



Victoria University Uses Cisco for the Future of Education

VU deployed a Software Defined-Access network at its new vertical campus and trialed a range of digital services that will improve health and safety, create intuitive navigation services and help optimise use of its physical spaces.



The customer summary

Customer name
Victoria University

Industry
Education

Location
Melbourne, Australia

Number of employees
3,135

Number of enrollments
41,491



Initiative 1: Creating an advanced network platform for the university of the future

VU has an expanding presence and a bold vision to bring the future of learning to students. VU turned to Cisco® Software-Defined Access (SDA) to ensure its network environment can meet these demands in the state-of-the-art vertical campus building in Melbourne’s central business district (CBD).



Business Challenge

- Maximise student engagement and retention
- Augment VU’s innovative block model with immersive digital technologies
- Support a range of digital services for students, staff and industry partners
- Improve network resilience and security
- Enable easier access to industry partners



Network Solution

- Deployed SD-Access to enable policy-based automation capabilities from the edge to the cloud including:
 - End-to-end segmentation
 - Automated user and device policies for any application
 - Zero-Trust security across all users and devices
- Ensured the network is able to support new Flipped Campus approaches



Business Results

- Helped VU differentiate itself as a progressive, digitally enabled university
- Improved scalability and visibility
- Improved visibility and cyber threat management
- De-risked future investments in SD-Access
- Reduced network management complexity

Technology Partners

Cisco, Telstra

Business Challenge

VU's City Campus embodies the university campus of the future. It houses the state-of-the-art, 26-level VU City Tower in the heart of Melbourne's central business district and legal precinct. In order to realise the university's vision of bringing the future of learning to students, the campus needed to be designed with a digital-first approach from the outset.

This meant supporting a growing number of applications, users and devices that place unprecedented demands on the network. It also meant having an IT environment that could evolve to match new immersive digital technologies – all while ensuring a consistent and secure user experience for staff and students, and ease of deployment for IT.

Network Solution

Cisco deployed Software-Defined Access (SD-Access) – a solution within Cisco Digital Network Architecture (Cisco DNA®), which is built on intent-based networking principles.

With Cisco SD-Access, an intelligent network fabric was implemented, underpinned by Cisco Catalyst® 9000 switches, Cisco DNA Center™ and Cisco Identity Services Engine (Cisco ISE). This solution provided visibility-based, automated end-to-end segmentation to separate user, device and application traffic, in addition to the flexibility and agility possible only with a network controller-based fabric.

Business Results

By enabling policy-based automation from the edge to the cloud, SD-Access gave VU next-generation capabilities to manage its network environment. VU has been able to simplify network management, tighten security, tackle ever-increasing workloads and embrace new digital technologies. For example, visualisation of network traffic and bandwidth control is now more precise and flexible.

Instead of simply provisioning and managing devices, IT is now able to unlock the network's full potential. The network has become critical infrastructure that can accommodate future changes, such as an increase in the number of devices, or adoption of new digital services and work styles – all while ensuring rigorous levels of security for VU, staff and students.

“The new VU Tower campus is a true integration of university and industry to create a totally experiential environment. The campus represents a re-imagination of education in the heart of the business and legal district.”

Professor Adam Shoemaker
Vice Chancellor, Victoria University

Technology Partners

Cisco, Meraki and MazeMap

Business Challenge

The impact of COVID-19 on university campuses has been long-lasting. The acceleration of remote working – alongside blended learning – has led to more staff and students working and learning at home. This has drastically reduced demand for traditional spaces such as lecture theatres, and created pressure on universities to differentiate the campus experience.

VU wanted to understand how spaces – one of universities' largest fixed costs – are currently being used and what opportunities exist to improve utilisation through digital services that support campus activation. This included services that support a safe return to campus (e.g. social distancing, hygiene requirements and other COVID-safe restrictions), intuitive navigation around the campus, and immersive working and learning.

