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COMPETITIVE FORUM

How Leading Universities focus on secure digital services

As academia digitizes, university CIOs require secure End User Computing that supports the new demands of students, researchers and the institution.

The dusty image of academia is out of touch. In today's highly competitive, global academic sector, universities have to compete for the best students and researchers. To remain competitive, universities are adopting the latest technologies and methods from the business world. In doing so academics, employees and of course the students benefit from increased freedom to securely access online tools and resources from anywhere on the campus or away from the university. This freedom and flexibility is underpinned by cloud-based enterprise computing, which provides the institution with a flexible, robust, and flexible technology platform.

Universities are undergoing seismic change. Higher education has become a global market, in early 2020 a study revealed that one in every student within the European Union was from China. As a result, new service delivery and funding models combined with radically different teaching and student engagement methods are being developed across academia. The massive acceleration of remote teaching due to the pandemic has likely altered academia for both the short and long term. All of this has led to academia being a hotbed of revolution – the digital revolution. Universities are hiring chief information officers from sectors as diverse as the military, entertainment, and government to bring digital transformation experience to their campuses.

“It is a really big endorsement for the university, and we are the first organisation in China to be accredited to provide technical and leadership training across China,” the CIO of a major institution in Scotland says of the globalisation of academia. Whether students are from down the road or from the other side of the world, one shared cultural value is that they are digital natives, and expect their education and research to have the same technological standards and attributes as they receive from the online services that shape their personal world.

“An annual fee is around 9,000€ a year, for international students that can be double, so recruitment of those students is a highly competitive market, so the offer you give has to be compelling,” the CIO of a Russell Group university says, the Russell Group is an association of 24 leading UK universities. “You need to respond to their application quickly and get them signed up,” the CIO adds of enrolment pressure being just one area where technology can play a vital role in improving the operations of a university, and keeping it competitive in the new environment.

Once the student or researcher selects an institute, they will expect a high quality blend of face-to-face and online tuition and experience. The Scottish university CIO, for example, provides heat map apps to inform students of times when the canteen or other student services are busy. “We have 16,000 students, you can get really immediate and face-to-face feedback on your services,” she says of the importance of delivering a high-quality product.

Research also drives revenue, both in terms of grants to carry out research, but it also attracts students. That research drives a demand for high end and scalable technology. For the Russell Group University CIO, part of his institution is monitoring an exoplanet via the Hubble space telescope. Deep analysis of the light on the exoplanet led the researchers to discover the presence of helium on the planet. This discovery was made through the analysis of data via a high-performance computer (HPC) and an enterprise cloud infrastructure.

“Focusing on research and changing the IT operating model without dropping the ball is a risky business,” the Russell Group CIO says of how university technology leaders are at the heart of teaching, research and operational improvements across every area of the institute. “Research is vital for the university as part of Russell Group – the research intensive universities. Because research drives big money, creating the capability to support research means buying high-performance computing.” In addition to the researcher’s compute requirements, the CIO adds that technology is vital to ensure research bids, grants, results analysis, publishing and impact are all collated, completed and carried out with as little burden on both the academics and the institution as possible. As a result, universities are digitising their business models in a manner similar to a major bank or a government body. Each of the above tasks in the research process have to be digitally connected to streamline the process and the academic CIOs report that this is true of every area of the university, whether teaching or management of the campus, it is essential that all areas are connected and work together seamlessly. “It is all about being data and insight-driven,” the CIO says.

Total shipments to the education segment increased 89.1% year on year

TECHNOLOGY DIVERSITY

University CIOs and CTOs have to be able to support a highly diverse technology landscape. As a result, the technology estate has to support the varying demands. “We are looking to roll out virtual desktops and lab environments,” the Scottish CIO says. “You need very high-speed computing for games development, maybe not so much for a social work course, and we provide labs that are flexible in computing ability so that they can be timetabled for any type of class.” Her institution provides courses on business, technology, engineering, health and sport as well as a range of more academic courses; therefore her team has to “provide different solutions for different schools”.

As the digitisation takes root in universities, the CIOs also need to ensure their peers are aware of the opportunities and new methods required to be a successful digital teaching enterprise. “We have worked really hard to get the university to understand – what are you going to do when the website goes down? We run a lot of services through the website, the recruitment, confirmation process for example,” the Russell Group CIO says of how he has introduced risk management, scenario planning and the development of partnerships and infrastructure to support the university in the event of a systems failure.

Digital native students will expect to bring their own technology to the campus and connect to online services. “Tablets are becoming important learning tools for students in Western Europe,” said Francisco Jeronimo, associate vice president at technology analyst house IDC EMEA. “Across every country in the region, a growing number of schools are introducing tablets in the classroom, as digital books and learning applications are becoming part of most curriculums. These large education tenders are impacting the tablet market performance and growth.” From the classroom to laboratory, halls of residence to the bursar’s office, a plethora of devices, selected by students and academics are rapidly changing the shape of academia, which in turn will redefine the applications and the supporting infrastructure institutions deploy. This shift is being led by Western Europe, according to IDC, where total shipments to the education segment increased 89.1% year on year.

“We are having to transform from an old-style IT organisation providing infrastructure and applications to be right down in the business of the college, as a central shared service, driving business activity,” the Russell Group CIO says. Both CIOs describe how the technology and the IT teams they lead have become highly customer focused and able to navigate the differing demands of students, researchers, teaching staff, administrators, partner organisations such as exam boards; and the myriad of suppliers that provide services to a campus. “So we really have to focus on digital services.”

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