Education
The University of Bradford

AppSense®

UNIVERSITY OF BRADFORD
MAKING KNOWLEDGE WORK

Challenges

■ Lock down e-assessment environment

■ Enable fast and simple publishing of a range of assessment desktop images

Solution

■ AppSense Environment Manager

Benefits

■ 75% time saving on desktop preparation for each e-assessment

■ Simple centralised administrative control

■ Cost savings on virtual desktop licenses

University of Bradford secures e-assessment environment with AppSense

Introduction

The University of Bradford is a higher education institution in the north of England. Consistently ranked first for graduate employment in Yorkshire and holding joint first place in the north of England (Times Good University Guide 2008), the university celebrated its 40th anniversary in 2006 and is home to over 10,000 students from over 110 countries.

In 2008, the University of Bradford became one of five institutional exemplars in a national JISC program. JISC, or the Joint Information Systems Committee, manages research and innovation programmes in the use of ICT in teaching, learning and research to build knowledge, develop services and provide guidance and leadership. Bradford's exemplar is called ITS 4 SEA - Integrating Thin Client Systems For Secure E-Assessment.

Background challenges

With IT a core component of many courses, the requirement for e-assessment at universities across the UK is growing. In the 2003/4 academic year there were just seven assessments submitted through Bradford's Questionmark e-assessment software package. By 2007/8 this figure had grown to 31,882 and it had become essential to obtain assurances as to the security of the environment and the accuracy of the results. The university's involvement in the JISC program provided the funding for a project to address the growing requirements in e-assessment and provide a test bed from which other educational institutions could learn.

Sara Eyre, Head of IT Customer Services at the University of Bradford and the ITS 4 SEA project lead comments; "Implementing e-assessment on PCs brings a minefield of security issues. It is very difficult to stop 'escapees' getting out of the assessment environment and accessing external storage, the internet or other applications. We knew thin clients would bring multiple benefits but we needed to be able to lock them down securely while ensuring flexibility in turning on and off entire applications or functionality."

Bradford needed to find a solution to fast and simple desktop management. Controlling the images published to each client and stripping applications to their bare essentials were key requirements for the success of the program.

The introduction of AppSense

Alastair Wills, technical services at the University of Bradford, had heard of AppSense a few years earlier and fortune lead him to a demonstration seminar of AppSense Environment Manager just as the ITS 4 SEA project was kicking off.

AppSense Environment Manager provides incredibly simple administrative control over the settings published to a virtual desktop. Both application and OS-level settings can be managed independent of the desktop. The profile is streamed to the user who sees a consistent image, fully tailored to their requirements.

Working with AppSense and Sun reseller Esteem, the University of Bradford quickly recognized the potential of AppSense for its e-assessment program and installed it in their network. The program was to be housed in a brand new facility which was completed in December 2008, housing 100 Sun Ray thin clients running virtual desktops from a VMware ESX virtual server.

> **❝ AppSense doesn't just have benefits for the staff, AppSense gives the students some assurances too. We have safety nets built in, ensuring the retrieval of files incase work is lost or saved to the wrong place. ❞**

Alastair Wills,
Technical services,
The University of Bradford

The university's technical services team is using AppSense Environment Manager to manage all virtual desktop customization; provisioning tailored desktop images for every e-assessment.

Wills comments; "AppSense Environment Manager is our central management hub for the delivery of all e-assessment desktops. We can use it to manage group policies, lock down application functionality such as 'save as' or printing, block external storage or internet access and even make changes to the start-up menu. Such complete control over the desktops ensures strict compliance with examination regulations."

"AppSense doesn't just have benefits for the staff," Wills adds. "AppSense gives the students some assurances too. We have safety nets built in, ensuring the retrieval of files incase work is lost or saved to the wrong place. Students want to be able to focus on the content of the assessment without having to worry unnecessarily about the method, and simplifying the desktop environment enables this."

AppSense Environment Manager has brought considerable benefits in day-to-day e-assessment operations. Because it is so simple to make changes to the desktop image, Bradford can run all assessments on a single virtual desktop template which means that the university does not need multiple sets of virtual machines.

Considering the cost savings, Eyre comments; "Because we only need a single set of virtual machines we can keep a cap on the costs of the e-assessment centre. Without this ability we would have been looking at buying additional VMware licences and Sun servers as the program and number of assessments grew. It simply would not have been scalable and we would have had to go back to square one on the ITS 4 SEA program network design."

It is easy for the technical services team to switch between exams at short notice with AppSense Environment Manager. In testing virtual desktops before implementing AppSense it took four man hours to do a room turnaround between exams. Since installing AppSense it now takes a single administrator just 30 minutes to publish individual tailored desktops for each new assessment - a 75% time saving. With over 960 students scheduled to pass through the single 100 seat assessment room in the May 2009 end of semester exams, this time saving is critical to the success of the program.

One lecturer who has been championing e-assessment for a number of years and ran the first full exam in the suite commented;

"This is what I always wanted but couldn't do using a standard PC. I can include exam questions that require Excel manipulation without being worried that it opens the door for students to access information outside the approved exam conditions."

Eyre concludes; "AppSense has really been the making of the ITS 4 SEA program. It has given us control in all the areas we wanted it; within the assessments as well as over the entire technology investment."

Future plans

Looking to the future, the University of Bradford's technical services team already has other plans for AppSense. They have identified an opportunity to work with the Exams Office, potentially extending the e-assessment program to provide support to students with disabilities and special needs.

The university is also looking at ways that the facility can be used outside of exams, possibly as a computer lab. This would require a more standard desktop image to be delivered to the thin clients and Wills is looking at AppSense Performance Manager to ensure application delivery and response times remain acceptable.

Network environment
- 1 Sun server
- 1 VMware ESX server
- 100 Sun Ray thin clients

About AppSense

AppSense is the global leader in User Environment Management (UEM) with over 3,000 enterprise customers worldwide that have deployed to over 7 million desktops. AppSense DesktopNow and DataNow enable IT teams to deliver the ultimate user experience and productivity across physical and virtual desktops while optimizing security and reducing operational and infrastructure costs. The company is headquartered in Sunnyvale, CA with offices around the world.