



New College Durham

*"We are an educational institution that prides itself on offering an exceptional student experience. Our top class IT infrastructure, which combines VMware server virtualization with a virtual desktop infrastructure, has not only realised substantial cost savings, it has also considerably reduced our carbon footprint and improved the way we offer and maintain services to our students and staff. With VMware View, we are far more agile as an organisation and projects which would previously have been considered big and resource-consuming can now be achieved in record time – our recent migration to Windows 7 being a fantastic example."*

– George Wraith, Head of Systems at New College Durham

#### KEY HIGHLIGHTS

##### Challenge

- Improve efficiency of desktop support department
- Contain growing cost of desktop hardware
- Migrate desktops to Windows 7
- Reduce carbon footprint
- Ensure best-in-class IT experience to users
- Build a sustainable and future-proof desktop environment
- Ease management and maintenance burden of desktop infrastructure

##### Solution

- VMware View enables IT departments to run desktops from the data centre

##### Results

- Easily migrated to Windows 7
- Extended lifecycle of hardware from 3 to 10 years
- Improved efficiency of desktop staff
- Improved desktop user experience
- Improved security

## New College Durham

New College Durham is a college for further and higher education in County Durham, England. Housed on a campus of three buildings, the college enrolls around 3000 students each year. It has received an "outstanding" rating by education regulator Ofsted and "Beacon status" by the Learning and Skills Improvement Service (LSIS).

The college strives for excellence in all areas: staff, teaching and facilities. Its IT strategy constitutes a key part of offering an exceptional user experience and the college is always striving to provide a best in class technology infrastructure.

The initial virtualization program was triggered by the college's server room approaching full capacity. After looking into a number of different options, New College Durham chose technology from VMware: "VMware's offering was the most mature, easy-to-use and feature packed on the market and the best fit for our needs," says George Wraith, Head of Systems at New College Durham. "From the very beginning we were considering the concept of a fully virtualized infrastructure that would follow through from the server straight to the desktop, and we believed that VMware could offer us a complete and reliable infrastructure."

New College Durham has since consolidated its servers from 70 to ten, which has resulted in immense cost savings and carbon footprint reduction:

"The major cost saving have come in the area of server purchases, in that we do not need to buy a server every time we need a new system," says Wraith. "This was a huge saving when we moved over from our old Novell network OS to our new Microsoft infrastructure. There were approximately 20 replacement servers required for this move which would have cost in the region of £150,000 if we had needed to purchase the physical hardware. We've also seen additional cost savings from the reduction in power usage."

Once the initial server virtualization project was complete, the natural progression for New College Durham was to investigate desktop virtualization: "Once we experienced the efficiency, cost and environmental benefits server virtualization had to offer, virtualizing the desktop was the next logical step," adds Wraith. "We did not really consider anyone else other than VMware. The benefits of a single, integrated virtualization platform from the datacenter to the desktop were compelling."

The major drivers for moving to a virtual desktop environment were cost savings and improved user experience in terms of application delivery and performance: "It is very important to us to offer the best user experience in the education marketplace. With this in mind, we wanted a reliable and flexible platform which would ensure access to the important applications both staff and students depend on. Running traditional 'fat client' desktops was expensive in terms of capital costs, support costs and energy consumption, all of which we were keen to reduce," explains Wraith.

*“Implementing VMware View has revolutionised the way our desktop support team works. Being able to administer and maintain the system from a central location without ever visiting the physical machines means immense efficiency improvements and allows the team to focus more closely on offering individual support for students and staff. Thanks to View, our recent migration to Windows 7 was fast and painless!”*

— George Wraith, Head of Systems at New College Durham

New College Durham decided on a phased roll-out of desktop virtualization over three years. This strategy was adopted as other major projects were already scheduled to take place such as the move from a Novell to a Microsoft environment including standardising on Windows 7, and resources did not permit the implementations to take place simultaneously. The first completed phase was for 350 student PCs with the remainder to be moved over the following two years with the help of VMware ThinApp. As Wraith explains: “With our traditional fat client desktops we had a renewal lifecycle of around three years. By moving to thin client desktops this is extended to 10 years and makes a significant increase to our ROI from the desktop virtualization project.”

The expected efficiencies and cost savings in supporting the virtualized desktop estate have been realized. “With our physical desktops, rolling out a system update meant physically going to all 1500 desktops. Our support staff were always stretched trying to keep all these systems running and every broken machine meant one less student or staff member being able to take advantage of the technology. This was unsustainable,” says Wraith. “The proof of the superiority of our new system is that I have not yet handed over our virtual desktop environment to the desktop support team, which means I am managing 350 desktops at the moment on my own. Furthermore, it only constitutes a small portion of my working day.”

VMware View Composer was critical to New College Durham’s ability to migrate their desktops to Windows 7. As Wraith describes: “The contrast in ease of supplying a Windows 7 desktop via VMware View to migrating one of our existing PCs was enormous. We had to visit each PC and it took time to upgrade each one individually. In the virtual environment we created a single, robust, centrally held Windows 7 image which was deployed to the thin clients. Needless to say, this has saved our team a lot of time and bodes well for when we require other major system upgrades in the future.”

When embarking on the View project, the college’s aim was to deliver a quality of service and user experience equivalent to that of the fat client. However, the virtual desktop environment has far exceeded expectations: “Our students have already noticed a number of major benefits compared to our old system. For example, login times have reduced by 75% even with a host of demanding applications on the virtual desktop, including Microsoft Office, Internet Explorer 8, Adobe Dreamweaver, Macromedia and Microsoft Visual Studio.” explains Wraith. “With the help of VMware’s high performance display protocol PCoIP, users have also noticed significant improvements in graphics rendering on some applications. We also make use of the option of rolling back virtual machines and redeploying clean VMs at regular intervals to ensure space usage on each VM is kept in check.”

Security is another aspect that has improved in the new environment: “With data and applications held in the data center a virtual desktop is inherently more secure and highly available. A new virtual machine is created and then wiped with every student’s session which ensures risks are minimized.”

New College Durham will complete the final phases of their VMware View deployment over the next two summer recesses to bring the number of virtual desktop users to over 1500.

Wraith is confident that once the roll-out is complete across the entire organisation, New Durham College will benefit from a future-proof IT environment: “We started our virtualization journey when we retired most of our physical servers. Adding the virtual desktop environment means we are in the process of realising our objective of having in place a cost effective, carbon efficient, flexible and reliable IT infrastructure that can adapt to any changes the college will experience in the long term.”

VMWARE VIRTUAL  
INFRASTRUCTURE AT WORK**VMware at Work**

- VMware View Manager
- VMware View Composer
- VMware vSphere
- VMware ThinApp
- VMware DRS

**Server virtualization**

- \* Dell R900
- \* Dell R810

**Applications Virtualized include**

- Microsoft Exchange Server 2008
- Microsoft Active Directory
- Microsoft Office 2007
- Internet Explorer 8
- Adobe
- Dreamweaver
- Macromedia
- Microsoft Visual Studio
- Oracle
- SQL 2000
- SQL 2005
- SQL 2008

**Partner**

- Phoenix

**Results**

- Implemented a coherent virtualization strategy that extends from the data centre through to the desktop
- Considerably improved efficiency of maintenance and support procedures
- Huge improvements in data security
- Faster logon times
- Faster application response times
- All round better user experience

