

SYSTEM GETS HIGH MARKS

School saves £10,000 and improves service to students and teachers with virtual infrastructure



High traffic causes considerable wear and tear on schools' computer systems. When users are 11 to 18-year-olds performing tasks critical to their education, reliability of the IT infrastructure becomes even more important.

SOLUTIONS:

- BACKUP, RECOVERY AND ARCHIVING
- DATA MANAGEMENT AND CONSOLIDATION
- GREEN IT
- IMAGING
- VIRTUALIZATION



CUSTOMER PROFILE

COMPANY: Ousedale School

INDUSTRY: Education, secondary

COUNTRY: UK

FOUNDED: 1963

EMPLOYEES: 2,070 students, 290 employees

WEBSITE: www.ousedale.org.uk

CHALLENGE

With critical programmes linked to IT, Ousedale School needed an IT infrastructure that would guarantee access during school hours.

SOLUTION

Dell deployed a simplified, virtualized environment based on Dell™ PowerEdge™ servers running Microsoft® Virtual Server 2005 R2 with a Dell™ | EMC® storage solution. The system was so successful that Ousedale added Dell printers and plans to incorporate Dell technology throughout the school. Dell™ ProSupport™ for IT improves system management and reliability.

BENEFITS

Get IT Faster

- Storage area network installed in two days
- Dell | EMC CX3-20 SAN reduced back-up time from 18 hours to eight

Run IT Better

- Virtualization makes server more stable, eliminating system crashes
- Automatic backup makes disaster recovery easier, protecting crucial data
- Printer management systems reduce maintenance time
- Testing software on virtual servers protects working systems

Grow IT Smarter

- School provides more services for less money, saving over £10,000

The Dell logo, consisting of the word "DELL" in a stylized, bold font with a diagonal slash through the letter "E", enclosed in a circular border.

This is especially apparent at Ousedale School, a comprehensive school and Technology College in north-east Buckinghamshire in the United Kingdom. Ousedale has more than 2,000 students, aged 11 to 18, taking classes on two campuses. Even teachers of non-technical subjects, such as English and music, integrate technology into their lessons including the use

of interactive whiteboards, digitalised audio libraries and online testing.

The school also teaches specialised technology classes. These courses, such as design technology, and information communications technology, rely entirely on the use of IT in the classroom. If the computers aren't working during an IT lesson, it can't be taught at all. If IT systems are down all day, hundreds of students can be affected. Leonard Powers, ICT technical manager at Ousedale says, "Our system needs to be really stable, but if something does go down, it needs to be fixed quickly. Otherwise, teachers can be stuck with classrooms full of 13 to 16-year-olds waiting for the lesson to begin."

In addition to relying on technology for teaching and learning, Ousedale School has a cashless catering system using the latest in user recognition technology. To buy lunch, students and staff can either swipe their cards or use their fingerprint to purchase items in the canteen using biometric fingerprint technology. If the computer system doesn't work, students can't buy lunch, parents complain, and the accounts department can't track sales.



“DELL™ POWEREDGE™ 2950 SERVERS ALLOWED US TO MAXIMISE SERVER PERFORMANCE WHILE KEEPING SPACE AND ENERGY NEEDS TO A MINIMUM.”

Leonard Powers, ICT technical manager at Ousedale

When Powers first joined the staff at Ousedale School, vital information such as student records and financial systems were stored on one server. All data was stored on the internal hard disks, so if the server went down, so did all the data. Some critical data was stored on an old server which was out of warranty. The whole system only provided about 240GB worth of storage and did not have very much room for expansion. Powers needed to find a stable solution that would expand as the school's data needs grew. He extended warranties to cover immediate, short-term needs, and then started to look for a new storage system to migrate all the data onto.

Powers wanted to set up a new structure that was stable, easy to manage and would grow to meet the increasing demands of using technology for teaching and learning. He wanted to reduce the number of disparate servers while increasing storage capacity. One of his goals was to put the cashless catering system onto a virtual server, giving the school more capacity for educational applications

and audio visual archives. With a grant to update the infrastructure, Powers began to assess potential solutions. Computer labs and classrooms at Ousedale had been equipped with Dell computers for at least five years, and Powers was impressed with the reliability of the hardware, and the support he received.

Powers spoke to his contacts at Dell about a solution that would maximise his budget and provide the greatest capacity in the most stable environment. He met with Dell Infrastructure Consulting Services (ICS) to assess the challenges Ousedale was facing. ICS developed detailed plans and timelines for a server solution. "I chose Dell technology to implement the server solution because ICS made some good suggestions on how we could consolidate underutilised systems and improve the overall agility and reliability of our server clusters," says Powers. The Ousedale IT team installed three Dell PowerEdge 2950 servers and 13 virtual servers running on Microsoft® Virtual Server 2005 R2. ICS installed a Dell | EMC CX3-20 storage area network (SAN) in two days, over one weekend.

HOW IT WORKS

HARDWARE

- Dell™ PowerEdge™ 2950 server
- Dell | EMC CX3-20 storage area network (SAN)
- Dell 3110cn and 5110cn colour laser printers
- Dell 1815n multifunction laser printer
- Dell 1710n and 5210n laser printers

SOFTWARE

- Dell OpenManage™ Printer Manager (OMPM)
- Dell Toner Management System
- Microsoft® Windows® Server 2003
- Microsoft Virtual Server 2005 R2

SERVICES

- Infrastructure Consulting Services (ICS)
 - Virtualization
 - Server/Storage Installation
 - Dell | EMC maintenance
 - Server Consolidation
 - Storage Consolidation
- Dell ProSupport for IT



“DELL PRINTERS ARE A GOOD CHOICE FOR A NUMBER OF REASONS: TOTAL COST OF PRINTING IS SIGNIFICANTLY LESS WITHOUT COMPROMISING THE QUALITY OF PRINTS, MANAGEMENT SYSTEMS REDUCE THE TIME SPENT MAINTAINING PRINTERS, AND POWER SAVING AND RECYCLING FEATURES ARE AN ENVIRONMENTALLY FRIENDLY SOLUTION.”

