Citrix partners with universities to transform the education landscape

The Education sector presents unique use cases and complex challenges. Some are obvious, some not so.

Attracting and retaining the very best talent is vital to universities' survival. Yet this is becoming more and more difficult. In an age of consumer entitlement, students are prepared to vote with their feet: they expect high levels of service – both before they choose an institution and while they study there.

With **1 in 23** UK adults registered as students, there are certainly big opportunities for universities if they do meet those demands.

Student demographics are also more diverse than ever before. With new traditional learners and the entrance of Generation Z – the new mobile-first generation now beginning to enter university – demand has increased for high-quality online education with a variety of delivery methods.

These learners want or need the ease of accessibility and the flexible schedule that online education offers, in contrast to the traditional on-campus, classroom learning environment.

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So, what does it take to impress? Research shows that service delivery, campus facilities and an exceptional student experience are some of the key criteria for selection. To achieve all this, strong partnerships will be critical.

Citrix partners with the top 10 highest ranked universities in the world – including the University of Cambridge. By partnering with Citrix, universities can alleviate the most common pain points and clear the roadblocks when it comes to delivering a top tier service. The possibilities, however, don't stop there. Citrix solutions for technology help education institutions create a secure and mobile-ready campus that provides flexible IT and a seamless experience for students, faculty and staff. Ensuring data security, protecting the university's reputation and increasing both student attraction and student retention.

Now, universities need to make sure that both staff and students have the best tools for learning. They need to offer the flexibility to access materials on demand and the freedom to choose whatever device is most comfortable to them, wherever they are in the world. By achieving all of this, universities who partner with Citrix have turned technology into a competitive advantage through innovation.

Stay up and running despite disruption

Many universities experience regular student or campus activism. Some of these campaigns involve days or even weeks of large-scale take-overs, often targeting administrative centres. As a result, during these campaigns, entire departments are unable to access their applications and data. Sometimes, they have to shut down entirely. All of this can have a significant financial impact on universities.

By adopting a modern, centralised delivery model with Citrix, administrative staff can now securely access their apps and data any time, from any device, any location. With apps and data decoupled from their endpoint devices and being delivered from either the university datacentre or the cloud, staff don't have to rely on access to specific locations. Instead, they can get their work done on time, every time, ensuring that the university is always running smoothly.

Keep data secure

Universities face more attacks from hackers and malware than ever before. A successful ransomware attack can cost a university hundreds of thousands of pounds to remediate.

With Citrix, universities that have adopted a centralised delivery model have dramatically reduced their attack surface, created faster security patching capabilities and simplified image management. Not only does this approach allow services to be restored in a matter of hours, rather than weeks or months, but it also makes sure that all of the university's sensitive information is secure. Instead of keeping data on end-point devices that could be lost or stolen, information can be stored safely in university-controlled data repositories, either on-premises or in the cloud. Plus, by containerising university applications and data on unmanaged mobile devices, the risk of data leakage can be restricted even further.

Data is not only available from anywhere, it is secure anywhere too – even when it leaves the university network – because of robust access rights management, end-to-end encryption, secure web browsing, and context aware technology.

Universities that have partnered with Citrix are safe in the knowledge that their vital information is protected, ensuring data stays secure and accessible no matter where it resides or where it is being accessed from.

Make access easier

Poor account access practices are common in universities. Users often have to remember several different usernames and passwords, making moving between applications difficult.

With Citrix, higher education institutions can now offer contextual and secure access to all learning resources through a single workspace with single sign-on. It means that students only need to use a single set of credentials to access all of their applications and data. Plus, with single sign-on, on-boarding and off-boarding of users is easier. A user can be brought onto the system or taken off it by enabling or disabling a single account. Citrix technologies provide these benefits without compromising on security.

Key Facts:

- Technology and digital tools are transforming the way students learn, enhancing teaching across schools, colleges and universities

- Cyber-attacks on college computer systems are increasing both in frequency and scope[1]

- Criminals are now using denial of service (DDoS) attacks against colleges to make online services unavailable

- A quarter of colleges suffered a DDoS attack in 2017[2]

- There were, on average, 12 DDoS attacks per week against colleges in the UK in the first three months of this year – an increase of 27% compared with the same period last year [3]

"Cyber security is one of the biggest issues facing all organisations. Big and small, and colleges are no exception. [...]College budgets have been hit harder than any other part of the education system over the past eight years,and cuts to Jisc funding will make it more difficult to protect against cyber intrusions"

Julian Gravatt, Deputy Chief Executive of the Association of Colleges

[1] Research from Jisc.
[2] Ibid.
[3] Ibid.

Re-invent the learning experience

Traditionally, classrooms have always been built around the subject being taught. Student numbers were limited by devices available or the size of the classroom. Classrooms had traditional desktops, which had to be high-powered and were set up to deliver a single course.

