

Blaze Networks delivers a central network with SD-WAN and cloud hosting at The Fallibroome Trust, yielding economies of scale and added security.

We build the network.
You build the business.

blazenetworks.co.uk

SECURE

MANAGED

AGILE

CHALLENGE:

A fresh approach to the delivery of IT and Network infrastructure was required. This needed to address the individual requirements of each school in the Trust, be more reliable, cost-effective, simpler and easier to manage. It also needed to be more agile and responsive to changing requirements.



STAY CONNECTED
STAY SECURE
STAY EFFICIENT

SOLUTION:

- ▶ Creation of a central network to which all schools can connect.
 - ▶ Centralising firewalls and next generation security
 - ▶ Creation of central Microsoft services, leveraging Active Directory
 - ▶ Private fibre optic leased lines into each school
- ▶ A software-defined network (SD-WAN) and the Fortinet Security Fabric
 - ▶ FortiAnalyzer (next-generation network analytics and management)
 - ▶ FortiClient Enterprise Management Server (security management solution that enables scalable and centralized management of multiple endpoints)
- ▶ Migration of all servers to the secure, high-availability Blaze Cloud hosting platform
 - ▶ Blaze Vault secure cloud backup and rapid recovery services

RESULTS:

- ▶ A reliable, secure, agile and more easily manageable network infrastructure has been established based on a future-proof design and leading technology
- ▶ Significant economies of scale + cost reduction benefits
- ▶ Creation of a central, cloud-based infrastructure enables all schools in the Trust to be easily moved to the new system as soon as existing leases and commercial considerations allow
- ▶ Improved visibility and control across the IT and network estate (Blaze Service Desk a single point of contact for the Trust's IT Team)
 - ▶ Far simpler and faster problem resolution
 - ▶ Simpler and faster implementation of moves and changes on the network
- ▶ Application-aware SD-WAN network
 - ▶ Substantial gains in cybersecurity
 - ▶ Ability to pre-program (and automate) network and security changes in response to a range of events and scenarios
- ▶ Improved response times (from 32 msec to 8 msec average for Google response times at Fallibroome Academy)
- ▶ Better student safeguarding with enhanced Protected Environment and enhanced reporting capabilities

We build the network.
You build the business.

blazenetworks.co.uk

SECURE

MANAGED

AGILE

BACKGROUND

The Fallibroome Trust operates 7 Primary and 3 Secondary Academies in Cheshire. Its academies have a combined student capacity of 5,800, with a total of over 700 staff. Fallibroome Academy is the largest of these with over 1,500 students, followed by Winsford Academy with just under 1,000 pupils.

The Fallibroome Trust has a key priority of ensuring that all its schools are supported with excellent IT and network access - both for student use (in learning activities) and to support the schools' business and operational systems.

The Trust's IT Team provides IT services as part of the central services offering, delivering a central IT service desk function across all 10 Trust schools.

In recent years the Fallibroome Academy, in particular, has achieved a growing reputation for excellence and positivity among staff and students. Ofsted rates it "Outstanding" and the Good School Guide review states: "This large, wonderful school offers an educational smorgasbord which is as rich and as plentiful as you will find anywhere. The school facilities certainly help back up the teaching - there are nine science labs and every teaching room has e-learning facilities so the use of new technologies is embedded. One parent commented on her child's 'fantastic' IT knowledge, saying the school was 'always one step ahead'."

While the Fallibroome Trust regards it as most important to have excellent IT and networks in place both for student use in teaching activities and to support the schools' business and operational systems, for historic reasons the individual schools ran their own separate IT infrastructures. Each had their own firewalls and servers of varied makes and technologies, there was no Trust-wide Wide Area Network, private network technology was not being used, and various schools' infrastructure was approaching refresh. This situation placed a burden on IT Support, changes took far longer to implement than was needed, and from Fallibroome Trust's overall perspective it had become an expensive way of operating by relying on capital expenditure for hardware replacement.

A MULTI-FACETED SOLUTION

Blaze conducted an analysis (in partnership with the Fallibroome Trust IT team) to fully understand the requirements and pain points of the Trust's central IT services and at each school. It was decided that the initial project focus would be on the central Fallibroome Trust infrastructure and on the Fallibroome Academy and Marlborough Primary School, with remaining schools being rolled out across a 24 month period (partly driven by the expiry dates on existing contracts with IT and connectivity suppliers).



In delivering a solution for the Fallibroome Trust it was important to remove as much complexity as possible from the existing set-up, so that IT resources and the network could be more easily managed, as well as enabling changes to be made more quickly. By introducing a simpler design, significant improvements could be made to resiliency and uptime/service availability across schools, to security, and to ease of management.

