



# Students Get Innovative Digital Learning, with Next-Generation Network

Wellington Institute of Technology (WelTec) upgrade their network with a powerful Allied Telesis solution, providing reliability and high performance in an easy to use, robust package.

## Customer

### Wellington Institute of Technology (WelTec), New Zealand

WelTec has been part of the Wellington region for over 100 years, providing training with qualifications aimed at enhancing student's career and employment options. Teaching staff are specialists and researchers in their fields and WelTec invest in exciting new technology to ensure they remain at the leading edge of training and learning in New Zealand.

WelTec's main campus is situated in Petone, just a block from the beautifully redeveloped esplanade; and 15 minutes drive from Wellington's inner city. Transportation options are wide and varied with several bus services operating in close proximity to the main campus, along with a train station only minutes walk away. WelTec also have an inner city campus in the heart of Wellington, along with smaller sites in Auckland and Christchurch.



## Challenge

The IT services department has 12 people on staff. They manage four campuses — the main Petone campus, Wellington city and one each in Auckland and Christchurch. More than 12,000 students make WelTec the largest polytechnic in the Wellington region, with courses taking place anywhere between 8am and 10pm over 3 17-week trimesters.

With such high demand placed on technology resources and online applications, the network must always be available and provide superior performance. WelTec provides remote network access for students and staff, and email and file storage for students.

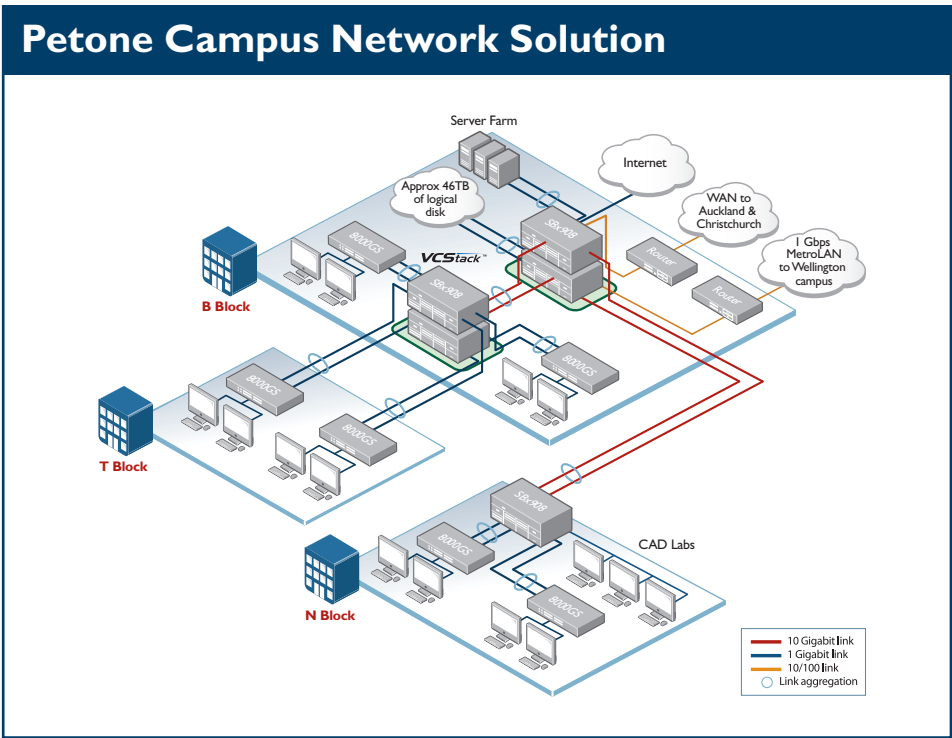
The high-performance network is also needed for things like video conferencing, webcasting, podcasting and e-learning functionality—rolled out across all 4 campus sites. A next generation network design with increased resiliency was required to guarantee availability of these leading-edge online resources.

The increase in courses such as Computer Aided Design (CAD) and digital media training, meant that WelTec, who already had a number of high-spec computers with Gigabit network access, decided to move to a full Gigabit to the desktop solution for all workstations right across the network. With a physical layout that interconnects numerous buildings and remote campuses, and offered advanced online services, WelTec have sophisticated network requirements. As a result of a history of reliable network service from previous and current equipment, Allied Telesis was chosen to provide the new solution.

## Solution

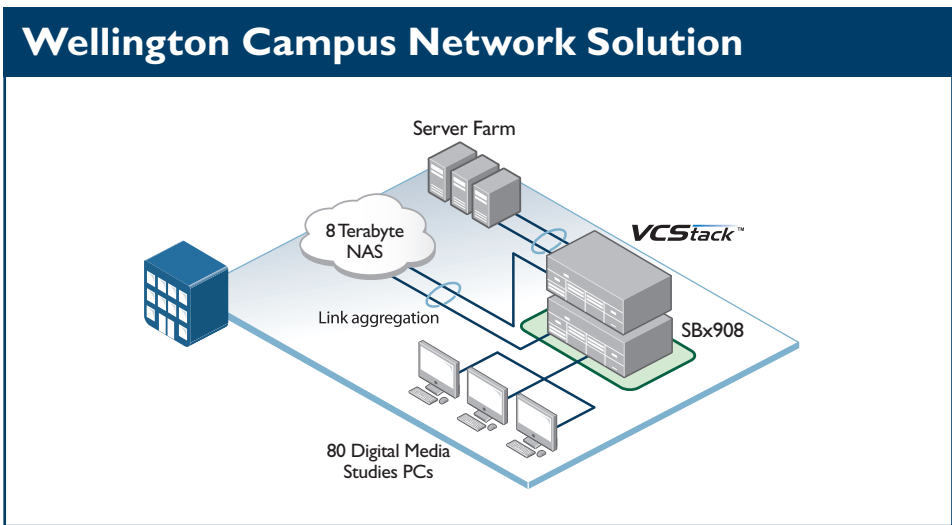
WelTec chose the Allied Telesis SwitchBlade® x908 modular Gigabit switches to upgrade their network core, and to provide a distribution layer for fiber deployment around the campus.

