

Success Story

 Allied Telesis™

Shrewsbury School

Allied Telesis network delivers secure, high-speed Internet access for Shrewsbury School with 24/7 uptime



the **solution** : the **network**



The challenge

Overview

Shrewsbury School is one of the country's leading independent schools for 13-18 year olds, attracting students from across the world. It provides an excellent learning environment, consistently receiving "outstanding" grades by Ofsted and HM Inspectorate of Schools.

The majority of the School's 700 plus students take advantage of full boarding, which means that alongside the excellent teaching facilities, the Shrewsbury site also houses a wide range of other buildings and services, including eleven full boarding houses, two day houses, a medical centre, state-of-the-art sports facilities, a purpose-built catering hall and a Chapel.

Shrewsbury School is home to Shrewsbury School Enterprises Ltd, a business initiative of the school, and also hosts a range of residential schools and courses during the holiday periods as well as catering for visiting lecturers.

Shrewsbury School is not only a school, but a community, comprising students, teachers and pastoral staff, including matrons, secretaries and a wide range of support and administrative staff.

As a boarding school, the site must not only provide the right learning environment, but the facilities to ensure residents and visitors enjoy their leisure and personal time away from lessons.

In an increasingly digital world, providing Internet access across the site is essential, particularly with the proliferation of mobile devices such as smartphones and tablets, which require increasing reliance on being "connected". However, the IT network was not able to keep up with the demands being placed on it, particularly by its digitally experienced students, who were expecting more and more of their devices and connectivity speeds.

Marcus Matthews, Network Manager at Shrewsbury School, explains: "Shrewsbury School is an always-on community and that requires a 24/7 network to support its students, teachers, visitors and services. Students in particular demand high-speed connectivity, but the increasing number of devices being attached to the network was putting it under significant pressure. Our network was not coping with the increased demand; this was having a significant impact on reliability, which in turn was affecting the end users and causing additional support requirements by the team. Our system needed to work smarter, not harder."

Security of the network was also a big priority. The School is legally bound to safeguard its students and promote the welfare of children, but as "digital natives" this generation is sophisticated in the use of technology. An increasing number of smartphones, tablets and laptops were being attached to the network and students frequently found ways to navigate around passwords and locked-down sites.

The School needed a high performance, resilient network that could handle increasing bandwidth demands and allow students to connect their devices, while providing a high level of security so the network support team could ensure an appropriate level of control and protection.

The solution

Following a competitive tender, Shrewsbury School selected Allied Telesis to deliver a new, high performance Ethernet network across the site.

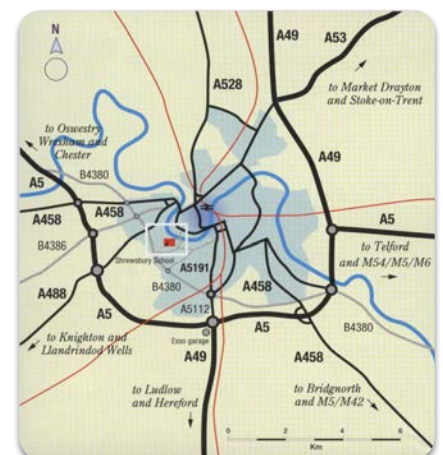
The new network enabled students and staff to enjoy a high-speed network access on all types of devices, while working seamlessly with other standards-based network equipment to ensure a good end user experience.

Close collaboration between Allied Telesis and the IT team at Shrewsbury School played a critical role in delivering the new network within time and budget and ensuring it met the exact requirements of the School. Given the School's budgetary process, there was a short window between the date when approval was granted and when the network had to be up and running. Allied Telesis delivered the equipment on site at the right time to ensure a rapid installation.

Allied Telesis provided a dedicated Solutions Architect who worked closely with the School's Network Manager, Marcus Matthews and Technician, Brock Reece, to plan the expansion of the network edge to increase capacity. Together, the three technical experts created a bespoke network that effectively utilizes legacy equipment to make the most of existing assets, while delivering flexibility to expand in the future.

"The collaborative and flexible approach from Allied Telesis was a critical element that set the company apart from the competition. Having the benefit of a hands-on technical expert who was directly involved in our implementation was integral to the success of this project. Allied Telesis has exceeded our expectations in delivering a bespoke network solution that meets our specific requirements, with the responsiveness and flexibility required for a successful deployment and at a price which many other companies could not match."

