

Case Study

Wootton Bassett School

Clarity IT Advisors
www.clarityitadvisors.com

Project Outline

Wootton Bassett School, a Specialist Technology College, use innovative IT solutions and teaching methods to deliver the curriculum to over 1,500 secondary students and 250 sixth form students.

Clarity IT Advisors worked with Wootton Bassett School to design a new system using virtual machines and virtual storage to provide a highly reliable and fault tolerant school wide IT system.



The Situation

Leading edge software and hardware is regularly introduced by Wootton Bassett School's IT department. Nick Tremblin, Wootton Bassett School's Network Manager, wanted to get the maximum value out of their budget and, as the school becomes increasingly dependent on IT, ensure that their systems and data were reliable and fault tolerant. The IT department also wanted to improve the backup and protection of their data.

Wootton Bassett School use RM's Community Connect 4 to manage and control their network, desktop and laptop PCs. The school also relies upon Microsoft Exchange 2007, Microsoft SharePoint, electronic registration and PC-based VoIP to deliver services and applications to both the curriculum and administration networks.

"The system designed by Clarity IT Advisors suited us perfectly. It's fast, reliable, easy to manage and ensures that we'll be able to deliver ICT all over the school with previously unattainable levels of reliability."

Nick Tremblin, Network Manager

The Solution

Wootton Bassett had recently purchased 3 new HP servers to use with Microsoft SharePoint. These were turned into ideal virtual machine hosts with cost effective RAM and network cards upgrades. Microsoft Hyper-V and System Centre Virtual Machine Manager were chosen as the virtualisation solution.

DataCore SANmelody was chosen as the storage solution as it uses x86 PC hardware to provide highly available, fault tolerant storage with automatic fail over without data loss. Wootton Bassett was able to use physical servers freed up by the virtualisation process to run SANmelody.

Microsoft System Centre Virtual Machine Manager was used to provide centralised management of the Hyper-V servers and physical-to-virtual (P2V) conversion of the existing servers.

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Customer Profile

Wootton Bassett School near Swindon is a secondary school with sixth form that serves approximately 1,800 students from ages 11 to 18.

As a Specialist Technology College Wootton Bassett School have long provided their students and staff with access to leading edge educational IT software and hardware.

"Since converting to a virtual infrastructure we've been able to deploy new leading edge educational solutions quickly and cheaply. The costs and delays caused by acquiring new hardware just don't exist anymore."

Steve Gillott
ICT Co-ordinator

For more information
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Technologies Implemented

Windows Server 2008 with Hyper-V

- ✓ Can form part of a cluster of Windows 2008 machines to provide highly available services including Virtual Machines (VM)
- ✓ Virtualises Windows and Linux operating systems
- ✓ Run VMs at near "bare-metal" performance

System Centre Virtual Machine Manager

- ✓ Centrally manages multiple virtual machine hosts and their VMs
- ✓ Automatically converts physical servers into virtual machines

DataCore SANmelody

- ✓ Uses thin-provisioning to provide an almost unlimited number of 2TB drives to servers
- ✓ Integrates with Windows VSS to take instant snapshots of volumes
- ✓ Provides highly available storage directly to servers

Project Results

Wootton Bassett School have now virtualised nearly all of their physical servers. Microsoft Hyper-V and DataCore SANmelody provide a highly reliable and fault tolerant environment for applications, servers and data.

Improved System Availability

If one of the Hyper-V hosts fails, due to either a software or hardware problem, Wootton Bassett School's IT system will experience disruption for no more than a few minutes – only as long as it takes for the virtual machines on the failed host to be rebooted on one of the two remaining virtual hosts.

The school's new storage area network based on DataCore SANmelody is also tolerant of the most serious hardware failures. DataCore SANmelody replicates all of the school's data and I/O in real-time. A failure of a hard drive or an entire node of the SAN doesn't cause any loss of data or disruption. If required Hyper-V can fail over to the remaining SAN node without the end-users being aware of any problem.

Reduced Costs

Originally Wootton Bassett School converted 13 physical servers to virtual machines. Since the deployment of the new virtual system, 6 more virtual machines have been created to provide new services and applications to end users – all without purchasing any new computer hardware. The 19 virtual machines are powered by only 3 virtual hosts. This significantly reduces the cost of management, maintenance and electricity.

Improved Data Protection & Backup

DataCore SANmelody's ability to "snapshot" data to create instant backups is being used to enhance the protection of Wootton Bassett School's data. The snapshots are used as the source for disk-to-disk backups. This approach is faster and more efficient as the traffic is kept away from the main LAN and has no impact on the performance of the server being backed up.

The combination of Microsoft Hyper-V and DataCore SANmelody allow Wootton Bassett School to create VSS snapshots of not only the virtual machines but also the VSS aware applications running within the virtual machine. For example, SANmelody can simultaneously trigger a VSS / shadow copy of a virtual machine and Microsoft Exchange 2007 running within the virtual machine.

"The new system is fantastic! SANmelody ensures we get the best value from our storage, protects our data and allows us to rollback changes in seconds. Hyper-V is easy to manage and keeps our virtual servers up and running." Nick Tremblin, Network Manager

The Future

Wootton Bassett School are now able to deploy new solutions more quickly with lower costs. As the size of the system grows, new virtual hosts can be added further improving the reliability of the system and reducing the cost per server.