The new network makes full use of all bandwidth with Virtual Chassis Stacking (VCStack™). WelTec now enjoy total network redundancy. Should a link or individual unit fail, the traffic would seamlessly route via the remaining links and unit, ensuring minimal network disruption. Each VCStack is managed as a single node on the network, greatly simplifying management tasks, and the SwitchBlade x908 runs the AlliedWare Plus™ fully-featured operating system, delivering a rich feature set and an industry-standard Command Line Interface. Access to the network is provided by Allied Telesis



8000GS Series managed Gigabit Ethernet edge switches. WelTec have used these well-featured cost-effective switches to extend Gigabit connectivity, from previously just connecting digital media and CAD computers, to now connecting every desktop right across the campus - delivering a future-proof solution.

WelTec also run the WelTec Research, Education and Development network (WREDnet) which is separated from the main network with its own servers, domain and data storage. WREDnet also provides a student wireless network covering the Petone campus student hub area. This network is especially for IT courses, where R&D and test activities can be carried out without fear of impact on the main campus network. This provides an opportunity for visitors to WelTec to be granted network and Internet access, without their laptops having to be reimaged to meet WelTec network security standards.

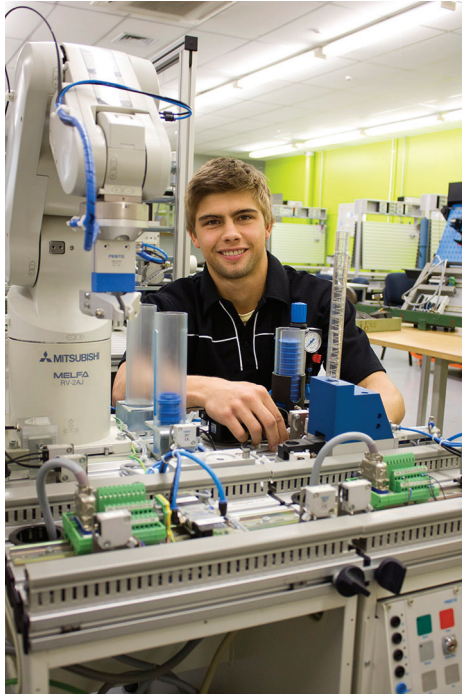


#### Key Benefits

##### Uninterrupted network service

WelTec staff and students can confidently access any online resource at any time, as the virtual network core created with VCSStack provides fast failover for uninterrupted network service. Sophisticated and high availability features ensure traffic flow continues even during outages. For a busy tertiary institution, running 1,300 computers and





terminals, this resilient network design is essential to avoid unnecessary downtime—especially as WelTec offers many high technology courses where online access is fundamental.

### High performance

The upgraded network keeps WelTec at the forefront of technology and performance, with Gigabit to the desktop ensuring maximum throughput of data and longevity of design. Every computer now enjoys high-bandwidth connectivity to online resources; that are especially beneficial for courses like high-def video production, run at the Wellington city campus. Information and applications that facilitate research and positive learning outcomes are only ever a click away.

### Advanced online services

The many aspects and advantages of online access are readily available to all staff and students at WelTec via the next generation network. Secure remote access for staff and students provides anytime, anywhere availability. Email and generous file storage capacity are available for all students. High-tech solutions like video conferencing, webcasting, podcasting and e-learning are available at all four campuses. Distance learning allows the sharing of resources. Video conference tutorials are arranged between the various campuses and other polytechnics, so smaller numbers of geographically spread students can benefit from a single lecture or tutorial. WelTec even run virtual lectures in “Second Life,” keeping them at the forefront of innovation in learning techniques as demanded by today’s “digital native” students.



### Reliable

High reliability is essential for WelTec’s always-on network. The SwitchBlade x908 has excellent hardware redundancy built-in to complement the resilient network design. Dual redundant hot-swappable power supplies and fan modules, along with hot-swappable expansion modules ensure no network interruptions during maintenance or reconfiguration.

### Future proof

WelTec have implemented a network design ready for the next generation of high technology online resources and applications. Gigabit to the desktop provides ample network bandwidth to every computer for current and future needs. The SwitchBlade x908 core and distribution switches have high-speed expansion bays, providing a high level of port flexibility. The ability to add more copper or fiber ports (right up to 10Gigabit Ethernet) as required provides a future-proof network core ready to expand at any time.

### Ongoing plans and partnership

Installing wireless access throughout the campus is one of the current plans for adding to the functionality of the WelTec network, providing even greater flexibility in online access. Utilizing the network to stream live video surveillance from cameras to network servers is also a future addition, along with using PaketShaper to monitor and control network usage and applications. WelTec have been using Allied Telesis networking products for several years, and the recent upgrade has introduced some of the industry’s leading products. The addition of new firewalls supplied by Allied Telesis will further secure the network. Allied Telesis look forward to continuing to work in partnership with WelTec, adding value with technical advice and supplying additional advanced solutions to further expand the capabilities of this sophisticated leading-edge education network.