Technology One Goes for Virtualization with VMware

Leading Australian Software Company Adopts VMware Virtual Infrastructure for Increased Flexibility, Cost Savings and Effective Disaster Recovery

Software Solutions
Technology One is one of Australia’s largest and most successful publicly listed software companies. Its focus is the design, development, implementation and support of enterprise-wide business software solutions. The company delivers totally integrated, powerful business solutions that seamlessly connect its clients with their employees, suppliers and customers. Based on state-of-the-art technology, Technology One backs its solutions with an aggressive research and development program to ensure it continues to meet clients’ needs.

Technology One’s solutions include: financial management and accounting, payroll and human resource management, supply chain management, local government rating and property management, education administration work and asset management, budgeting and business intelligence, and custom software development.

Disaster Recovery Leads to Virtualization
Technology One has always been a keen early adopter of new technologies. When the company sought an effective disaster recovery (DR) solution for its extensive operations, it looked for cutting-edge technology that would meet its needs. Challenged by the lengthy amount of time it takes to deploy replacement servers, and the high costs of the required DR equipment, Technology One did extensive research to find a solution.

Upon learning about VMware software, Technology One chose to evaluate VMware® GSX Server. The company discovered that it would provide hardware independence for DR and operating system upgrades, while delivering the cost saving benefits of server consolidation. The company looked at VMware ESX Server next, and realized its enhanced functionality would deliver even greater benefits. “GSX Server is an excellent product,” says Andrew Bauer, IT Manager, Internal Systems Support. “But we knew ESX server would provide a more scalable solution that would meet our disaster recovery needs.”

Technology Ones’ disaster recovery strategy leveraged VMware virtualization infrastructure technology in two ways.

• ESX: VMware ESX server was used at the Technology One DR site to reduce the amount of hardware required as well as providing the ability to run different hardware in the DR site to what is used in production.

• Back-up: By backing up the entire virtual machine infrastructure used in production, Technology One had the ability to rapidly restore the actual production virtual machine at the DR site exactly as it was in production. This reduced the time and risks involved in system recovery dramatically.

Results
• Saved $80,000 in hardware procurement
• Increased CPU utilization from 5 to 50 percent
• Decreased server deployment times from days to minutes
• Enhanced disaster recovery capabilities
• Improved development and testing environments
• Streamlined deployment of test environment into production
• Achieved zero downtime in 15 months
• Enhanced network management capabilities

“Technology One always looks for better and more efficient ways of doing things so choosing VMware software was an easy decision. The solution has excellent value, saving us $80,000 in hardware costs, providing enhanced flexibility to respond to the requirements of the company, and giving us unmatched DR capabilities as well as enhanced and simplified management of our servers. VMware ESX Server and VirtualCenter aren’t just flashy tools, they are must-haves for a competitive business.”

Andrew Bauer
IT Manager, Internal Systems Support
Exceeding Expectations

Technology One decided to deploy ESX Server in its production environment to leverage the substantial advantages of this solid virtualization platform. The cost savings associated with the server consolidation potential of virtualization made the project a clear winner in the eyes of management.

“When we implemented virtual infrastructure solutions built on ESX Server and VirtualCenter, it took our existing infrastructure to a whole new level, and one that nobody else or any other product can match,” says Bauer. In fact, it soon became clear that the solution delivered results far in excess of the company’s expectations. These included:

- **Cost savings.** Technology One estimates a savings of $80,000 in reduced spending on hardware.
- **Server consolidation and increased CPU utilization.** Bauer says, “We raised CPU utilization from under five percent to over 50 percent, running more than 150 virtual machines on ten physical servers.”
- **Smooth operating system migration.** Technology One was able to migrate its Windows NT environment to Windows 2003. Using virtual machines, the company successfully tested the migration before pushing it into production.
- **Faster server deployment.** Before the arrival of VMware software, it took Technology One weeks to order and procure the hardware for test and production environments. Now, it takes 30 minutes.
- **Increased performance.** Bauer has noticed increased application performance on virtual machines. “We are impressed by the speed of the virtual machines, as they actually operate faster than the physical servers,” he says.
- **Better development and test environment.** By eliminating the need for more hardware and decreasing server procurement time, Technology One is able to accommodate developers with more server resources to test products thoroughly. “Developers now have more than double the number of testing servers they had prior to deploying VMware software,” says Bauer. Also, special features (such as “snapshot” which allows developers to revert the virtual machine to a previous clean state), save time and facilitate test and development.
- **Ease of management.** With VirtualCenter and VMotion, Technology One is able to view server resources from a single console, instantly provision new virtual machines and move virtual machines across physical servers.
- **Reduced downtime.** Using VMotion, Technology One is able to move virtual machines to different servers for upgrades and maintenance, drastically reducing downtime. “We now have less down time with the virtual environment than we ever did with the physical one,” says Bauer. “In 15 months we have not had a single unplanned outage in our virtual environment.”

VMware ESX Server, VirtualCenter & VMotion on 10 x DELL PowerEdge 2650s with Dual Xeon CPUs and 10GB RAM

ESX Servers connected to LAN via dual Gigabit NICs, separate NIC for console access and dedicated Gigabit VMotion network.
From Testing to Production
Virtual machines allowed Technology One to migrate seamlessly to a Windows 2003 environment from Windows NT, and to continue to test new operating systems and software without impacting the live environment. Once satisfied with performance and reliability, the administrator simply copies new systems on virtual machines into production, without impacting users or any rebuilding of physical servers. As Bauer explains, “VMware virtual infrastructure allowed us to thoroughly test the new operating system before we implemented it.”

Well-Managed Network Increases Flexibility
VMware virtual infrastructure has also made the data center easier to manage than ever. “VMware VirtualCenter and VMotion revolutionize the way we provision and manage servers,” continues Bauer. “By using virtual machine templates, we can deploy new servers in a few minutes, instead of days. VMotion also lets us perform hardware maintenance during production hours with no disruption to application availability. We can migrate live virtual machines to different servers in our infrastructure, and the users don’t even notice. This functionality is just not available employing a traditional physical machine model.”

Technology One found that a virtual infrastructure provides an easy-to-support and stable platform for its software development and production environments. “The fact that ESX Server runs on its own operating system kernel removes the problem of having to patch the operating systems hosting the virtual machines,” says Bauer. “This is a major advantage.”

While delivering enhanced manageability to the IT team, the virtualization of its server environment also delivers business benefits to Technology One. The ease of managing and provisioning virtual machines gives the company more flexibility to meet the needs of its staff. With new server resources available within minutes, development and testing times are greatly reduced. Additionally, the ability to revert virtual machines to a saved clean state has substantially reduced management overhead for the testing environment.

Bauer concludes, “Technology One always looks for better and more efficient ways of doing things, so choosing VMware software was an easy decision. The solution has excellent value, saving us $80,000 in hardware costs, providing enhanced flexibility to respond to the requirements of the company, and giving us unmatched DR capabilities as well as enhanced and simplified management of our servers. VMware ESX Server and VirtualCenter aren’t just flashy tools, they are must-haves for a competitive business.”