MARCUS MATTHEWS
NETWORK MANAGER
SHREWSBURY SCHOOL



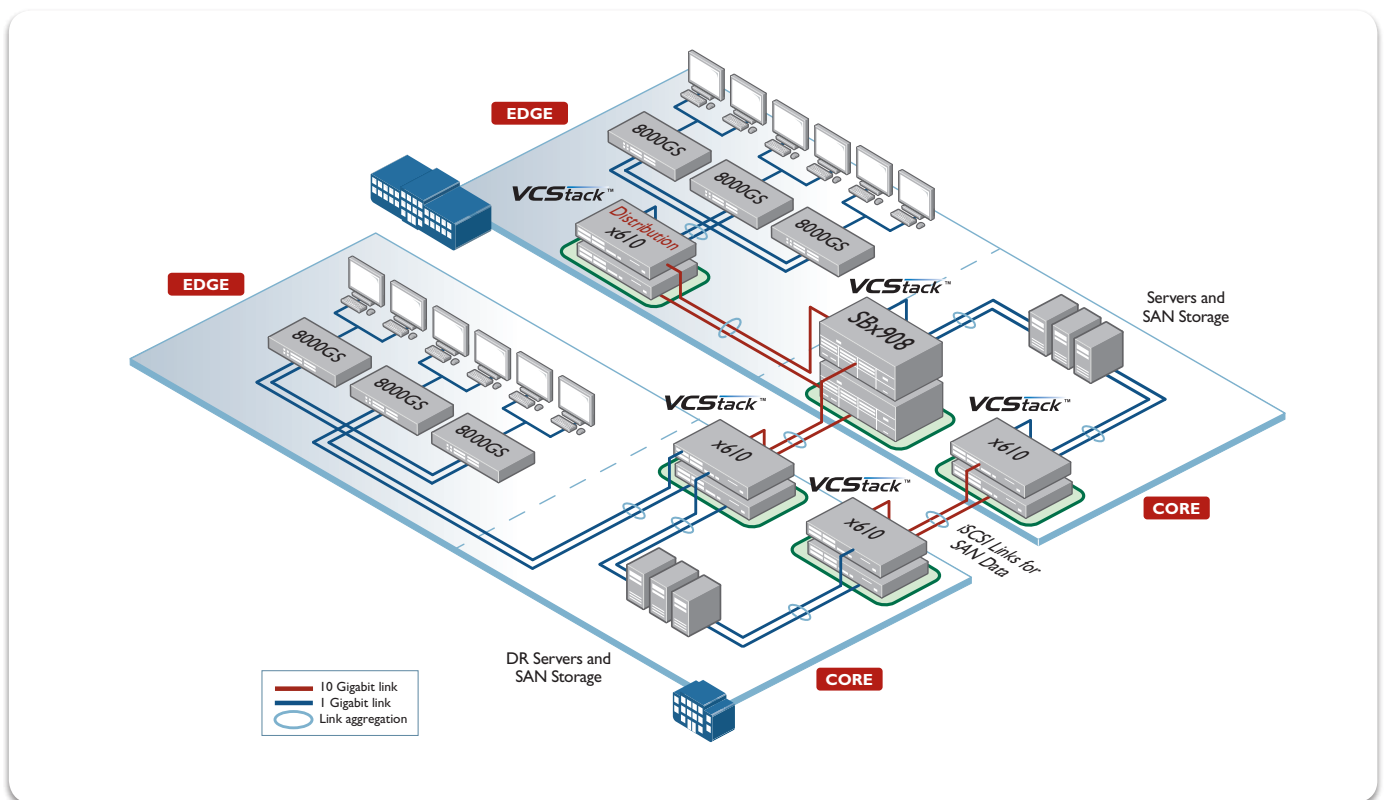
There is port-based authentication utilising active directory as an authentication server ensuring the upmost level of security across the whole site. This, coupled with dynamic VLAN assignment controlled by active directory, means only one network point is needed per room. Students and guests can plug in any device and receive different network access based on that device.

The switched network working along with an in-house designed, Web-based registration system allows users to get online easily and securely, giving the school the flexibility and security it needs. This is achieved by treating all private machines as hostile, with private VLANs used to stop inter-room communication and protect the network from BYOD.

Chris Hay, Solutions Architect, Allied Telesis, comments: "Working with the team at Shrewsbury School was a pleasure; the flow of ideas and innovative system development ensured a positive end user experience on what is a very complex and demanding environment. This is a very hostile network to manage, compared to most enterprise networks, and thus particular detail was paid to ensuring the performance and security of core services was upheld. The team onsite were more than aware of these facts and their diligence was key to designing a robust network."

The Allied Telesis-based solution included the following elements:

- Two SwitchBlade® x908 core switches stacked to ensure network resilience
- Six x610 Series fiber switches as distribution nodes to aggregate multiple buildings on a 10GB backhaul
- Four x510 Series switches as iSCSI interconnects on 10GB links
- Multiple 8000S Series edge switches to enable IEEE 802.11x security



Key benefits

Shrewsbury School is seeing significant benefits from the new network infrastructure:

- High performance network, enabling hundreds of users to enjoy high speeds and instant access
- A bespoke network that is built around the School's exact needs, utilizing effective legacy equipment to make the most of existing investments, while introducing advanced technology to expand the network
- Control and protection for the network, using a range of technologies with the switching being at its core, the school has been able to adopt a secure and flexible BYOD strategy.



