



RCR Tomlinson Crushes Performance for Microsoft SharePoint, Exchange and SQL Server with Fusion ioMemory™

Leading Australian engineering solutions provider puts Hyper-V on hyperdrive with Fusion ioMemory solutions

Solution Focus

- Microsoft SharePoint
- Microsoft Exchange
- Microsoft SQL Server 2012
- SAP
- CAD applications
- Hyper-V with Live Migration

Summary of Benefits

- **9X faster** SAP OpenText archiving
- **5X faster** purchasing reports
- **3X concurrent** SharePoint users
- **Enables seamless migration** and upgrades
- **Speeds** Live Migration
- **Increases VM density** to lower infrastructure costs

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Stacey Squire,
ITC Infrastructure Manager
RCR Tomlinson



The Challenge

RCR Tomlinson Ltd is a leading integrated engineering solutions provider, providing turnkey solutions to the Mining, Energy, Resources, and Power sectors throughout the Asia Pacific region.

Stacey Squire, ITC Infrastructure Manager for RCR Tomlinson described the challenge his team faced: “The diversity of our operations places complicated demands on IT, requiring consolidation to a single location. In addition, we do as much as we can with the least hardware possible. I don’t want to have lots of servers and failure points. We are very virtualized-centric, standardizing on a consistent blade environment.”

RCR Tomlinson needed a solution that:

1. Delivers a consistent experience to end users, despite diverse operations with multiple unpredictable workloads
2. Maximizes infrastructure efficiency
3. Delivers high availability and reliability for mission-critical applications

The SanDisk® Solution

Stacey told us about his first experience with Fusion ioMemory in late 2010 when RCR Tomlinson was looking for a way to overcome slow model loading that engineers were experiencing when using programs like Autodesk Inventor, Nevis Works, and AutoCAD.

“When our data sets exceeded local RAM capacity, model-loading really slowed down. We figured we could use Fusion ioMemory as a page swap and get a small boost. With SanDisk’s Fusion ioMemory, the large jobs actually outperformed smaller jobs running directly out of RAM, and the cost of the device was about 1/8th the cost of the same capacity RAM,” Stacey said. “This immense performance opened our eyes to the possibilities of using Fusion ioMemory for our mission-critical virtualized applications.”

A Consistently Positive User Experience with Improved Productivity

RCR Tomlinson operates in multiple sectors across a wide geography. The team decided to centralize operations to improve hardware efficiency, create a common user experience, and streamline infrastructure management. Stacey’s team virtualized all of RCR Tomlinson’s business applications on blade servers with Microsoft Hyper-V. The virtualization abstraction layer consolidated hardware but complicated the delivery of high-performance workloads.

“Generally, virtualization slows performance, but Fusion ioMemory blows performance problems out of the water. We didn’t even realize our ERP system was bottlenecked in many areas until we moved the data onto ioDrive2 cards. Now interfaces are more responsive, and both queries and data ingests are much faster.”

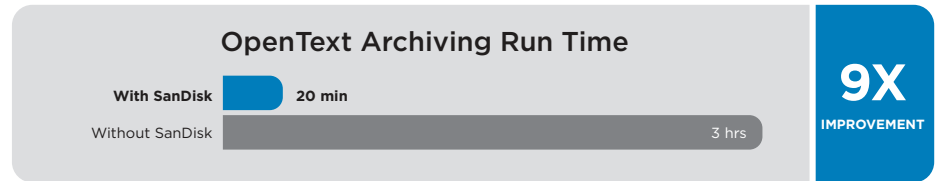
Stacey Squire,
ITC Infrastructure Manager
RCR Tomlinson

“Fusion ioMemory is the quickest and easiest way to address the I/O limitation of the system. If I/O is the problem, Fusion ioMemory is the answer. We bought our first 320GB ioDrive card in 2010. It’s been very reliable and we are still using it today.”

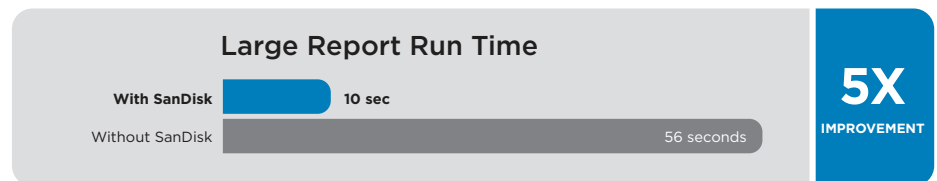
Stacey Squire,
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Enter SanDisk. Stacey’s team migrated virtual machine images from hard disks to Fusion ioMemory™ ioDrive®2 cards. The results were even better than Stacey expected.

For example, a large SAP OpenText archive that historically took three hours to run (and which would sometimes simply stall) ran in just 20 minutes on the SanDisk-powered 4-processor blade.



