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The customer summary

Customer name
University of Melbourne

Industry
Education

Location
Melbourne, Australia

Establishing Infrastructure-as-Code

University of Melbourne improves network visibility, security, and automation with Cisco Nexus 9000 Series switches

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Challenges

- Modernize and extend the university's data center network
- Standardize and accelerate IT operations
- Improve the alignment and utilization of university resources

Solutions

- Software-defined network with centralized, policy-based management

Results

- Improved data center visibility, security, and automation
- Accelerated VM deployments and reduced network incidents and outages
- Established a network foundation that can be extended to edge and cloud environments

Infrastructure-as-code

The University of Melbourne supports over 60,000 students and 20,000 staff. It works closely with more than 100 affiliated institutes and research centers. It is advancing its smart campus capabilities to improve resource utilization, operational insights, and student safety.

And it is doing so with the help of a software-defined data center network.

"Our former network was reaching its capacity and support limits, but we didn't want a pure refresh," explains Daniel Buttigieg, director of enterprise technology at the University of Melbourne. "We wanted an enhanced and future proofed design that would push our IT capabilities forward with a focus on continuing to increase virtualization, visibility, security, and automation."

Aiming to establish infrastructure-as-code, the university built its new network with Cisco Nexus® 9000 Series switches, which bring security, scalability, and flexibility to next-generation data centers.

"We were impressed with the features and cost of the Nexus 9300s as well as the tight integration with VMware and NSX," Buttigieg says.

Two big benefits

Sixty-four Cisco Nexus 9300 switches now connect the university's two active/active data centers, with L2 stretched between the sites for workload portability and seamless failover. All of the switches are managed centrally using Cisco Data Center Network Manager (DCNM).

"The network gives us two big benefits: end-to-end visibility and software-defined automation," says Buttigieg.

For the first time, the university's IT staff has full visibility of its physical and virtual infrastructure resources. And they're using Cisco DCNM in tandem with Ansible Tower to automate network policies, deployments, and updates.

"We used to provision everything manually, hoping to adhere to a standard," Buttigieg recalls. "But now everything is policy-based and consistent. We can make changes quickly and confidently. And we can do it remotely instead of logging into each switch, server, and VM manually."

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Director of Enterprise Technology, University of Melbourne

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Infrastructure deployments and updates are now much faster as a result. And the university is experiencing fewer incidents and outages because of misconfigurations.

Extending the network

The University of Melbourne is now in the process of extending its network to new users and environments. An automation layer has been established that allows technical users to configure, deploy, and update their own virtual hosts, and the self-service capabilities will eventually be offered to additional users.

"Software-defined, policy-based automation has made our operations more efficient, more consistent, and more secure," Buttigieg says. "And we're extending those capabilities to our faculty and research partners."

The network will also be stretched to remote campuses as well as the public cloud.

"We'll use the same tools and policies as we do within our core data centers, which will give us better standardization and much more flexibility," Buttigieg says. "We'll be able to scale up and down, migrate workloads across environments, and continually optimize the infrastructure — and it will all be transparent to the end user."

"Software-defined, policy-based automation has made our operations more efficient, more consistent, and more secure."

Daniel Buttigieg
Director of Enterprise Technology, University of Melbourne

Learn more about Cisco data center computing and networking customer deployments.

Product list

- Cisco Nexus 9000 Series switches
- Cisco Data Center Network Manager