As campuses are reimaged for the future, VU also wanted to understand how the data it gathers across its network of campuses can be used to monitor environmental conditions and create an automated platform for reducing the university's environmental footprint.

Network Solution

To capture data on space utilisation, VU installed Cisco Meraki Smart Cameras, which provided secure insights into people activity in and out of the demo space. This was amplified through deployment of Webex® by Cisco Devices in meeting rooms, providing an intelligent meetings solution, deep analytics on room utilisation and environmental monitoring all-in-one.

Data from Cisco Meraki Smart Cameras and Webex devices was then integrated with Cisco Wi-Fi 6 access points and Cisco DNA Spaces to provide a unified telemetry platform with rich insights into the use of spaces and environmental conditions.

The analytics generated through this solution were used to deploy a suite of digital services enabling a safe return to campus. This included integration of Cisco DNA Spaces with MazeMap, delivering a rich and engaging presentation of occupancy and environmental data to students and staff, and activation of active feedback features on Webex devices to inform users if room occupancy exceeds recommended levels.

“Cisco is helping VU demonstrate that a futuristic university is differentiated by more than its physical design. Advanced Cisco technologies are helping VU set a new standard in terms of student experience, ensuring that new services can be delivered in a way that is financially and environmentally sustainable. Cisco’s willingness to innovate and co-invest with VU allows us to continuously drive more value out of our digital investments.”

Stuart Hildyard

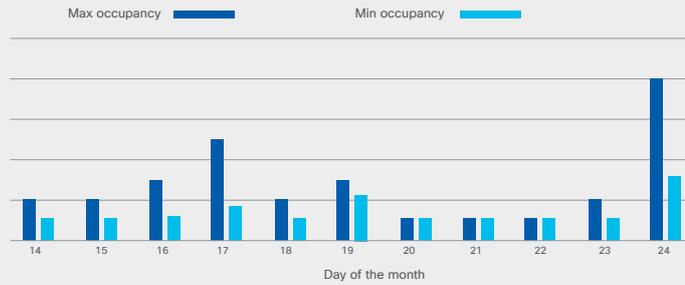
Executive Director, Information Technology Services, Victoria University

Business Results

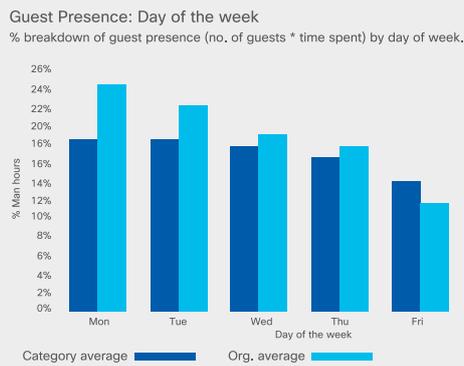
By leveraging the sensing capabilities of the deployed technologies, VU discovered new insights into asset performance, environmental conditions and customer behaviour that will assist with future campus design and deployment of new location-based services across the campus network.

As part of the proof of concepts, VU could enable capabilities including:

Analytics on room occupancy and dwell time including tracking average room occupancy vs. max occupancy. These functionalities enable VU to make more informed decisions about room allocation, enforce COVID-safe density limits and automate heating and cooling based on utilisation patterns.



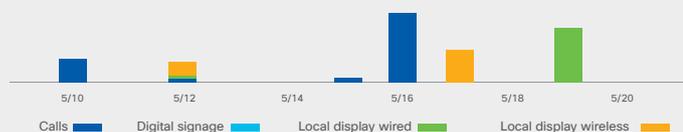
Analytics on who is using the campus and how frequently including student and guest presence across locations, visit time and visit duration. This allows VU to identify ‘dead spots’ on campus that need to be activated and to measure engagement with external visitors.



Analytics on people movement including location heat maps that demonstrate how people are moving through campus spaces. This helps inform future changes to campus design including encouraging freer flow of people.