This restrictive model meant that these traditional desktops needed to be re-imaged before the classroom could be used for a different course. It was a complex and time-consuming process, which left classrooms of high-powered, expensive desktops switched off for long periods of time.

With Citrix, resource requirements are no longer focussed on the endpoint device, but instead shifted to the datacentre. Classrooms can now be fitted out with low-cost, low-maintenance thin or zero client devices which never need to be re-imaged. With this solution, students have instant access to any course material and there's no need for classrooms to sit dormant.

Become a global player

A central delivery model also means that lecturers and students can access course material using any device, over any connection, at any time, no matter where they might be. Whereas in the past, students had to attend traditional classroom-based learning for all course-related activity, they can now complete independent learning more flexibly. In turn, contact time with lecturers can be focussed on what students need most help with.

Fewer traditional classrooms are required, and more intimate and collaborative learning spaces can be used instead. Restrictions on the number of students can be lifted too, since institutions no longer depend on physical classroom space. In turn, this gives universities the power to repurpose, consolidate or even relinquish real estate, as well as to use non-university buildings for teaching. With campus-level functionality from anywhere, community outreach programs or corporate modules are easier to deliver. Plus, providing high-quality distance learning becomes possible – the key to lowering course costs, reaching a global population and increasing revenue.

Universities that have partnered with Citrix are truly re-inventing the educational experience by offering a flexible approach to learning on a global scale.

Key Facts:

- Universities and higher education institutions are focusing on active learning, and looking to IT solutions which can help them deliver a more interactive experience.

- Now that information and resources can be stored remotely and accessed any time, in any place, universities and education institutions are adopting a more connected approach to teaching.

- Collaborative learning will be a key trend in the future because it has never been easier for teachers and students to share their skills and output with each other.

Change the way devices are used

With the average person using more than one device a day, universities are rightly adopting much more flexible approaches. With bring your own device (BYOD), choose your own device (CYOD), public shared devices, or even loaned devices from vending machines, there are many options. Universities can make sure students are comfortable with their device by allowing students more choice.

With Citrix technologies, students are no longer constrained to a traditional endpoint device in a classroom. Regardless of device, the student is guaranteed a seamless, secure and consistent user experience. Citrix also supports the full range of IT peripherals – from headsets to printers – so learning is guaranteed to be a hassle-free experience.

Reduce desktop costs

Of course, devices still need to be replaced. However, by moving to a centralised delivery model and shifting the resource requirement away from the endpoint device to the datacentre or cloud, universities can drastically reduce the cost of replacing desktops in three ways:

1. **Expensive high-powered devices can be replaced** with low-powered, low-maintenance endpoint devices for a fraction of the cost.

2. **Existing desktops can be transformed** into thin client devices in order to extend their life. This reduces the overall number of endpoint devices that need replacing in a refresh cycle.

3. **Students can access their courseware using their own devices** (BYOD), further reducing the reliance on expensive desktop devices and lowering the overall number of endpoint devices that need replacing in a refresh cycle.

Drive the green agenda

By adopting Citrix technologies, desktop and datacentre energy can be significantly reduced. In some cases, consumption has been cut by up to 90%.[4] Plus, with centralised management within the university, IT staff can significantly reduce their work travel. Not only does this further cut the environmental impact of the university, but it also improves productivity.

4 https://www.citrix.com/customers/scottish-environment-protection-agency-en.html

Key Facts:

- Mobile innovation is at the heart of how universities improve operations, accommodate staff and students, inspire new learning and ensure security.

- BYOD has transformed the way universities and students interact. Higher education has seen success following its digital transformation with students, staff and employees able to access organisational services from wherever they are using browser-based tools.

- New infrastructure is helping universities not only to meet the demands of multiple devices with multiple IP addresses accessing their connections, but also to create opportunities for students to work across a variety of locations.

Reduce management complexity

With a centralised delivery model, university IT staff no longer have to manage and support thousands of endpoint devices individually, each with locally installed operating systems and applications. Instead, they can concentrate on a single image and per-user application delivery, all of which are centrally managed and accessed by users as and when required. Upgrades and modifications to these images now take minutes or hours, instead of days or weeks, to complete. Plus, they can be rolled back just as quickly if any issues arise with an update.

Citrix offers full Mobile Device Management (MDM) and Mobile Application Management (MAM) capabilities. These provide university IT staff with a modern approach to managing all endpoint devices including desktops, laptops, smartphones, tablets, and IoT through a single platform. This all makes it far easier to manage endpoint devices across an estate.

Increase flexibility and simplify

Universities are aggressively adopting a more evergreen model, pushing key services to the cloud with a Software-as-a-Service (SaaS) approach and reducing their datacentre footprints.

Citrix Cloud services simplify the delivery and management of Citrix technologies and give universities the choice of delivering services from on-premises, in the cloud or both. With this hybrid multi cloud approach, IT admins can choose which delivery mechanism to use based on the application or data they need to deliver. Applications and data can also be delivered consistently during transition periods, and change can happen at whatever pace best suits the organisation – all without downtime.

