

Case study

Growing the Medical Practice with PRIMERGY was a Snip for the Doctors



The customer

Established in 1980, Parkmore Medical Centre (PMC) has provided family oriented healthcare services in Melbourne, Victoria, for over 30 years. Now employing more than 50 staff, they have recently expanded by adding a new business unit and a second medical center location in Queensland, on Australia's Sunshine Coast. The new business unit operates under the name Dr. Snip and provides "no scalpel" vasectomy services in both locations. As a modern medical practice, there is heavy reliance on the use of information technology systems to integrate the business and provide exemplary patient care.

The challenge

In reviewing their needs, the practice turned to Omnivision Technology Solutions, a Fujitsu partner, for new solutions to their information technology and expansion requirements. This would include a refresh of the existing environment, which hosted their Microsoft SQL Server based "Profile" integrated practice management software at the heart of the business. While "Profile" boasted full integration and seamless connections between front desk, financial and clinical functions, this was only true if the IT environment was stable and designed for scalability. The underlying data required a high performance 90GB database, quite a challenge at the small business level, where a Storage Area Network (SAN) is perceived as an unaffordable option.

But the current reality was more of an operational challenge than the users had been lead to believe. There were frequent lockups and poor performance, resulting in reduced productivity and user frustration. The previous IT support company had supplied a high-end Dell server with 8 Serial Attached SCSI (SAS) disk drives and a Direct Attached Storage (DAS) device containing an extra 15 disks. The theory was that the extra disks would allow the creation of multiple RAID10 LUNs. These could be used to optimize SQL Server performance. But with all disk drives in the DAS connected via a single SAS interface, the DAS became a bottleneck. As a result the benefits of multiple RAID10 LUNs had never been realised, and the system was not able to cope with the operational loads being placed on it.

The solution

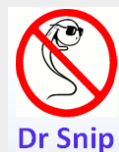
To meet the demands of a 90GB database at the heart of the medical practice, without using a SAN, requires removal of the bottlenecks to data common to single server solutions. This would require both top server performance and smart arrangement of all data and data recovery processes. Omnivision set, as their first priority, the design of the data environment and the acquisition of a server that could support more than 20 internal SAS disk drives. The Fujitsu Server

The customer

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 Industry: Healthcare
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The challenge

Remove the poor performance and frequent lock-ups and deliver a fast and stable environment for the fully integrated, management, clinical, administrative and financial "Profile" software. Plus provide the scalability to grow the medical practice in two new directions.

The solution

The use of a dual processor Fujitsu Server PRIMERGY RX350 S7 to build a fully integral multi-controller RAID environment, tuned for Microsoft SQL server operation. Plus introduce Hyper V server virtualization to allow additional patient data-capture operations.

The benefit

- Reliability and scalability to grow the Medical Practice
- Decreased end-user frustration.
- Increased end-user productivity.
- Better outcomes for patients from constant access to patient histories and test results, previously not possible.

PRIMERGY RX350 with 24 disk drive bays was a perfect fit. It enabled the creation of a fully internal data environment using multiple LUNs that split the available disk capacity across two separate RAID controllers as follows:

RAID Card 1

- 2 x 146GB RAID1 for Operating System
- 4 x 146GB RAID10 for SQL Logs
- 1 x 146GB Hot Spare
- 1 x 1TB SATA (backups)

RAID Card 2

- 8 x 146GB RAID10 for SQL Data
- 2 x 146GB RAID1 for Pagefile
- 2 x 146GB RAID1 for Hyper-V Virtual Server
- 1 x 146GB Hot Spare

This not only provided necessary recovery and data capture areas but created the right environment to handle the high transaction load of the SQL database.

In addition the dual processor capability would also provide the power to grow the business into both the new location and the new discipline.

Microsoft Hyper-V was employed for the first time to allow the downloading of patient results without the need for a separate download server.

Further growth would also be possible using additional memory and greater virtualization via Hyper V.

The benefit

Following implementation of the replacement server system, the "Profile" software uptime has been 100% and there have been no system freezes or crashes in any of the processes. Performance improvement has also been substantial, making it significantly faster to navigate around the "Profile" software and database and generate reports. Doctors, receptionists, nurses and admin staff are all extremely happy.

Omnivision also performed a clear and concise 'risk management' analysis of the previous systems that resulted in practical, cost-effective solutions to the defects identified. The computer network is now secure both internally and externally and Parkmore Medical now has an IT roadmap for the future.

Products and services

- Fujitsu Server PRIMERGY RX350 S7
- Microsoft Windows Server 2008 R2 with Hyper-V
- SQL Server 2012 Standard
- Dual controller RAID environment using 24 SAS disks

Conclusion

The solution continues to run smoothly and highlights the benefits of not only choosing the most appropriate hardware but of partnering with an organization that has the capability to fully understand the use of the technology in specific circumstances. In this case Omnivision, by finding a smarter way to deploy the technology, have achieved a solution that met everyone's requirements. The result is easier management and use of the large medical database to best cost advantage and business performance.

About Omnivision Technology Solutions

Omnivision Technology Solutions, operating since 1995, is a no nonsense no hype one-stop shop for business Information Technology. Committed to providing clients with first class service, along with honest and sensible recommendations; they operate independently and offer truly impartial advice.

About Fujitsu Australia and New Zealand

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