

I.B.I.S., Inc. Doubles Throughput for ERP and CRM with V-locity I/O Reduction Software



I.B.I.S., Inc. virtualized their server infrastructure and needed to improve the performance of their CRM and ERP applications without overbuying expensive server and storage hardware for more performance.

CHALLENGES

- User complaints about sluggish ERP and CRM performance
- Heavy SQL workloads
- Loss of throughput due to randomized I/O traffic from small, split I/Os

V-LOCITY BENEFITS

- 50-300% faster application performance improvement—with no additional hardware
- Latency and throughput dramatically improved
- True “set and forget” management
- Compatible with all SAN/NAS systems
- Easily deployable 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 VM to storage

THE CUSTOMER

I.B.I.S., Inc. is an award-winning Microsoft Dynamics partner with supply chain expertise in distribution and manufacturing. I.B.I.S., Inc. resells, implements, consults, and supports Microsoft Dynamics and even provides their own Advanced Supply Chain Software for Dynamics AX.

THE CHALLENGE

Aside from reselling and implementing customized Microsoft Dynamics solutions for customers, I.B.I.S., Inc. relies on Microsoft Dynamics CRM and ERP packages to run their own business internally. As a result, the performance of those systems is paramount to ensure business continuity and efficiency.

“As a best practice provider of Microsoft Dynamics solutions to other companies, we also run and support those same applications in-house. This gives us a unique view into the same challenges our customers are experiencing to get the most from their systems,” said Kevin Schmidt, Director of IT.

I.B.I.S., Inc. virtualized their server infrastructure with Microsoft Hyper-V and were experiencing performance issues related to the “I/O blender” effect that mixes workloads from multiple virtual machines (VM) at the point of the hypervisor before sending out to storage a very random I/O traffic pattern. Further exacerbating the issue is the surplus of small, split I/Os generated by Windows VMs in virtual environments.

As a result, they were experiencing performance HelpDesk calls from users and were looking for a way to improve performance without taking the expensive path of a forklift hardware upgrade approach.

THE SOLUTION

Since I.B.I.S., Inc. was unsure as to how much performance was being taxed by the “I/O blender” effect and surplus of split I/Os, they wanted to evaluate ConduSIV’s V-locity[®] I/O reduction software to see what kind of

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KEVIN SCHMIDT

DIRECTOR OF IT,
I.B.I.S., INC.

ENVIRONMENT

- Applications – Microsoft Dynamics, ERP, CRM, SQL, Web Server
- Servers – HP
- Operating System – Windows Server 2012 R2
- Hypervisor – Microsoft Hyper-V
- Storage – HP MSA arrays with 15K SAS connected via 8Gb Fibre Channel

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 easily quantify the benefits of V-locity in their environment.

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performance gains they could get on existing infrastructure. Schmidt heard V-locity had helped other companies who virtualized SQL apps and needed significant performance gains, so he thought he would give it try.

“Instead of reactively buying more storage hardware on the backend for improved ERP and CRM performance, we wanted to try V-locity I/O reduction software first to see if it could tackle the root cause problem as advertised at the virtual machine (VM) level where I/O originates,” said Schmidt.

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 before/after performance benefits of V-locity in their real-world environment for full transparency.

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. 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 a 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 greater throughput and improved response times. Subsequent reads also benefit, since only minimum I/O is required to fulfill the data request. In addition, V-locity employs a behavioral analytics engine that dynamically caches active data within available server memory to further reduce I/O demand on storage devices and improve latency.

THE RESULT

After deploying V-locity across their Windows virtual servers, I.B.I.S., Inc. saw an aggregate 75% performance improvement across all servers and put a stop to HelpDesk calls related to sluggish performance.

The heaviest SQL workloads experienced the biggest performance gains with 120% improvement in data throughput. Before V-locity, it took 82,000 I/Os to process 1GB of data. After V-locity, that number was cut to 29,000 I/Os per GB. Due to the increase in I/O density, instead of taking .78 minutes to process 1GB, it now only takes .36 minutes.

According to Angela Goldberg, Chief Marketing Officer, the stickiness of their web pages increased threefold after V-locity was deployed on their web server.

“When we first tried V-locity in our virtual infrastructure, we didn’t know how much of our performance was being penalized by the ‘I/O blender’ effect at the hypervisor and the surplus of split I/Os coming from the Windows VM. As it turns out, our performance was being severely dampened. It wasn’t until V-locity optimized our I/O streams that we realized some of our systems were processing half as many MB/s as they should from VM to storage,” said Schmidt.

Schmidt continued, “Since we’re no longer dealing with so many small split I/Os and random I/O streams, V-locity has enabled our CRM and ERP systems to process twice the amount of data in the same amount of time. The best part is that we didn’t have to spend a single dime on expensive new hardware to get that performance.”