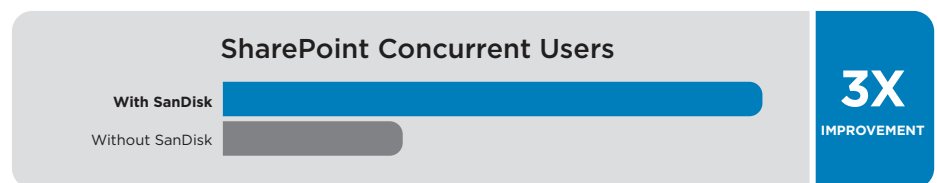
A purchasing report completed in just 10 seconds compared to 56 seconds:



Eliminating the I/O bottleneck also freed system resources for the rest of the staff. RCR Tomlinson benchmarked against a disk-based RAID 10 LUN with just 2 users. Performance slowed to a crawl for any application that needed to access that LUN. The SanDisk-powered production system supports 250+ users without any perceptible slowdown for other applications.

Stacey noted how this affected RCR Tomlinson’s workforce: “Employees can get more work done, and be armed with the reports they need in minutes instead of hours.”

The ioDrive2 cards also increased the concurrent user load of Microsoft SharePoint by 3X.



Enhancing Hyper-V Efficiency

Stacey noted how Fusion ioMemory enhanced many benefits of Hyper-V, including the following:

Seamless Migration and Upgrades

Stacey said, “The speed of migration between blades and the ioDrive2 cards is absolutely seamless to the end users. When we moved our 700GB SQL Server SAP data warehouse to the new servers, there wasn’t even a blip of an interruption.”

High Availability Without a SAN

Stacey explained, “Windows Server 2012 with Hyper-V Live Migration has given us server-based redundancy.” At the same time, the Fusion ioMemory solution’s Adaptive Flashback feature eliminates the need for in-server redundancy.

SanDisk Powered Software Stack

End User
SAP 6.0
MS SharePoint 2010
MS Exchange 2007
MS SQL Server 2012
Windows Server 2012 with Hyper-V
VSL
Fusion ioMemory™ - ioDrive®2

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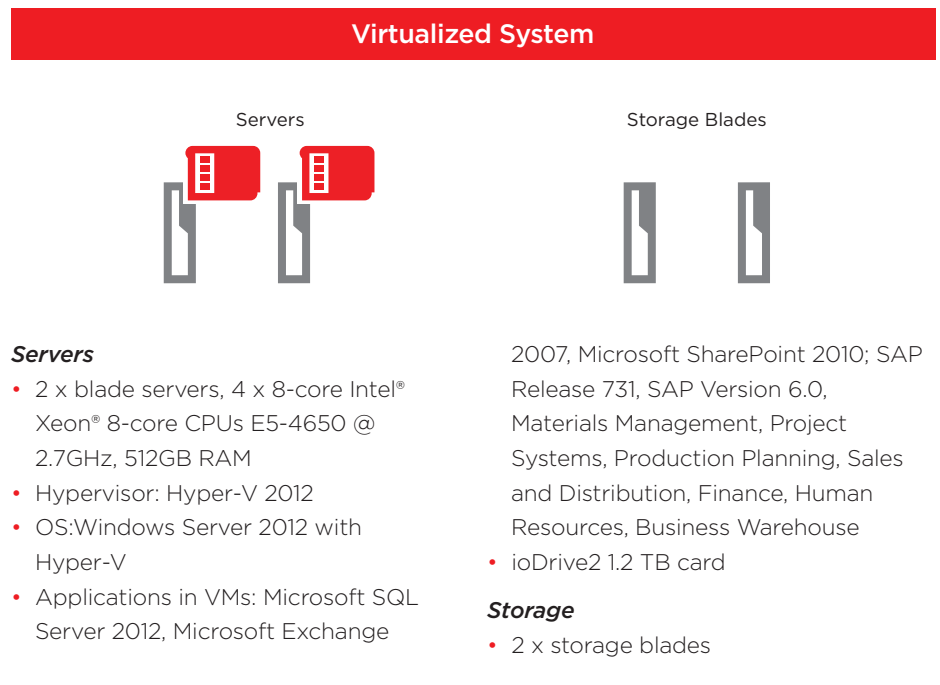
Seamless Live Migration

Stacey said, "Fusion ioMemory is a perfect addition to our virtualized blade environment. Adding high-performance flash memory allows us to dynamically and seamlessly move virtual machines as needed, making maintenance easy, and resulting in a powerful, agile, and highly efficient system."

Cost Reduction

Stacey stated, "Fusion ioMemory greatly increases CPU efficiency, which means we can really get the value out of our blade server investment and consolidate more effectively. Without ioDrive cards, our only options would be to expand further in the blade enclosure or use fibre-attached storage, both at a high cost without nearing the performance of the ioDrive cards. At the same time, Hyper-V allows us to virtualize without the VMware licensing costs."

System Overview



Summary

Implementing Fusion ioMemory gave RCR Tomlinson a powerful and efficient virtualized infrastructure with the following benefits:

- **9X faster** SAP OpenText archiving
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About the Customer

RCR is a leading engineering solutions provider. RCR has over 100 years of history, using in-house expertise to provide a comprehensive range of turnkey services from design and manufacture, to construction, installation, maintenance and off-site repair. RCR's commitment to safety is reflected in operations throughout the Asia Pacific region.

The performance results discussed herein are based on internal RCR Tomlinson testing and use of Fusion ioMemory products. Results and performance may vary according to configurations and systems, including drive capacity, system architecture and applications.

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