

**Exym**<sup>®</sup>

Exym Accelerates Its Fusion Powered  
Microsoft SQL Server





## Exym Accelerates Its Fusion Powered Microsoft SQL Server

*Electronic health record and billing software company ensures jobs complete on time, eliminates the need for future performance upgrades for close to the cost of a conventional system's maintenance.*

### 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.”



#### 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 need** for future performance upgrades
- **Easy, non-disruptive implementation**
- **Performance that pays for itself**

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*“One large query that used to take fifteen minutes now takes just two. To this day, I still look for the Write Log Wait on the batch report, but it never appears. All I/O issues are completely gone.”*

*Michael Campbell,  
SQL Server Consultant, Exym*

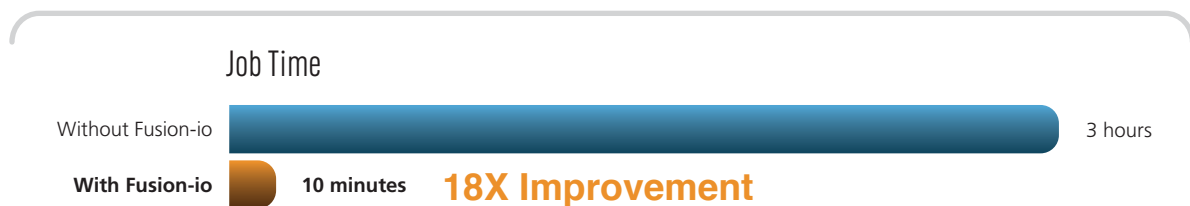
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## The Solution

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 ioDrive in Exym's database server. Michael had researched Fusion-io 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.

### BILLING ON TIME, EVERY TIME

Exym's primary goal was ensuring customers' billing processes completed on time every night. The new Fusion Powered system reduced job times from three hours to just 10 minutes.



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 Fusion ioDrive—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 Fusion-io.

Michael said, "BTInet performed a side-by-side deployment of Exym's new server and installed the ioDrive for us. I installed and configured SQL Server on the new server, put tempdb files on the ioDrive, 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."

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### PERFORMANCE THAT PAYS FOR ITSELF

By delivering the performance Exym needed without a SAN, Fusion-io 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. 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 Fusion 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 ioDrives give Exym a huge buffer for growth. Exym can continue to add agencies and databases without adding hardware well into the foreseeable future."

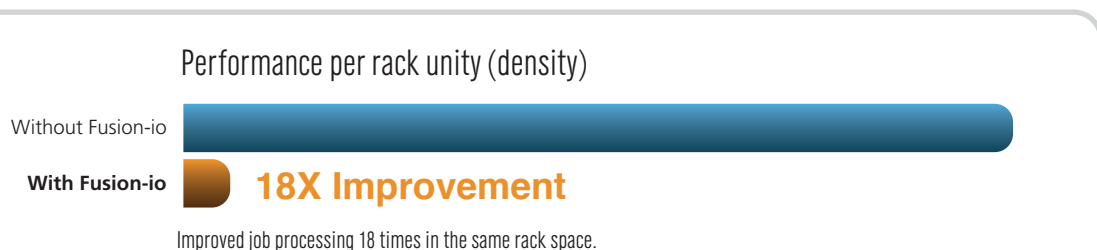
## System Changes

### DATABASE SYSTEM BEFORE

- 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

### CHANGES TO DATABASE SYSTEM

- Replaced Dell M600 with a Dell M610x blade server, 1 x 2.93 GHz Xeon 5670, 48GB RAM
- Added 1x 160GB ioDrive



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## Summary

Implementing Fusion-io delivered Exym the following benefits:

- **Billing processes complete** on-time regardless of workload
- **18x faster job processing**
- **7.5x faster queries**
- **Eliminated 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 the Company

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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