Analytics on device usage including calling devices, digital signage and whiteboarding. This helps VU to measure the return on investment from different devices and provides an evidence base for future investment in technology.



Analytics on audio and video call quality including amount of uptime and frequency of call quality issues. This provides a real-time measure of the extent to which VU's IT environment is meeting the needs of users.

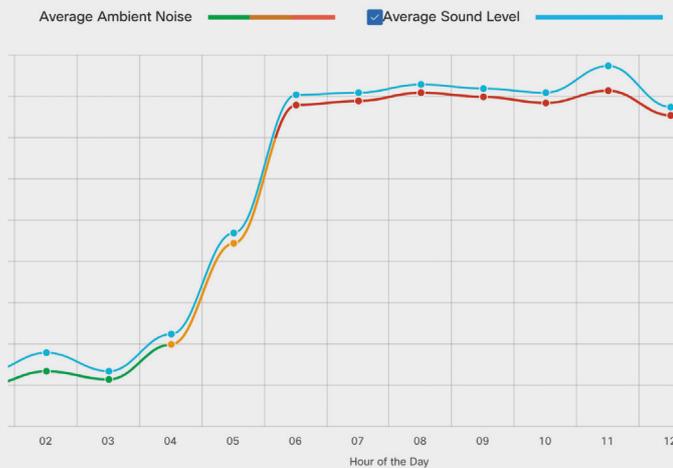
Webex audio call quality of devices



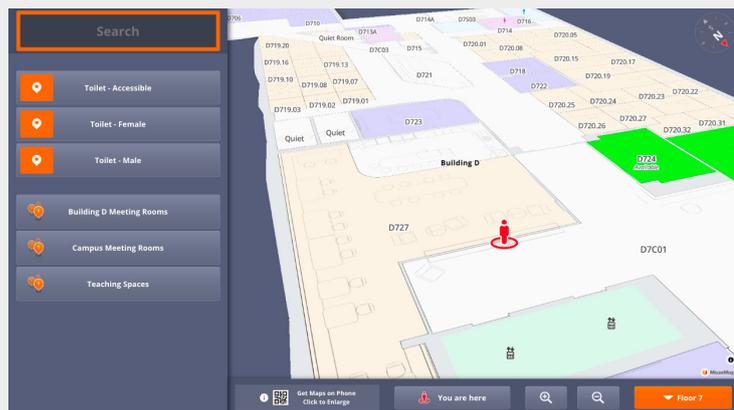
Issue mins of devices in Webex Calls



Analytics on environmental conditions including ambient noise, temperature, humidity and air quality. This provides a real-time measure of the extent to which VU is providing a safe and comfortable teaching and learning environment for students, staff and visitors.



Interactive campus applications that enable students and staff to identify how busy spaces are, and locate on-campus services and facilities. This helps to drive visitation to on-campus facilities such as retail and hospitality, while also providing a frictionless on-campus navigation experience.



Early trials of analytics services deployed across the campus demonstrated significant potential. VU was able to capture data that will be critical to facilitating a richer and more collaborative on-campus experience for staff, educators and students. The data is easily accessible (including via online portal for Cisco DNA Spaces data) and can be integrated with other systems such as MazeMap to ensure that the campus is comfortable, easy to navigate, safe and efficient to operate.

Going forward

VU's Proof of Concepts demonstrate the feasibility of using Wi-Fi data to generate insights into space utilisation and drive the design of digital services that activate the campus. While initially developed at VU's Footscray Park campus, the solution – as well as the digital services built on top of it – has the potential to play a major role at VU's City Campus.

The deployment of SD-Access at VU's City Campus provides the underlying technology infrastructure to run the solution and associated services at scale.

Product list

- Cisco Software-Defined Access (SD-Access)
- Cisco Catalyst Wi-Fi 6 Access Points
- Cisco Meraki MV Cameras
- Webex Devices
- Cisco DNA Spaces