Plus, by moving some complex on-premises Citrix infrastructure to the cloud and adopting Citrix Cloud solutions, universities can transfer the burden of day-to-day management to Citrix. With this time freed up, IT staff can concentrate on innovation.

Key Facts:

- UK universities and higher education institutions are focusing on digital transformation. However, their IT departments are being held back by mounting pressures and shrinking resources.[5]

- Modernising campus facilities, enhancing campus operational efficiency and reducing operational costs were all flagged up by survey respondents as priorities.[7]

- Overall spending on ICT across education is likely to remain flat, but the proportion spent on cloud solutions is expected to increase significantly. This is driven by a desire to reduce costs, improve services, create a more flexible IT estate, drive collaboration and reduce environmental impacts.[8]

- Though many institutions have historically developed their own in-house Student Information Systems (SIS) or customised an on-premise SIS, those have become increasingly harder to manage or integrate with other solutions.[9]

Of 40 surveyed universities, 50% pointed to ageing legacy infrastructure and networks as a roadblock to their digital transformation. 48% cited limited budgets, and 43% mentioned security and data requirements as serious factors[6]

[5] 'IT Infrastructure Must Be Secure, Affordable and Agile to Underpin Digital Transformation in UK Universities' survey, sponsored by Cogeco Peer 1.
[6] Ibid.
[7] Ibid.
[8] IDC, Accenture, Industry reporting.
[9] Ovum, Industry reporting.

Simplify Windows updates

With the frequency of new releases of Windows, the update overhead often makes traditional deployment unworkable.

While these updates are designed to keep us all safe and protected, sometimes this can be to the detriment of the user experience. Often these updates install without warning and can often fail entirely.

By moving the operating system to the datacentre, Windows updates can be controlled and managed on a very small number of images. Once installed, updates can be safely tested. If successful, the image can be deployed silently to the user with little to no disruption.

Accelerate migrations to Office 365

Universities are rapidly adopting Microsoft Office 365. As they migrate, they need to ensure an exceptional user experience.

However, migration can lead to multiple application delivery methods, with staff and students accessing various application portals in order to consume their applications and data. This negatively affects user experience by forcing users to navigate between these different application delivery methods, some of which may require cumbersome VPN connectivity and different authentication methods.

By partnering with Citrix, universities have been able to streamline application management and provide secure delivery of Office 365 applications as soon as they're available. All from a single workspace, alongside all other university applications and data.

Whether they're delivering services from on-premises or the cloud, universities that use Citrix can provide staff and students with secure access to all their applications and data in one place. Not only that, but also without any frustrating VPN connectivity, and as soon as they are available.

Partnership in action

UCL overcomes space restrictions with Citrix

The problem

Central London is a huge draw for students. But it's also a challenge for IT staff.

With no room to expand, this university was running out of space. Students needed to access software that wasn't licensed for their own devices, but central computer rooms were too busy in peak times. Plus, students working off site had no way to access files centrally.

The solution

With Citrix Virtual Desktops, the university extended the on-campus experience to staff and students everywhere. Students can now log on through a webpage, and they never need a VPN. They can also use the virtual desktop on campus for any software that they can't install on their own device.

University of Northampton leads the way in digital learning

The problem

With a brand-new campus, the university was well-placed to transform. This institution wanted to lead the way and put active learning first.

But that requires course-specific software – software which often uses high-resolution graphics. Since students' own devices aren't powerful enough for the job, the university would traditionally have to set up rooms with high-end workstations and install the software on them. All of which limits course numbers and reduces flexibility.

The solution

With Citrix Workspace and Citrix Receiver, the university made active learning easier to both access and manage. Students can now use their own device to run high-end software anywhere, and rooms aren't tied to specific courses. Plus, all the software can be managed centrally from the university's data centre, meaning it's always up to date.

Summary

In this consumer driven age, universities must turn technology into a competitive advantage to compete effectively. To do this, they will have to innovate.

Universities that have already partnered with Citrix have successfully modernised campus facilities, enhanced operational efficiency and reduced overall operational costs. At the same time, they have given students the flexibility to access all course material from a single, secure workspace using any device, in any location, at any time.

Not only does this open up new and exciting ways for students to learn and collaborate, it also helps universities to attract new candidates from a global pool of the very best talent.

A partner that shares your values

It's not enough to provide the right technology. Universities play a unique role, and their partners need to show the same commitment to both education and social responsibility.

The Million Makers Challenge

Citrix supports the Million Makers team in raising funds for the Prince's Trust. As well as raising money to help other young people access better jobs, training and education, participating in the programme offers young Citrix employees an opportunity to grow and network themselves.

Internships and apprenticeships

Citrix offers 15 engineering internships and four engineering apprenticeships in the UK, as well as four tech support internships in Ireland. Not only that, but the company also offers regular work experience opportunities as part of its corporate citizenship programme.

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