

Admiral Metals Doubles SQL Throughput with V-locity I/O Reduction Software



CHALLENGES

- Servers running SQL bogged down during peak load
- Servers running ShoreTel VOIP bogged down during peak load
- Weekly reboots to refresh servers

V-LOCITY BENEFITS

- 50% or greater application performance improvement—with no additional hardware
- Latency and throughput dramatically improved
- True “Set It and Forget It[®]” management
- Compatible with all SAN/NAS systems
- Easily deploy to the largest virtual, physical or cloud environments in just five clicks
- Before-and-after performance reporting to validate performance gains
- Enterprise-wide visibility into I/O performance, from server to storage

Admiral Metals relies on the efficiency of their SQL servers to serve up the latest market prices. When queries during peak load would cause the servers to lag, Admiral Metals needed a solution to increase application performance. Before throwing more expensive server or storage hardware at the problem, they evaluated V-locity[®] I/O reduction software.

THE CUSTOMER

Since 1950, Admiral Metals has built its reputation on delivering competitively priced, highest-grade metals with superb machineability. They deliver top-notch metal tubes, rods and bars, sheet metal, and other shapes, all with precision accuracy, on budget and on time, often overnight.

THE CHALLENGE

Admiral Metals relies on a proprietary Visual Studio application with an SQL backend that allows for ad hoc query requests at the end user level. Reports can be created, saved and scheduled for e-mail delivery as well as online data analysis.

As much as Admiral Metals relies on this application to assist in running their business, they noticed lag issues when the SQL servers were getting pinged with multiple queries from multiple users at the same time. They noticed the same was true of their servers running the ShoreTel VOIP phone system.

Matt Skelley, Network Admin & Systems Engineer, noted that his team would have to frequently refresh both the SQL servers and ShoreTel servers with a reboot after a heavy load bogged them down.

“We virtualized our servers but weren’t getting the performance we wanted during peak load times. We suspected the “I/O blender” effect was giving us some problems, so we wanted to evaluate V-locity I/O reduction software before throwing more expensive server and storage hardware at the problem,” said Matt Skelley, Network Admin & Systems Engineer, Admiral Metals.

THE SOLUTION

Matthew contacted the ConduSiv sales team to conduct an evaluation of V-locity in his real-world environment, so he could see the before/after performance gains before making any kind of purchase commitment.

“Any lag we used to experience during peak load has disappeared. In addition to performance gains, we no longer have to reboot servers once a week.”

MATT SKELLEY

NETWORK ADMIN & SYSTEMS
ENGINEER, ADMIRAL METALS

ENVIRONMENT

- VMware vSphere 5.1
- Windows Server 2008/2012 R2
- HP storage with SAS drives

V-LOCITY FEATURES

IntelliWrite[®] I/O reduction technology automatically prevents split I/Os from being generated when a file is typically broken into pieces before write and sequentializes otherwise random I/O generated by the “I/O blender” effect.

IntelliMemory[®] intelligent caching technology caches active data from read requests using available server memory.

Benefit Analyzer embedded benchmark provides before/after performance comparisons, enabling IT to measure workloads and performance in a real-world environment.

V-locity is bundled with an embedded benchmark called the “Benefit Analyzer” that provides a granular I/O profile of virtual machine workloads, allowing users to easily quantify the performance benefits of V-locity.

Installed on Windows VMs at the operating system layer, V-locity nondisruptively optimizes I/O at the source—reducing the I/O requirement for any given workload which accelerates both reads and writes. The entire infrastructure derives benefit because only productive, contiguous I/O is pushed through the servers, network and storage. V-locity is compatible with all hypervisors and is storage agnostic.

With IntelliWrite[®] I/O reduction technology, V-locity sequentializes otherwise random I/O created by the “I/O blender effect” of multiple VMs funneling I/O streams down to the hypervisor. By reorganizing this random pattern to behave sequentially as single, contiguous I/O, less I/O is required for any given file. Since more data is now processed with each I/O operation, organizations achieve far greater throughput and improved response times. Subsequent reads also benefit, since only minimum I/O is required to fulfill the data request.

With IntelliMemory[®] caching technology, V-locity further reduces I/O demand on the underlying storage layer by caching active data within available server memory.

THE RESULT

“After deploying V-locity onto the virtual servers running SQL and ShoreTel, we saw such dramatic reduction in I/O that throughput nearly doubled on both systems. Any lag we used to experience during peak load has disappeared. In addition to performance gains, we no longer have to reboot servers once a week,” says Matt.

When Matt deployed V-locity into his production environment, the average amount of I/O required to process 1 GB of data dropped from 43,000 I/Os to 22,000 I/Os. Prior to V-locity, the systems averaged 24KB per I/O. After V-locity, that number jumped to 45KB per I/O, resulting in a near doubling of throughput. On average, V-locity removed 400,000 I/Os per server per day.

“One of the things we love most about V-locity is that it is automatic. It deploys easily, runs transparently in the background with near-zero overhead, and all functionality is set-and-forget. I also like the weekly status reports I get on each server, so I can monitor workload growth on each system,” says Matt.

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