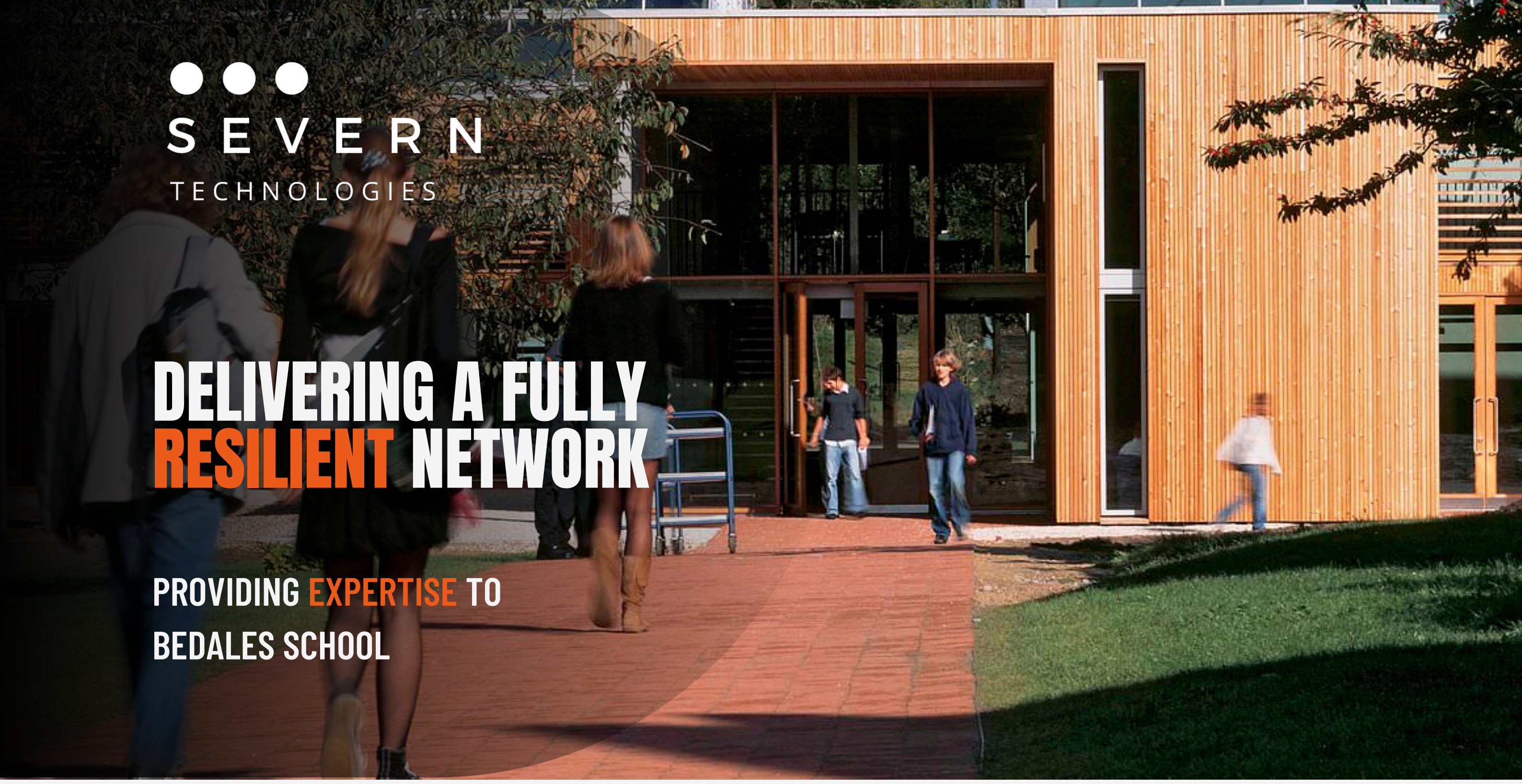

SEVERN TECHNOLOGIES

DELIVERING A FULLY RESILIENT NETWORK

PROVIDING EXPERTISE TO BEDALES SCHOOL

OVERVIEW

Bedales School relied on an extensive network infrastructure to support its academic and administrative operations. However, as demands grew, the existing network began showing limitations in performance, redundancy, and security. Frequent maintenance activities often required disruptive reboots, causing downtime that affected teaching and learning.

