www.infinio.com.

ABOUT NETAPP

Leading organizations worldwide count on NetApp for software, systems and services to manage and store their data. Customers value our teamwork, expertise and passion for helping them succeed now and into the future. www.netapp.com.