



UNIVERSITY OF TECHNOLOGY SYDNEY LIBERATES STUDENTS FROM ON-CAMPUS DESKTOPS WITH VMWARE'S DIGITAL WORKSPACE SOLUTION



INDUSTRY

HIGHER EDUCATION

LOCATION

SYDNEY, AUSTRALIA

KEY CHALLENGES

- Access to complex software only available on campus

SOLUTION

UTS implemented VMware Horizon Cloud on Microsoft Azure to enable 10,854 students to access all coursework off campus without experiencing any latencies. By virtualizing the network, UTS is also now able to deploy enhancements without any disruptions to students, providing a seamless education experience.

BUSINESS BENEFITS

- A reduction to operational costs by 40%, by moving applications and desktop infrastructure to the cloud
- Students have gained confidence in digital working, learning, and collaboration, taking them even further in the working world.

As one of Australia's top universities, the University of Technology Sydney (UTS) can host more than 40,000 students at any given time across its wide range of faculties. To differentiate its student experience in an increasingly competitive higher education market, the university planned to provide secure, seamless and faster access to digital tools at any time, on any device to its students – a cloud-based initiative which would also reduce costs and free up manpower for the university's IT team.

The Challenge

Before the cloud, students had to be physically present at campus to access software and services needed for their studies, which limited collaboration and research while also decreasing students' overall time efficiency. The university saw the opportunity to improve student productivity – and overall engagement – by hosting all necessary digital tools and software on the cloud, with students using virtual desktop infrastructure to access their necessary resources anytime, anywhere.

“Instead of spending hours commuting down to campus, students can log into their virtual desktops wherever they want and begin working with their software of choice – all within minutes,” says Rob Jarman, Associate Dean Faculty of Engineering and Information Technology, UTS. “This always-on access doesn't just render the learning experience more productive, but also relevant to students' futures: it's reflective of the agility required by today's modern workplaces. We want to ensure our students are prepared for what's part and parcel of today's highly digital and connected society, something a cloud-first approach to self-directed learning could provide.”

The university's IT team, however, recognised that a virtual desktop platform could easily turn sour if not backed up by significant increases in network connectivity and compute speed in the cloud. “It wouldn't make sense to allow students to access their work anywhere, yet be unable to achieve anything due to latency, both on the network and the tools themselves,” explains Dr Luke Mathieson, Lecturer, School of Software, Faculty of Engineering and Information Technology, UTS. “Any cloud solution had to be fast, and powerful enough to support the operating demands of any software, as well as the demands of our students' projects, which would only grow in size and complexity as they progress through their studies.”

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PETER GALE
DEPUTY CIO, UTS

VMWARE FOOTPRINT

- VMware Horizon Cloud on Microsoft Azure

The Solution:

UTS partnered with VMware to deploy VMware Horizon Cloud on Microsoft Azure, allowing the university to host, manage, and scale out its digital tools and software over VMware virtual desktops. Running VMware Horizon Cloud offered the university a highly secure and fully-integrated system by which IT could deliver apps to any student device. The solution was initially rolled out in several pilot programs to over 10,854 engineering students across two months. Even with a high number of users, the solution allowed students to confidently and seamlessly access their workloads online, without needing to step foot onto campus itself.

"The Engineering faculty's coursework and research involve immense amounts of processing power: Calculations, planning, and rendering all involve high amounts of processing that can stretch even the most powerful workstations," notes Peter Gale, Deputy CIO, UTS. "This gave us a valuable testbed for VMware's cloud solution: if it could allow an engineering student to run their tasks from home or even public Wi-Fi areas without compromising on performance, we could expand its deployment to other less compute-intensive faculties with total confidence."

"Many of the applications we use for engineering coursework are only available through the university due to high price and system requirements. In the past, we had no choice but travel all the way to campus and use faculty desktops to access those applications," says Dennis Kim, a Biomedical Engineering Student. "That process inevitably involved some level of inconvenience and planning, because you had to share workstations with fellow students wanting to use the software. With this new cloud-based solution, I've been able to devote more headspace to my projects instead of worrying about securing a workstation on campus. I've been able to work anywhere and get the same computational experience when running analytics or loading heavy graphical packages."

Outcome

Since its initial pilots, the solution has received widespread positive feedback from both the student body and from general staff in the university. Many students commented on the virtual desktops' seamlessly reliable performance, even when accessing from overseas or in lower-connectivity areas: since deployment, VMware Horizon Cloud on Microsoft Azure has successfully handled over 50,000 software and application load requests with zero downtime.

"It's far more stable and consistent than anything we could have deployed on-premise," Gale says. "The virtualization of our network has allowed us to do more with less time and effort involved. We can now deploy a single upgrade instance or security patch on a single image and have it reflected throughout the system within hours, instead of days, which reduces any disruption to our students. And at the same time, we can better guard our network against data breaches or attacks, giving students and staff alike greater confidence in the security of their often sensitive work."

With a future looking lens, should the university wish to improve security on the user-end, they can deploy tools such as multi-factor authentication along with VMware's Identity Manager for Single-Sign-On - which allows token-based authentication of user accounts.

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The cloud deployment has also significantly reduced operations and maintenance time for the university's IT team, freeing them up to devise and deliver broader student experience improvements. "We definitely have more capacity to think about things like procurement of better equipment, or even the deployment of automation that would improve our self-help portal and assignment submission processes," Gale observes. At the same time, moving applications and desktop infrastructure to the cloud has resulted in reductions to operational costs by 40% - freeing up not only IT's budget, but also the space once used to house server infrastructure.

The marked improvement in student experience during the initial pilots have attracted the interest of other faculties "They are looking into how the cloud could help their students and lecturers as well: a cloud-based learning environment tends to open up a range of new educational and collaborative possibilities for academic work, no matter the discipline," Mathieson says. "We're working with a number of department heads to explore how the VMware stack could help their students both improve their academic results and gain valuable experience on what collaboration and productivity look like in today's professional environment."

"I think the keyword here is 'seamlessness' - not just seamless access to all necessary software, resources or apps, but also seamless transition, in terms of mind-set and methods, for our students," says Rob Jarman. "We want that jump from academic life into career - which has traditionally been difficult - to be as smooth as possible for our graduates, whether they enter the workforce here in Australia or abroad.

VMware's virtual desktop solution hosted on Microsoft public cloud platform has helped us create an environment where students can gain that confidence in digital working, learning, and collaboration which will take them even further in the working world. It's a valuable milestone in our digital transformation journey and one that we believe will positively impact students well beyond what they experience today."

