

Demartek Lab Notes – July 2012



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Demartek News

[Demartek Evaluates VeloBit HyperCache SSD Caching Solution](#)

With SSDs taking the enterprise by storm, one way to deploy them is as a cache in front of existing storage. The competition is heating up in the SSD caching marketplace, as vendors both large and small are introducing SSD caching products.



One of these is the VeloBit HyperCache 1.1 SSD caching software. Because it is a host-based software solution, it can work with any SSD in any form factor, including PCIe cards and disk-drive form factor SSDs. HyperCache is based on optimization techniques applied in four areas:

- Content Locality Caching, which caches data blocks based on the "popularity" of their contents
- In-line compression that uses a "similarity detection" algorithm
- A horizontal architecture that allows data that is not cached to bypass the SSD, minimizing SSD writes
- A conservative insertion protocol that places data blocks on the SSD in such a way as to minimize wear, extend the life of the SSD and improve performance

VeloBit commissioned Demartek to evaluate its HyperCache 1.1 SSD caching software in the Demartek lab in Arvada, Colorado, measuring its performance in Linux and VMware environments. These performance tests were conducted with two different PCIe SSDs and a SATA-interface SSD.

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Demartek Highlight Video - Brocade 16 Gbps Fibre Channel Performance

As CIOs and datacenter managers consider increasing stresses on existing computing infrastructure and the seemingly insatiable demand for storage and rapid access to that storage, new infrastructure concepts must be investigated.

The combination of 16 Gbps Fibre Channel (16GFC) infrastructure and Solid State Drive (SSD) technology offers a compelling way to significantly improve performance, lower costs and dramatically condense server and storage infrastructure footprints. In addition, these next-generation SAN products provide consistent performance with deterministic latency which is critical for many of these environments.

Our video highlighting these 16 Gbps Fibre Channel solutions is now available on our YouTube channel. Check the [Demartek Video Library](#) for details.

Jeff Giedt - Vice President

We're very pleased to announce that Jeff Giedt has become one of the principals at Demartek. He is now the Vice President and focuses his efforts on lab validation testing and overseeing much of the lab operations. We're very excited for Jeff and his increased role at Demartek.

Demartek Adds PCI Express 3.0 Server

Add another server to the racks! Demartek announces the addition of its first PCI Express 3.0 server (formerly known as "Romley") to its on-site test lab that further strengthens its virtual server and I/O testing capabilities. Click [here](#) to get the overview as well as a link to all the details.

Demartek Adds WAN Testing Capabilities

In June, we announced that we improved our lab with additional rack space, increased electric power and upgraded air conditioning ([updates](#)).

One of our new capabilities is the ability to perform remote storage, replication and cloud testing, as we now have a WAN connection in our lab. We can test remote office or branch office environments using our servers and storage by configuring a portion of our lab resources as the central data center and a separate portion of our lab resources as the remote or branch office with a true WAN connection between the two sites. This is another way that we can test real-world environments for applications such as

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database, email or web servers. This WAN connection and configuration can also be used to test cloud storage and services, all within the Demartek lab facilities. Give us a call and let's discuss ways we can perform remote office and branch office validation testing.

Upcoming Speaking Engagements

[Demartek Presents Analyst Perspective: SSD Caching vs. SSD Tiering - Which One Is Better?](#)



Demartek
Events

This session will make the comparison between SSD automated storage tiering and SSD caching. The major differences, along with advantages and disadvantages, of each type of technology will be discussed as well as hardware and software solutions. This discussion will be held at the Flash Memory Summit later this summer.

- August 21-23, 2012
- Santa Clara, CA

For a list of events and registration information, visit the [Flash Memory Summit](#) website. To learn more about this specific seminar, visit Demartek's overview of presentation [here](#).

[Demartek Presents Solid State Storage Half-day Seminars](#)

In a relatively short time, solid-state storage has become a viable alternative for enterprise storage applications. It offers far superior performance over magnetic media while using much less power and creating little heat. Solid-state storage is, however, still considerably more expensive than spinning disk, so a cost-effective approach to implementation is required. In this free, multi-city, half-day seminar, Dennis Martin, President of Demartek, will cover the key solid-state technologies and the specs that users need to know, along with the various implementation alternatives.

Remaining Cities and Dates for these 2012 Half-day Seminars are:

- Thu. Sep. 13 - San Diego, CA
- Tue. Oct. 23 - Washington, DC
- Thurs. Oct. 25 - Cleveland, OH
- Thurs. Nov. 1 - St. Louis, MO

[Click Here](#) to get the complete agenda and registration information for these free half-day TechTarget Solid State Storage Seminars. Stay up to date with the latest [Demartek Twitter news](#) for this seminar by following [#SSDseminar](#).

Demartek's New Server

[Demartek's new server](#), its first PCI-Express 3.0 (formerly "Romley") is the latest and greatest thing to fill our server room. This server includes two Intel® Xeon E5-2690 ("Sandy Bridge-EP") eight-core processors that support hyper-threading, for a

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total of 32 logical processors. With 192GB of DDR3 RAM, this new server is capable of running many virtual machines and will be used for VMware®, Hyper-V™ and other virtual server environments running real-world applications, large I/O testing, SSD testing and more.

This server contains six (6) full-length, full-height PCI Express® 3.0 expansion slots, including four x16 slots, one x8 slot and one x4 slot. These PCIe® 3.0 slots will be used extensively for testing various types of I/O adapters including existing adapters and many of the newer PCIe 3.0 networking and storage adapters expected to become available in the coming months

Demartek has ongoing testing initiatives in its lab with solid state storage, Ethernet, Fibre Channel, iSCSI, FCoE, SAS and other technologies in benchmark and real-world application environments including databases, email and web server environments. Additional information is available on our lab validation testing page. To get a full list of resources available in the Demartek lab, [contact us](#) via email or telephone.

To read more about the recent upgrade, visit our [Demartek Lab Testing](#) page.

Top Ten Demartek Pages and Reports

We have a feature on our website that lists the top ten most popular pages and reports for the last four weeks, updating every Monday morning. Here's how it looked on July 9th:



1. [Demartek Presents Robocopy at March 2011 RMWTUG Meeting](#)
2. [Demartek Storage Networking Interface Comparison](#)
3. [Demartek Publishes Exchange Server 2003 vs 2007 vs 2010 I/O Comparison Summary](#)
4. [Demartek Low Latency Evaluation of Fibre Channel, iSCSI and SAS Host Interfaces](#)
5. [Demartek Presents Results of 10GbE Cabling Webcast](#)
6. [Demartek Publishes Texas Memory Systems High-Performance Oracle RAC Architecture](#)
7. [Demartek SSD Zone](#)
8. [Demartek iSCSI Deployment Guide](#)
9. [Demartek SSD Deployment Guide](#)
10. [Demartek Presents Everything You Wanted To Know About Cabling, But Were Afraid To Ask](#)

Be sure to check back every Monday to see which reports have made the Top Ten List.

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A Word from the President



The summer is heating up here in Colorado, and so is our activity here at Demartek. We have been busy adding new equipment and capabilities and continue to work on exciting projects and technologies involving hardware and software. We look forward to sharing these results with you!

Dennis Martin, President, Demartek

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