Condusiv Technologies

Telestream Solves MS Exchange Timeouts and Boosts SQL with V-locity I/O Reduction Software

CHALLENGES

- Application performance began to slow over time
- Users began to timeout from MS Exchange and get disconnected during peak load

V-LOCITY BENEFITS

- 50% or greater application performance improvement—with no additional hardware
- Latency and throughput dramatically improved
- True "set and forget" 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 VM to storage

Mission-critical applications like MS Exchange and SQL running in their virtual environment became progressively slower over time. Moreover, Exchange users began to timeout because of the overwhelming I/O demand that was exceeding the constraints of their infrastructure.

THE CUSTOMER

Telestream, LLC is an American privately held provider of software and hardware products for video capture, encoding, transcoding, and network-based delivery.

THE CHALLENGE

Telestream virtualized 80% of their environment, and everything was running fine for about a year before things began to slow down – particularly with their most I/O intensive applications like MS Exchange, SQL, Jira, and more.

However, the biggest pain point for Telestream beyond sluggish application performance was the fact that Exchange users were timing out and getting disconnected from the email server. Telestream was pushing the I/O boundaries of their infrastructure, causing queue depth and latency spikes, which ultimately resulted in users timing out and getting disconnected from Exchange.

"We knew we had an I/O problem and had reached the IOPS limitation of our backend storage architecture under peak load. However, what we did not consider is how much of our storage performance was being dampened by small, fractured, random I/O characteristics due to Windows write inefficiencies that generate excessively small writes and reads. That was ultimately the root cause problem why our users were timing out from Exchange," said Allie McLachlan, Systems Administrator, Telestream.

THE SOLUTION

Telestream had been briefed on Condusiv's V-locity® I/O reduction software for virtual environments a year prior, but had no need to boost application performance at the time. However, after Telestream began to experience slowdown in their virtual environment, they thought there was no harm in evaluating the software.

CASE STUDY

ENVIRONMENT

- Applications – MS Exchange, SQL, Jira, and more
- Servers – Dell PowerEdge
- Operating System – Windows Server 2008R2/2012R2
- Hypervisor – VMware vSphere 6.0
- Storage – Dell Compellent (hybrid of SSD+HDD)
- Network – 10GbE network

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.

"Time Saved" Benefits Dashboard shows the ongoing benefit of the software by revealing the amount of I/O offloaded from storage and how much time that saves.

Benefit Analyzer™ embedded benchmark provides before/after performance comparisons prior to installing V-locity and after.

V-locity is "set and forget" software that runs transparently in the background on Windows servers and automatically offloads I/O from underlying storage, then streamlines the I/O traffic that remains. All of this is done with near-zero overhead to the CPU. First, V-locity eliminates excessively small, fractured writes and reads, and displaces them with large, clean contiguous writes so more payload is carried with every I/O operation. Second, V-locity establishes a tier-0 caching strategy by using idle, available DRAM to serve hot reads. Nothing has to be allocated for cache since V-locity dynamically adjusts to only what is otherwise unused. With as little as 2GB of available memory, many customers serve as much as 50% of their read traffic. As a result, most V-locity customers experience at least 50% faster application performance, with many workloads getting much more, depending on the extent of Windows write inefficiencies and how much memory is available.

THE RESULT

After evaluating the software, the timeout issues related to MS Exchange disappeared and Telestream saw an immediate 50% boost in application performance across their most I/O-intensive applications. Once the 30-day evaluation period expired, applications slowed and the Exchange timeouts began to happen all over again. It was clear to Telestream that the root cause problem was in fact Windows write inefficiencies that were overwhelming the infrastructure with excessively small writes and reads – a "death by a thousand cuts" scenario. For Telestream, the purchase of the software was considered a "no brainer."

"As soon as we installed V-locity and saw the Exchange timeouts disappear, and users were no longer getting disconnected from Exchange, that made our purchase of V-locity I/O reduction software a 'no brainer,'" said McLachlan.

McLachlan, continued, "The most eye-opening experience was finding out how badly our system performance was being taxed by small, fractured, random I/O from Windows write inefficiencies. We would have had no idea that was even an issue without trying V-locity to solve those root cause performance issues."

Download a 30-day evaluation ->

Condusiv Technologies
750 Fairmont Ave. Suite 100, Glendale, CA 91203
800-829-6468 // **www.condusiv.com**
Condusiv Technologies Europe
One Crown Square
Church Street East, Woking, GU21 6HR
+44 (0) 1483 342 360 // **www.condusiv.co.uk**