Exym
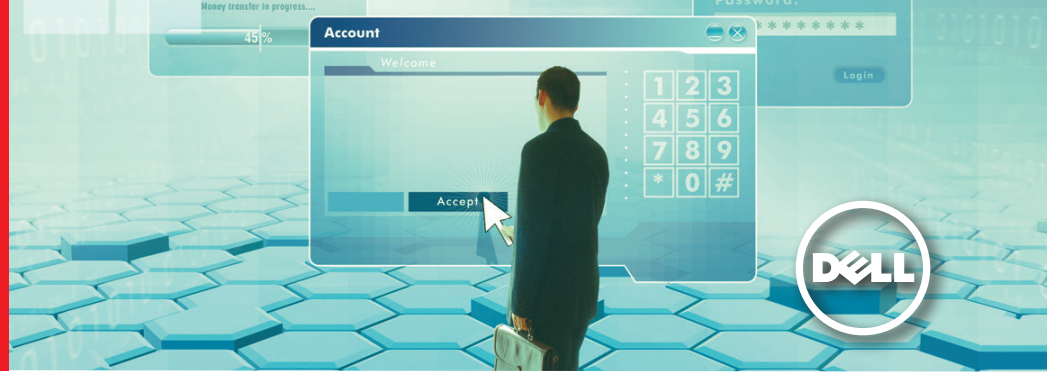
Exym Accelerates Its Microsoft SQL Server with Fusion ioMemory™ Solutions

Electronic health record and billing software company ensures jobs complete on time, eliminates the need for future performance upgrades.

Solution Focus
• Microsoft SQL Server

Summary of Benefits
• Billing processes complete on-time, regardless of workload
• 18x faster job processing
• 7.5x faster queries
• Eliminated the need for future performance upgrades
• Easy, non-disruptive implementation
• Performance that pays for itself

The Challenge

Exym is a fast-growing provider of web-based software for managing mental health clinics. Its system processes well over $120 million in electronic claims each year.

Compliance restrictions require that Exym sequester all customer agency data. Consequently, its database uses a multi-tenant architecture, with separate databases for 30 separate agencies.

As a leader in a vastly complex industry, Exym's highly tuned code, combined with frequent index tuning, ensures best-in-class performance. However, even its optimized code couldn't overcome the I/O contention that its two-spindle disk system faced during nightly maintenance jobs, including backups, anti-virus, and billing processes.

When Matt DeBeer, President of Exym, discovered that nightly billing jobs were taking over two hours to complete, he promptly contacted SQL Server Consultant Michael K. Campbell to research a solution.

Michael's performance trace revealed excessive disk I/O contention as the root of the problem–causing SQL Server to routinely wait on transaction logging. According to Michael, the end result was that "logging was blocking all other processes. Billing jobs that should have taken 15 minutes per database were taking two to three hours each."

The SanDisk® Solution

Exym's hosting provider, BTInet, offered the use of its SAN to increase I/O throughput and performance. However, Michael felt that a SAN would still struggle to meet the demand of 30 complex processes vying for a limited number of spindles or drives. Plus, Exym would still have to compete with the workloads of other customers. BTInet then proposed installing a Fusion ioMemory ioDrive® card in Exym's database server. Michael had researched the SanDisk solution and knew that its approach to flash as memory instead of disk drives offered a superior solution to the latency and queuing problems that was holding up jobs. He began working with BTInet to implement this solution.

SanDisk®
a Western Digital brand

Billing On Time, Every Time

Exym's primary goal was to ensure customers' billing processes completed on time every night. The new SanDisk-powered system reduced job time from three hours to just 10 minutes.

Job Time

With SanDisk		10 minutes
Without SanDisk		3 hours

18X
IMPROVEMENT

This improved performance manifested in other ways as well. Michael noted, "One large query that used to take fifteen minutes now takes just two. To this day, I still look for the SQL Server WRITELOG Wait Type in the list of resources that SQL Server is waiting on, but it hasn't appeared since moving to the ioDrive card. All issues with I/O contention at the log file level are completely gone."

Non-Disruptive Implementation

With traditional solutions, upgrading database hardware is often a complex and challenging process. Not so with the SanDisk solution.

Michael said, "BTInet performed a side-by-side deployment of Exym's new server and installed the ioDrive card for us. I installed and configured SQL Server on the new server, put tempdb files on the ioDrive card, then migrated the databases from the old server to the new server and we were done. The whole migration took only about two hours to deploy and resulted in less than 20 minutes of downtime for end users."
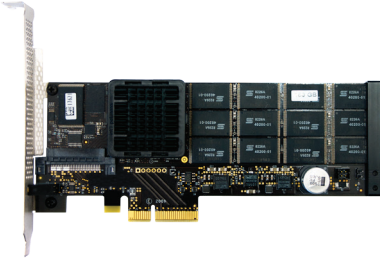
Performance that Pays for Itself

By delivering the performance Exym needed without a SAN, SanDisk allowed Michael to design a solution that delivered nearly 100% ROI on day one.

Michael said, "BTInet eliminated Exym's capital costs by providing Exym a lease option on the ioDrive card. The savings on man-hours to maintain and troubleshoot a SAN-based system covered the cost of the lease, which meant Exym nearly broke even out the door."

Hands-Free Growth Headroom

On top of easily eliminating Exym's current performance problems, the SanDisk-powered system delivered so much performance headroom that it will be a long time before Exym will need to upgrade its hardware to improve performance.
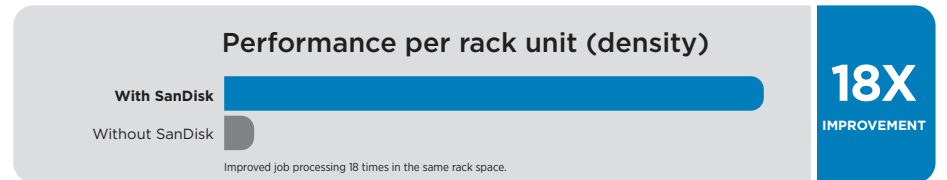
Michael said, "The ioDrive cards give Exym a huge buffer for growth. Exym can continue to add agencies and databases without adding hardware well into the foreseeable future."

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Fusion ioMemory™ - ioDrive®

System Changes

System Before	System After
• Dell M600 Blade server, 1 x 3 GHz Xeon 5450, 32GB RAM • Application: Microsoft SQL Server 2008 • OS: Windows Server 2008 Data Center Edition • Hard disks: 2x 300GB 15k SAS drives	• Replaced Dell M600 with a Dell M610x blade server, 1 x 2.93 GHz Xeon 5670, 48GB RAM • Added 1x 160GB ioDrive card

Performance per rack unit (density)

With SanDisk

Without SanDisk

Improved job processing 18 times in the same rack space.

18X
IMPROVEMENT

Summary

Implementing the SanDisk Fusion ioMemory solution delivered the following benefits to Exym:

- Billing processes complete on-time regardless of workload
- 18x faster job processing
- 7.5x faster queries
- Eliminated the need for future performance upgrades
- Easy, non-disruptive implementation
- Performance that pays for itself

Michael told us, "I've just been tickled pink with the card. It actually lives up to the marketing claims."

About Exym

Exym simplifies the process of electronic billing (EDI), documenting and managing mental health services with intuitive, cost-effective and easy-to-use web-based software. Exym is a highly customizable and robust yet flexible clinical management solution used by more Los Angeles County Department of Mental Health agencies than any other product.

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