THE UNIVERSITY OF GREENWICH

CASE STUDY

DATA INTEGRATION
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Founded in the 19th century, the University of Greenwich offers a rich choice of foundation, undergraduate and postgraduate degree programmes in a range of subjects across engineering, natural sciences, social sciences, humanities and business.

With 1,800 on-campus students, and 2,000 further off-campus students from FE establishments and foreign franchises, the School of Computing & Mathematical Sciences (CMS) is one of several schools and institutes that form the university. Offering a wide range of undergraduate and postgraduate degrees in specialised subjects such as Digital Media, Networking, Games Development and Software Engineering, CMS is the most technologically advanced division of the university.

The challenge

Given the very specialised and technical nature of the courses delivered by CMS, and the advances in technology over the last decade, students now demand fast and reliable access to IT services 24/7 to facilitate their learning. And these systems need to be capable of delivering graphic intensive computing applications such as Flash and Photoshop.

On campus, CMS operates 400 PCs for its students, and with only 100 of these being specialised multimedia PCs, students were finding the lack of access to adequate IT resources a real issue.

The physical layout of the department's IT equipment was also an issue. In 1999, CMS moved into new campus premises - a World Heritage Site - and as such the IT team for CMS were very restricted in building an ideal IT lab environment as they could not alter the building in any way.

The new IT lab set up of PCs was also not very environmentally friendly, being very power and space hungry. Previously, CMS used its own team of 26 full-and part-time IT staff to support students and faculty. When any upgrade was required, such as new software or a new version of an application, every PC had to be upgraded individually which proved very resource intensive for support staff and costly for CMS.

In addition, faculty staff often used both a PC and a laptop for home use, increasing the complexity of keeping access devices up to date.

The approach

In 2009, CMS piloted VDI - a Virtual Desktop Infrastructure -using VMWare 3.5 technology for 500 of its users. Whilst this solution went some way to alleviating the support resource issue, it didn't address any green issues, nor the need to deliver graphical applications.

With the launch of VMWare 4.5 in 2010, the PCoIP protocol became available, which made it possible to deliver a higher level of graphical content to users, to centralise control and allow remote access to workstations and servers.

"We needed a Juniper partner with exceptional knowledge and experience of integrating technologies in a higher education environment. Data Integration were the perfect choice."

DATA INTEGRATION FOR HIGHER EDUCATION

Looking to benefit from this advancement, CMS required new VPN servers and a refresh of its switching infrastructure to optimise the effectiveness of the new technology.

The solution

After investigating the solutions available, Head of Support for CMS, Frank Vahid Razaghzadeh put together a business case that involved replacing many of its ageing desktops with thin clients; deploying 26 state-of-the-art servers and a high performance Ethernet virtual chassis using Juniper's EX switching technology. Juniper'sSecure Access solution was specifie d to deliver SSL remote access.

After several recommendations, including one fromJuniper itself, leading systems integrator Data Integration was chosen to implement this element of the solution, in conjunction with Stone Group who led the VDI project.

> *"Data Integration has the ability to deal with large scale projects, and their knowledge of the technology combined with exceeded our expectations," commented Razaghzadeh.*

The benefits

Administration resources reduced

Unlike before, CMS IT support staff now carry out centralised updates to refresh every access device both on campus and being used remotely. "By centralising our control through a virtualised approach, we have been able to cut IT support staffing costs by almost 20% - a huge saving for us," commented Razaghzadeh.

Student satisfaction enhanced

Monitoring student satisfaction is of paramount importance to Greenwich University, and recent student surveys have shown that the new solution has transformed the way they work. Students now have the flexibility to work from home, or anywhere with internet access, and are able to remotely access the latest multimedia applications they need to study effectively. In addition, now that students are no longer restricted to using the 100 multimedia PCs on campus, these PCs have been put to specialised use such as forensics which require onsite facilities.

Security and control improved

Every university has to comply with JANET's code of connection, and prior to the new solution CMS had to create manual logs of access activity to create its reports. Juniper's SA4500 SSL VPN technology enables CMS to automatically produce reports of exactly which users log in, recording what they do and when. With centralised control now inplace, CMS staff are able to disable user accounts which maybe displaying inappropriate activity, such as monitoring downloads that could cause copyright infringements.

Flexible working realised

With virtualised remote access now rolled out to over 800 users, flexible working at anytime from any location has been of great benefit for both students and faculty staff alike.

Reducing ecological impact

By offering a greater scope for home working and off-campus access to facilities previously only available on-campus, CMS has drastically reduced the need for students and staff to travel. In addition, its new thin clients consume less energy and space within the IT lab, as opposed to the old PCs. Both of these factors are helping the university work towards compliance with new 'green' regulations which will come into force in 2012.

Delivering a swift return on investment

One of the biggest benefits to CMS has been the speed of realising a return on its investment from the new virtualised infrastructure. "With our IT support costs now greatly reduced, the ability to scale to additional users cost effectively, and the reduced cost of thin clients instead of PCs, I believe that we will have recouped our investment within 12 months of implementing the Juniper infrastructure," said Razaghzadeh.

The future

Having witnessed the benefits to students of CMS, other schools and institutes within Greenwich University are now looking to use the same technology to enhance the flexibility and cost effectiveness of delivering IT services to students. "The fact that other areas of the university are demanding access to the same IT services we have implemented is testament to the effectiveness of our new infrastructure." concluded Razaghzadeh.

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About Data Integration

Data Integration specialises in managed networks, managed security services, mobility solutions and high performance IT platforms.

We provide these services to over 300 leading organisations in Higher Education, Insurance, Finance and the Public Sector, benefiting from reduced cost, simplified solutions and optimised performance.

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