Case study

Top marks

Innovative edge digital network architecture sets platform for enhanced user experience, across education network

Success with Secure Agility

With an expansivenetworkof 80 schools and five early learning centres across western Sydney, the Catholic Schools Parramatta Diocese (CSPD) has been at the forefront of using technology to improve the learning experiences for its staff and students for decades.

Even prior to the NBN, the diocese built its own wide area network that brought fibre to all its schools.

More recently, the diocese embarked on a network modernisation project at its corporate headquarters that will serve as a platform for improved management and user experience.

With everything from 3D printing to virtual reality in use at its schools, the modern network will power enhanced teaching and learning right up to the edge.

Meeting a head office deadline

Atthe administrative office in Parramatta, CSPD has some 250 end-users who support 5,000 staff and 50,000 student end-users.

Moving offices is always a challenge. However, in this case, the diocese also required segmentation of business entities while the transition was performed. It also wanted more client, application, and network performance visibility.

Two different organisations were moving into new head offices but required functional segmentation or logical separation to ensure a clear delineation, while still allowing secure access to shared resources.

The user experience had challenges such as lack of visibility, difficulty troubleshooting and long change times. Poor application experience was also a concern for the administration staff.

Modern Network Possibilities

With an eye for what a modern network architecture could offer, Jackson Chan, Head of Services, CSPD and his team developed a strategy to modernise its technology to extend to shared IoT devices joining the network, which need to be segmented, but allow authorised access from either organisation.

Faced with a tight timeline to move into a new office due to COVID-19, and old office technology that does not plug and play, the team worked with Secure Agility to get the job done right.

Charlie Tannous, Director of Technology at Secure Agility, said the diocese has interesting technical challenges typically not seen in a traditional enterprise.

“CSPD is a complex network that must adapt to a huge range of use cases,” Tannous said. “Everything from the security of corporate information to digital whiteboards in classrooms depends on the network, so it needs to be flexible, scalable and, of course, secure.”

The cycle of network setup, configuration and deployment needed to be done faster. In addition to the head office, new school buildings are always on the roadmap, so improving time to deployment was also a priority for the team.

Taking a digital and software-defined path

Withabout 800switches, 3000wireless access points and a router in every school across its network, Chan and the team wanted to automate everything better.

Monitoring was good at uptime detection, but when came to measuring the true user experience the team wanted to get more information as IoT use has been growing steadily.

CSPD developed a strategy back to 2018 in line with a Cisco licensing uplift, which gave it access to Cisco's Digital Networking Architecture (DNA) and Prime for monitoring and management of the WAN.

The sought-after benefits of DNA were more automation and ease of deploying devices, and it also optimised setup, giving the team a lot more insights in performance and optimisation.

Secure Agility worked to deploy the Cisco DNA Software Defined Access (SDA) solution, which offers the diocese optimal tools to secure the network, while responding faster to issues to ensure the best client experience.

Cisco DNA is designed to determine optimal segmentation while allowing separate organisations access to shared resources making it a single platform to support future technologies.

This makes it ideal for CSPD's philosophy of central systems, but local autonomy.

"The new network will be centrally managed and can replace legacy monitoring platforms and bespoke systems, so we don't get shadow IT and rogue Aps," Chan said.

Secure Agility is a key partner, from design to implementation. and we are able to rely on their expertise working with other third parties as well."
Jackson Chan, CSPD

An innovative new era in edge computing and education

Thissolution servedas a blueprint for large- scale deployment across the diocese and the team is now in the process of rolling out to all 80 schools.

By taking the design out to schools which have end-of-life equipment, immediate benefits include plug and play, reduced maintenance time, enhanced visibility, and segmentation for guests and shared IoT devices.

The capability is relevant for the schools, which have other services on their network not seen in head office, such as IoT student check-ins, solar panels and CCTV cameras. That flexibility sets the design, plan, and standard for the network transformation project.

Education at the Edge

Edge computing in schools is beginning to flourish with smart devices like 3D printing and audio visual for collaboration already in use.

The team expects to see a lot more in the VR space, which will call more computing power at the edge and, in addition to the modern network architecture, SD-WAN will position the diocese to do that within two years.

By driving innovation, the team now gets better analytics from the network monitoring platform to be able to 'see' the user experience and get deeper insights. This helps staff equate technology with student learning outcomes.

Case Study Summary

Customer: Catholic Schools Parramatta Diocese CSPD

Challenge: New office headquarters, end-of-life infrastructure and visibility into client, application, and network performance

Approach: Transform company network with new Cisco DNA technology

Outcomes: Secure, manageable network that can be segmented and deliver more insights into student experiences. A platform for edge computing in schools

Partners: Secure Agility, Cisco

With enhanced visibility and compliance with end-to-end network segmentation, CSPD can segment the network for different business entities, end-users, devices and guests through four virtual networks.

The ability to identity issues in real time to understand the context of who is affected and how to resolve it is also a big win for support staff.

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Charlie Tannous, Secure Agility