



Media requests, please contact:

*Dan Miller, Sr. Account Director
JPR Communications
danm@jprcom.com
818-884-8282, ext.13*

Why Do Traditional Storage 'Solutions' Consistently Fall Short? *NEVEX says a new and innovative approach is required*

Toronto, December 19, 2011— Inconsistent application response times, the source of much user frustration and lost productivity, continues to be an urgent operational problem for organizations struggling to overcome common I/O bottlenecks found in today's increasingly virtualized network infrastructures, according to the experts at NEVEX Virtual Technologies, a Toronto-based software developer of NEVEX CacheWorks, an application-optimized caching solution.

Traditional 'solutions' that attempt to address performance issues or fine-tune applications by adding ever-increasing amounts of server/memory or storage hardware often fall short in addressing the real root cause of I/O bottlenecks. All of the modifications tend to be labor intensive as they need to be made continuously as data grows or changes. And often, when the problems return after a one-time, short-term boost, significant investment in time is then required to redress the situation. When there is an IOPS/throughput performance mismatch between servers and storage, requiring both server and storage administrators to make ongoing pervasive adjustments, systems are constantly held back from reaching their full performance potential.

Three common workarounds

1. Short stroking HDDs in the storage array

A common workaround is short stroking the hard disk drives in the storage array. While short stroking improves IOPS, it does nothing for latency and throughput. Worse, it renders the majority of the disk unusable and requires the addition of more drives. This increases management, space and energy requirements; all of which contribute to a higher Total Cost of Ownership.

2. SSDs in the Storage Array

In this environment, the biggest drawback is that the SSDs sit behind the storage controller, far from the application server - a typical roundtrip is 500 to 1000 μ s. While the addition of more SSDs will increase IOPS and throughput, it does not address latency. Also, the cost to put SSDs in the storage array is prohibitive. A three-year TCO ranges from \$160-200,000 per TB – that is 10-15 times more expensive than using HDDs.

3. PCIe Flash Cards

Performance on PCIe Flash cards is excellent. However, the manual decisions involved in reviewing, deciding on and moving data to and from Flash are tedious and labor-intensive. PCIe Flash cards can also create serious problems with server virtualization; migrating VMs live will fail if they require shared storage and if the images reside on the Flash.

Recent Market Solutions

Recent offerings that combine SSDs and HDDs into a tiered storage solution improve IOPS and throughput but do not address latency. Another approach, using PCIe Flash cards and cache software together in the server to provide much-improved IOPS, throughput and reduced latency, copies active data to the server based on usage. However, these block-based caching solutions have their own issues with inefficiency as their lack of system awareness for what data is cached and how it is cached limits flexibility and often locks users into a specific vendor's Flash/SSD solution.

"Solving the performance problems of today's data infrastructures can be extremely difficult to diagnose, especially when issues are intermittent," said Steven Lamb, CEO of NEVEX. "A lot of trial and error is required; it's a huge time commitment and can cause severe anxiety for any IT team under the gun to resolve issues quickly."

A New and Innovative Approach

If all of the traditional solutions mentioned above fall short, what then, is the real solution? NEVEX believes a new approach is required, one that allows acceleration of specific applications, makes better use of existing storage; is transparent to users, applications and storage; works with server virtualization, SAN, DAS, NAS and Cloud storage; and is interoperable with OS file caching. NEVEX CacheWorks meets or exceeds all of these requirements as well as being Flash card and storage system agnostic. It supports virtual machines and native Windows servers and acceleration can be optimized by specific application.

NEVEX CacheWorks offers an innovative approach to Flash caching that solves the storage I/O bottleneck while enabling better utilization of existing storage infrastructures. Because CacheWorks is policy-based, administrators have the ability to pinpoint critical business applications and apply acceleration to them specifically. Whether the applications are running on VMware, Microsoft Hyper-V virtual machines or physical servers, CacheWorks provides industry-unique control over the Windows memory cache to create a multi-level caching solution that can allow applications to exceed the performance of running fully on Flash.

About NEVEX

Founded in 2009, NEVEX Virtual Technologies provides a groundbreaking software caching solution that guarantees storage performance for the applications that really need it. NEVEX CacheWorks empowers administrators by providing flexible control for application-specific data acceleration. I/O-bound virtual platforms such as VMware and Hyper-V, running database, business intelligence, mail server, and transactional webserver applications, are able to run up to 5X faster because they are not constrained by limited storage speeds. Organizations can now use CacheWorks for performance and optimize existing spindles for capacity,

snapshots/backup, and management. For more information on CacheWorks, please visit www.nevex.com. To keep up with the latest news at NEVEX, please sign up to follow us on Twitter, at <http://twitter.com/nevexvt>.

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