Severn Technologies, a specialist in secure and resilient enterprise networking, was engaged to assess the existing setup and deliver a redesigned network capable of in-hours maintenance, reduced downtime, increased performance and full redundancy—utilising as much of the existing hardware as possible.

CHALLENGE

The school's network struggled to cope with the demands of a digitally connected campus, initial design flaws and mis configurations including:

- **Redundancy and Failover Weaknesses** - the network was heavily reliant on Spanning-Tree, causing delays during failovers.
- **Network Architecture Gaps** - misconfigurations were leaving gaps in the network and its resiliency.
- **VLAN Sprawl and Configuration Bloat** - VLANs were spanned to places they didn't need be and inconsistent configurations were hindering performance and troubleshooting.
- **Security & Management Gaps** - lack of consistent security and management measures across the estate.

A modern best practise and scalable solution was required — one that would not only improve stability and reliability but also performance and efficiencies.

SPECIFIC ISSUES

- **Outdated configurations**

Utilising spanning-tree as the primary resilience technology meant delays during maintenance and outages during failures.

- **Under utilising resources.**

Despite having enterprise grade switching and the ability to use modern technologies such as VLT/MLAG, the network has been configured using dated protocols. This meant links were not being utilised and redundancy was limited

- **Inconsistent Security Management**

Although a NAC solution was present, it was not consistently configured across the network and under utilised to add additional security and auditing measures.

+44 (0) 2921 685 410 www.severntechs.co.uk hello@severntechs.co.uk

THE SOLUTION

A thorough network audit was completed which uncovered performance issues, misconfigurations, and security vulnerabilities. Severn Technologies successfully reconfigured Bedales School's network to create a fully redundant and resilient infrastructure while repurposing existing hardware. This project tackled significant concerns related to redundancy, network architecture, VLAN sprawl, and security weaknesses that had previously hindered performance and caused downtime during maintenance and failures.

A primary focus was on enhancing resilience. By leveraging modern technologies, design best practices, and our extensive experience, this was achieved.

As a result, Bedales School now benefits from a completely redundant network that allows for in-hour maintenance, guarantees seamless failover, and offers improved security along with simplified management.

Key Solution Components

- Comprehensive audit of the current network, detailing its existing state and providing recommendations for improvements aligned with best practices and industry standards.
- Redesign of the existing architecture, incorporating modern technologies such as MLAG/VLT to boost performance and resilience.
- Configuration optimisation and consistency throughout the network by eliminating unused, redundant, or misconfigured settings, establishing a cohesive standard across the network.

KEY IMPROVEMENTS

- **A fully redundant, resilient network** – dual-homed edge switches, active port-channels, and corrected VRRP ensure seamless failover with minimal disruption.
- **Zero-downtime maintenance** – core and edge devices can be rebooted or updated during working hours without interrupting network services.
- **Improved security posture** – consistent ACLs, stronger authentication, and strict port security reduce the risk of unauthorized access.
- **Simplified management** – VLAN consolidation and symmetrical core configurations streamline network administration.
- **Future-readiness** – while original hardware remains in place, the logical and architectural improvements extend the useful life of the infrastructure until phased upgrades are possible.

THE IMPACT

The transformation has had a significant positive impact across the school community:

- For students: Consistent, stable, and responsive connectivity enabling enhanced learning and collaboration.
- For staff: Reliable access to teaching tools, cloud resources and administrative platforms boosting productivity.
- For IT: Confidence in stability and resilience, reduced maintenance burden and future readiness extending the life of existing hardware

CONCLUSION

By leveraging the existing infrastructure, Severn Technologies transformed Bedales School’s tired and fragile network into a redundant, secure, and maintenance-friendly environment while prolonging its lifespan. The project demonstrated that with expert knowledge, design and configuration, even legacy hardware can be optimised to deliver enterprise-grade resilience and uptime—helping the school continue its educational mission without costly downtime.

"We engaged Jonathan and Severn Technology for a health check of our internal network in June 2025. From start to finish, Jonathan and his team were extremely professional, putting together an initial report before coming to site to implement improvements, all of which proceeded smoothly, on time and to budget. I would thoroughly recommend Severn Technologies."

- Head of ICT - Bedales School

Learn more about
Secure Networking in Education

Learn More

+44 (0) 2921 685 410

www.severntechs.co.uk

hello@severntechs.co.uk