



UHI Millennium Creates a Flexible, Secure Environment for Remote Learning



case study

Solution Overview:

Scottish education institute, UHI Millennium has cut costs and met its unique remote access needs with a Citrix based access solution.

UHI Millennium:

The Highlands and Islands area of Scotland is dominated by dramatic mountain ranges and barren islands, and has a dispersed population of only 500,000 people. Until the advent of the UHI Millennium Institute in 1992, there was no higher education facility for this remote region. The UHI Millennium Institute has an unconventional structure. Rather than a single dedicated campus, it is made up of 15 colleges and research institutions throughout the region, co-ordinated by an executive office based in Inverness.

The Challenge:

At the outset, UHI was aiming to receive full designation as the University of Highlands and Islands. To do this it needed an innovative IT framework that could overcome geographical barriers. UHI has 6,000 higher education students, most of whom are scattered hundreds of miles apart in far-flung locations. For instance, the Shetland College, which is a large college and offers some world-leading naval engineering courses, has a learning centre which is based in a very small building in the Shetland Islands with only four desktop computers.

Distance made IT support very difficult to administer. An IT person could travel for up to two days to resolve a problem in a remote location such as the Shetland Islands. On top of time, there was also the high cost of the trip to be taken into account, estimated on average at £350.

Christopher Rydings, Head of Learning and Information Services, UHI Millennium, said: "This part of the world can be difficult to travel through and isolated. We wanted to facilitate secure, remote access to our network so that students could access course information from anywhere in the world via the Web. Similarly, for our IT staff, updating software applications was a demanding, time-consuming task. UHI is a modern organisation that is changing the way higher education is delivered, so we wanted to harness the right technology to reflect this innovation. It had to be intuitive, easy to use and easy to manage."

Esteem Systems:

With many years experience of working alongside higher education organisations, Esteem Systems has the ability to assist organisations such as UHI to address their long-term teaching and learning objectives through the provision of tailored IT infrastructure solutions.

Esteem specialises in providing a comprehensive range of IT infrastructure services designed to enable customers to maximise their IT investment throughout its lifecycle. These services include project services such as design, consultancy, implementation and training; and ongoing managed services such as technical support, remote system monitoring and management; and asset management.

Esteem has been providing and managing Citrix based solutions for more than 10 years and is a Citrix Platinum Partner, the highest level of accreditation available. The company is also a Microsoft Gold Certified Partner, Wyse Premier Partner and Sun Principal Accredited Partner.



Solution Overview:

Software:

- Citrix Presentation Server™ running on 14 IBM BladeCenter SAN solution
- Citrix Access Gateway™
- Microsoft® Windows Server® 2003
- ISDN WAN, Satellite links, LAN.
- Home and public desktop computers
- 200 Wyse Winterm Windows-based terminals

Lifecycle Services:

Project Services

- Design
- Implementation
- Project Management
- User Acceptance Testing
- Skills Transfer

Managed Services

- Server management
- Problem management
- Incident management

Applications Deployed:

- Microsoft® Office
- Novell GroupWise e-mail software
- Free BSD open source operating system
- Computer-Aided Design (CAD)
- Adobe Acrobat Reader
- SITS – Student Enrolment System
- VLE – Virtual Learning Environments
- Education Library Systems
- Pandion – Chat Software
- Sharepoint
- 3 Different Internet browsers, i.e. Opera to allow Gaelic language translation
- Adobe – Full Suite
- SPSS – Scientific package

Key Benefits:

- Supports certification as a university by improving course delivery
- Achieves £2.8 million saving in desktop costs over five years
- Simplifies IT administration across remote geographic area
- Enables home and remote study for international and commuter students

The Solution:

Traditionally, UHI had used a client/server architecture with multiple networks, including a wide area network (WAN) with ISDN and satellite links connecting to the UHI environment. UHI's complex, dispersed setup presented distinctive problems for UHI and when assessing potential solutions, they had to take into account the size and the level of IT skills of each site.

Christopher Rydings had worked with Citrix technology in the past, and engaged Esteem, a Platinum Citrix® Solution Advisor to design, architect and implement a solution based on Citrix Presentation Server™ with Microsoft® Windows Server® 2003 running on an IBM BladeCenter. The 14-server farm is based at one location in Inverness to provide resilience in case of power or network failures. For remote, secure access, Esteem also installed four Citrix Access Gateway™ Advanced Edition appliances for universal SSL VPN connectivity. As PCs become due for replacement over the next five years, the institute plans to replace the majority of its desktops with lower-cost and longer-life Wyse thin-client terminal devices.

The Results:

Using Citrix Presentation Server, UHI Millennium has created a centralised solution for managing applications and delivering their functionality as a service to students. By replacing its desktops with low-cost terminal devices, UHI projects it could save up to £2.8 million over a five-year period, and a further £250,000 per year in hardware and software maintenance costs. Citrix Presentation Server also simplified the application environment, helping UHI to standardise its system so that all sites are accessing the same version of virtualised applications such as the Microsoft® Office suite.

Christopher Rydings said: "Citrix Presentation Server has made the delivery of IT resources to far-off sites extremely simple. Because we can control these systems from a central location through features such as session shadowing, our IT staff don't need to travel for days to solve small desktop queries, but instead focus on strategies to improve services."

Citrix Access Gateway has provided flexibility and agility for students working at home, thanks to secure, remote application access over the Internet. Citrix Presentation Server is secure-by-design, so all information is stored on the servers, and Access Gateway delivers the security of a hardened appliance-based universal SSL VPN, without the cost and complexity. This has enabled UHI Millennium to offer secure access to more services to its international students, and protect students' course work. It has also meant that students no longer need to commute to remote learning centres.

Christopher Rydings explains: "During the winter months, travel can be very difficult. Roads close and ferry services stop running. Using Access Gateway, we can deliver all software, course documents and anything else they need via the Web. Access Gateway has even allowed one of our students, who works on a Mediterranean naval vessel, to access and complete his course work using the ship's IT systems."

The solution has been a true enabler for UHI Millennium, helping the institution reach students and staff that were previously isolated, and deliver the types of systems most university students take for granted.

Christopher Rydings said: "The impact of this project is not to be underestimated. These communities have traditionally been disadvantaged because the younger generation tended to move to mainland cities to enrol in other universities or to work, and never returned. Our IT systems are now empowering them to study from home, which will build and strengthen these communities."

The Future:

"The solution is a critical part of the advanced communications and technology strategy used throughout UHI for learning, teaching and administration. Ultimately, as UHI Millennium matures and develops, we have the technology foundation to provide education to all our students in the future", concluded Christopher Rydings.

