Case study

Maximum Uptime with Integrated Virtual Servers and Failover Cluster solution

» The support from Fujitsu has been nothing short of fantastic and the automated call out feature on the SAN for failures is a brilliant idea as well. «

Ashley Walters, Director of Information Technology, Christian College Geelong Ltd

The customer

Customer: Christian College Geelong Ltd
Committed to provision of quality education in a Christian environment at reasonable cost to families,
Kindergarten to Year-12
Country: Australia
Industry: Education
Address: 18 Burdekin Road Highton,
          Victoria 3216, Australia
http://www.christiancollege.vic.edu.au/

The challenge

Increase the resilience and flexibility of the College IT environment for maximize service availability. Plus improve throughput and security by replacing the current aging and problematic servers.

The solution

The introduction of Microsoft Hyper V and a secure SAN based failover clusting environment, for both data and virtual machines. Fujitsu PRIMERGY servers and ETERNUS storage systems provide a robust implementation which also enables multiple network connections for better throughput.

The customer

Established over 30 years ago, Christian College is a kindergarten (preparatory) to year-12 private school, based in the Geelong region of Victoria, Australia, with 1900 students.

Geelong is 75 kilometres south west of Melbourne and the College has six campuses located in an area approximately 120 kilometers across. The specifically designed Junior, Middle and Senior School structure provides sequential and developmental progression for individual students and meets their growth needs throughout their journey from age 5 to age 18, at the College. The seamless transitions within the same school culture are designed to create a sense of belonging for students, staff, and parents, and create a unique educational environment.

As part of this, the use of IT at the College is managed by the Director of Information Technology and supports the total student population and their academic progression. All campuses are linked via microwave and the overall IT network supports approximately 1000 desktops and laptops,which in turn are managed by a centrally located environment based on the use of 20 virtual servers,
Christian College runs a Microsoft Windows network using Active Directory and runs Windows 7 Enterprise Clients linked to a Windows Server 2008R2 back-end as its core operating environment.

The challenge

Over the years the previous IT environment at the College, which was based on an array of individual servers, had become under resourced. There were also a number of problems to do with flexibility and server failures, these were affecting system uptime, throughput and data availability, as the technology aged.

It becamce clear that to meet the ongoing needs of the College, a change to a fully integrated approach was required. This would introduce virtualised servers and a failover cluster solution. In seeking help with potential answers, Ashley Walters, the Director of Information Technology, approached his local supplier, AH Computer services. He asked them to help him with the design of a new HyperV solution with failover clustering and a SAN.

The benefit	Products and services
■ The new virtualized system has decreased downtime by replacing the aging servers and enabling fexible resource allocation. ■ VM's can now failover between host servers for faster recovery. ■ There is also improved deployment of servers and server OS plus better power consumption from the latest server technology. ■ Network traffic is also improved with the removal of bottlenecks by multiple network connections	■ 5 x Fujitsu PRIMERGY RX300 S6 ■ Fujitsu ETERNUS DX90 storage system with SATA and SAS storage enclosures. ■ Microsoft HyperV ■ Fibre Channel SAN connections

It would be essential that the SAN not only securely protected the server data, but that it would also enable snapshots of each virtual machine image to be redeployed as resources and system recovery processes required.

The solution
AH Computer services recommended a integrated virtual server & failover cluster solution, based on PRIMERGY RS300 rack servers and a fibre attached ETERNUS DX90 SAN storage system. This would easily accommodate 20 virtual machines based on HyperV. In addition the fibre attached SAN storage had the speed and throughput to meet ongoing requirements as well as fast system reconfigurations.

To ensure the system was installed in the shortest possible time and to the highest standards, Fujitsu undertook the installation, ensuring all of the requirements were met and the system was fully operational from day one.

The benefit
Ashley Waters comments. "Since the installation of the solution there has been minimal downtime for all of my critical servers and applications. The support from Fujitsu has been nothing short of fantastic and the automated call-out feature on the SAN, for failures, is a brilliant idea as well." Ashley has also found that the internal server layout is excellent, making it very easy to access and upgrade system RAM and Network Card Configurations.

The failover clustering solution from Microsoft combined with the Fujitsu equipment has worked brilliantly; providing the ability to move VM's from host to host without disruption to end users.

The initial configuration of the server system was straight-forward thanks to the automated installation disks. Plus the pre-configured SAN impelemation, direct from the factory, made installation a breeze, This enabled the whole solution to be setup and running in a matter of a day or so.

Over time it became clear that the new infrastructure had significantly decreased the downtime previously caused by server failures. In addition the PRIMERGY and ETERNUS systems provided much improved power consumption benefits.

At an operational level, it has become much easier and faster to deploy new server configurations to quickly respond to changing system requirements. Uptime is also ensured by the ability to fail-over VMs between host servers for any reason, hard or soft. One other significant benefit is the better throughput on the network. This is due to the multiple network connections of the Fujitsu installation removing previous bottlenecks.

Conclusion
The solution has now been running for over two years and there have been no problems whatsoever. As a result Ashley Waters and the College are are extremely happy with the solution.

For the future, the College are considering expanding the SAN and the hosts to accommodate further needs for data storage and high availability applications and servers. They are also looking to Fujitsu for their laptop and tablet technology as well.

About Fujitsu Australia and New Zealand
Fujitsu Australia and New Zealand is a leading service provider of business, information technology and communications solutions. As the third largest ICT Company in the Australian and New Zealand marketplace, we partner with our customers to consult, design, build, operate and support business solutions. From strategic consulting to application and infrastructure solutions and services, Fujitsu Australia and New Zealand have earned a reputation as the single supplier of choice for leading corporate and government organisations. Fujitsu Australia Limited and Fujitsu New Zealand Limited are wholly owned subsidiaries of Fujitsu Limited (TSE: 6702).
For more information, please see: fujitsu.com.au