Leonard Powers, ICT technical manager at Ousedale

“Dell PowerEdge 2950 servers allowed us to maximise server performance while keeping space and energy needs to a minimum,” said Powers. “With our limited space and air conditioning capacity and our need for a stable environment, virtualization was an obvious choice,” says Powers. Microsoft Virtual Server 2005 R2, facilitates the creation of virtual machines on the Windows Server 2003 operating systems.

Powers also replaced existing printers with Dell printers as warranties on the existing printer fleet expired. He decided that Dell printers are a good choice for Ousedale School for a number of reasons: total cost of printing is significantly less without compromising the quality of prints, management systems reduce the time spent maintaining printers, and power saving and recycling features are an environmentally friendly solution appropriate for schools. Currently, the school has Dell 3110cn and 5110cn colour laser printers, 1815 multifunction printers (with print, copy, scan and fax functionality) and networked monochrome, 1710n and 5210n laser printers. “I can buy a Dell printer and just plug it in, in any classroom,” says Powers. “Dell printers just keep on going, despite the wear and tear they get”. Powers and his team also use Dell OpenManage Printer Manager (OMPM) software, which provides a central point of management for printers on the network: the software provides detailed information and statistics on printer usage and pages printed, helping to keep down costs and reduce waste.

OMPM¹ is run from its own virtual server on the network.

All of the Dell solutions used by Ousedale School are backed up by Dell ProSupport for IT. Powers and his team have 24 hour access to telephone support. If onsite service is needed, a Dell engineer is guaranteed to arrive at the school within four hours and equipment replacement is guaranteed by the next day.

VIRTUALIZATION ELIMINATES SYSTEM CRASHES

Server stability is critical for day-to-day teaching. Powers and his team now have peace of mind that if a virtual server fails, its function can roll over to another hosting server, with minimal downtime. “Before, when a server failed we had to wait for an engineer to come out to fix the problem. Now we can be up and running in minutes rather than days or hours,” says Powers. Lessons won’t be disrupted, and online exams won’t be interrupted.

IT support staff can also test software upgrades offline. When software is tested on a virtual server, should anything go wrong, data and machine configuration is easily restored without affecting working systems. Previously, without virtualized servers, IT administrators risked system crashes when testing software.

Ousedale used to have a physical server to host the sims.net school informations system. Now that this server has been virtualized, using Microsoft Virtual Server 2005 R2, the physical server can be used for other memory intensive projects, like an audio archive requested by the music department.

“This is something we are doing with aging servers, virtualizing them so that they can run on modern faster hardware. In the case of the sims.net system, I was able to prove that the virtual version of the server ran 30% faster than on the outdated physical PowerEdge 2600 server,” says Powers.

DISASTER RECOVERY PROTECTS CRUCIAL DATA

Important data, such as student records and information needed to run the school are constantly replicated on the storage area network (SAN) The SAN operates over two campuses about five miles apart, with a link between connecting both sites. Each campus has servers storing identical data for the whole school. “In the worst case scenario, if we lost a whole physical server or even if a campus burnt down, we could move people over to the other campus and all their data would be there. Virtual servers can also be moved easily since they are not physical hardware.” says Powers.

SAN REDUCES MANAGEMENT TIME BY 50 PER CENT

With the Dell | EMC CX3-20 storage area network, all data was consolidated into one network, making it faster and easier to manage. Back up time was reduced from 18 hours to eight. “The Dell | EMC CX3-20 SAN is massively quicker, and we’re able to consolidate all our data into one place rather than many different servers, all connected to the network at different speeds,” says Powers.

1. OMPM software is available in English only, and is currently available for free trial basis in the UK and Ireland only.

“THE SPEED OF THE DELL | EMC CX3-20 HAS REDUCED BACK-UP TIME FROM 18 HOURS TO EIGHT.”

Leonard Powers, ICT technical manager at Ousedale

DELL SUPPORT ADDS AN EXTRA LAYER OF BACKUP AND RELIABILITY

As Ousedale School's existing IT equipment runs out of warranty, Powers and his team are upgrading to Dell. The excellent level of service Dell provides with Dell ProSupport for IT is a major reason that the school is changing over. Staff can often fix issues immediately after making a quick phone call to the Dell telephone support line, available 24 hours a day, seven days a week.

Ousedale has a dedicated engineer for onsite service. “If we need the technician to come to our campus, issues are resolved much more quickly because he knows our site, and is aware of the special requirements of education,” says Powers.

Dell is also providing IT administrators at Ousedale with online certification courses. “This is a fantastic service from Dell,” says Powers. “When we are qualified at repairing the kit ourselves, we will be able to diagnose faults and order our own parts online.”

Equipment rarely fails, but when it does, Ousedale is guaranteed next business day replacement dispatchment following Remote Diagnosis. “I like the fact that we have a single point of contact for server support. Fortunately, we haven't had to use it yet,” says Powers.

SCHOOL SAVES £10,000 WITH VIRTUAL SERVERS

Powers can now add additional capacity without buying extra physical servers. “Without virtualization, servers would cost around £10,000. That's not including the cost of electricity, the cost of building a new cooling system, and the cost of building a new space to house them in, so we really saved much more.”

For more information on this case study or to read additional case studies, go to www.dell.com/casestudies and www.dell.co.uk



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