“The new network was a major investment for the School and we needed to prove that our initiative would make a difference to the working life of the school and those involved with it. Allied Telesis has delivered a problem-free network that is maximizing uptime and delivering the speeds and security we need for the smooth running of the School site.”

MARCUS MATTHEWS
NETWORK MANAGER
SHREWSBURY SCHOOL

Featured products

SwitchBlade x908

ADVANCED LAYER 3 SWITCHES

The SwitchBlade x908 advanced Layer 3 modular switch offers high flexibility and density in a small physical size. It provides scalable and versatile switching solutions for today's data center networks. Each chassis supports up to eight high-speed 60Gbps expansion bays, and is also capable of being stacked through VCS passive backplane.

- 10GbE /GbE aggregator for mid-size data center
- 3RU medium density modular platform
- 8 x 60Gbps "XEM" module bays (same XEMs as x900 family)
- Hot-swappable PSUs, 1 + 1 PSU redundancy

Max capability:

- 96 x GbE ports RJ-45
- 192 x GbE ports RJ point 5
- 16 x 10GbE ports

With VCStack™ passive backplane:

- 192 x GbE ports
- 32 x 10GbE ports



VCStack

VIRTUAL CHASSIS STACKING

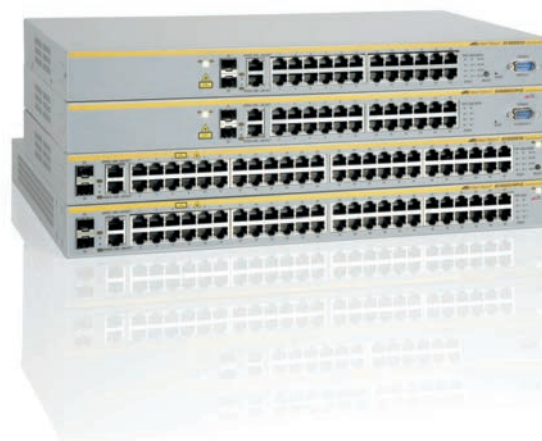
VCStack makes networking simple. It allows you to connect multiple switches together via high-speed stacking links. This aggregates the switches, which then appear as a single switch, or "virtual chassis." The virtual chassis can be configured and managed via a single serial console or IP address, providing greater ease of management in comparison to an arrangement of individually managed switches, and often eliminating the need to configure protocols like VRRP and Spanning Tree.

VCStack™

8000S Series

STACKABLE LAYER 2 FAST ETHERNET SWITCHES

Allied Telesis 8000S Fast Ethernet switches are low-cost, managed and stackable. They are 1RU high and rack-mountable. Some switches in this series have optional PoE.





x610 Series

ISCSI OPTIMIZED TOR / ALL-IN-ONE SOLUTION

The Allied Telesis x610 Series is the high performing and scalable solution for today's networks. Optimized for iSCSI support with a choice of 24-port and 48-port versions, with optional 10 Gigabit uplinks and low latency; the x610 Series ensures excellent performance, whilst optional redundant power supplies allow network availability.



x510 Series

STACKABLE GIGABIT EDGE SWITCHES

The Allied Telesis x510 Series of advanced stackable Gigabit edge switches offers comprehensive resiliency, security and management features in a compact, highly-reliable package. These switches can be easily upgraded from Layer 2+ to a full Layer 3 feature set and be used as ToR switch once the servers or storage system are equipped with Gigabit interfaces. With a choice of 24 or 48 Gigabit ports, dual-speed SFP+ uplinks, virtual chassis stacking and Power over Ethernet (PoE) on specific models offers a powerful and versatile solution able to cover not only the Cloud infrastructure but also enterprise edge of large education, healthcare, hospitality, government and industrial installation.

Key features

- » VCStack (virtual chassis stacking)
- » EPSRing™ (Ethernet Protection Switching Ring)
- » Industry-leading Quality of Service (QoS)
- » Loop protection
- » Link Layer Discovery Protocol – Media
- » Voice VLAN
- » Layer 2+ to Layer 3 upgradable

About Allied Telesis, Inc.

Allied Telesis is a leading global provider of high-quality, flexible, and interoperable network solutions. Founded in 1987 and publicly held in Japan, the Company operates manufacturing, R&D, support, and sales offices worldwide, servicing customers in key markets including government, healthcare, defense, education, retail, hospitality and network service providers.

Allied Telesis provides standards-based, reliable video, voice and data network solutions for mission-critical applications. Delivering high-performance, future-proof and fully end-to-end solutions, Allied Telesis works closely with customers and partners worldwide to build lasting relationships, partnerships and alliances.

For further information visit us online at alliedtelesis.com



the solution : the network

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