Three core elements to the solution were identified:

- Creation of a central network to which all schools can connect. This included centralising firewalls and next generation security, the creation of central Microsoft services, leveraging Active Directory, and introduction of private fibre optic leased lines into each school.
- Deployment of a software-defined network (SD-WAN) and the Fortinet Security Fabric, incorporating next-generation network analytics and management (FortiAnalyzer) and FortiClient Enterprise Management Server (FortiClient EMS) which is a security management solution that enables scalable and centralized management of multiple endpoints.
- Migration of all servers to the secure, high-availability Blaze Cloud hosting platform.

CENTRAL NETWORK & CONNECTIVITY

An N+1 design was introduced for the data connectivity provided to the Trust and to each school. In the case of the Fallibroome Academy this took the form of next-generation fibre optic leased lines (Ethernet circuits) from two separate Tier 1 network providers. This provides diverse paths into the school, should one of the circuits experience issues. All other schools are being provided with a leased line and (depending on bandwidth needs) either a 2nd leased line or Fibre Broadband connection, providing both automatic failover and additional bandwidth appropriately sized to the scale of the school's network traffic.

**We build the network.
You build the business.**

blazenetworks.co.uk

SECURE

MANAGED

AGILE

In order to provide highly reliable, secure, and cost-effective connectivity and network solutions to customers, Blaze operates its own network infrastructure (the Blaze Private Core Network), through which all Blaze connectivity, network, SaaS and hosting solutions are delivered. Connections from the Fallibroome Trust's connections link directly into the Blaze Private Core Network, which in turn interconnects to the UK's major Tier 1 carriers. In addition to providing security benefits, having Tier 1 carriers connect directly to the Blaze Private Core Network enables complete end-to-end control over the connectivity services provided whilst allowing Blaze to provide the best price on fibre and broadband within the UK.

SECURE SD-WAN

As a key element of the solution, a Software-Defined Network (SD-WAN) was introduced based on secure Fortinet technology. This has numerous benefits including, from a connectivity perspective, an Active / Active design being used - which means that neither of the two data connections into a school is left idle.

By using Fortinet SD-WAN technology, in the event of a break in one of the connections all traffic is *automatically and instantly* switched over to the remaining connection. In such circumstances (or if there is a less drastic problem with a circuit which slows traffic) because SD-WAN is "application-aware" and the network can be programmed to treat different types of network traffic in different ways (for example social media traffic can be given a much lower priority than voice or video-streaming traffic associated with teaching resources) the remaining bandwidth can be employed according to whatever strategy the Trust or school has chosen.



We build the network.
You build the business.

In order for all activity to be monitored and peaks and troughs of traffic to be managed, FortiAnalyzer was installed as part of the Trust's core infrastructure. This delivers security-driven network analytics and log management, providing security fabric analytics and automation to deliver better detection and response against cyber risks. FortiAnalyzer also incorporates consolidated reporting across all locations, including where school-provided devices are used to access the internet at home. Analyzer allows the school to achieve all Ofsted requirements around reporting.



**STAY SCALEABLE
STAY SECURE**

The SD-WAN network is application-aware (separately recognising general internet traffic, voice, Microsoft Teams, CRM, and School Information Management Systems (SIMS) traffic, among other types) as it flows through the SD-WAN network. This means that, the school has better visibility and control over traffic, and they can react quickly to required changes.

To provide a consistent (and easily manageable) security architecture across the Fallibroome Trust estate the Fortinet Security Fabric was deployed. This provides a consistent and integrated structure across the networking equipment forming part of the Blaze solution, all of which is based on Fortinet technology.

The combination of the core infrastructure and Fortinet Security Fabric means that as new connectivity is added to schools and their network and WiFi services updated, it is easy to extend (and manage) the full security fabric all the way down to the switching infrastructure and all WiFi access points. This not only improves efficiency, security and performance, but also enables a complete level of control and protection right across the student-accessible network.

Fallibroome's ability to deliver a strong and sensitively managed online Protected Environment for students was enabled by use of FortiGuard.

CLOUD MIGRATION AND BACK-UP

The Fallibroome Trust was provided with a core infrastructure which included moving as phase 1 21 of its servers to the high-availability Blaze Cloud hosting platform and providing secure backup and rapid recovery services via Blaze Vault (employing Veeam technology).

This centralisation of resources enabled both a reduction in the number of servers needed (with a concomitant reduction in software licence and other costs), and improved resilience. Blaze Cloud employs an advanced cluster design and features enterprise level redundancy with the ability to survive multiple server failures, as well as having redundancy built in throughout the network stack.

The Blaze Cloud solution offers far more resiliency than a single dedicated server: every Virtual Machine is replicated between the other hosts in the cluster in Blaze Cloud and your workloads automatically fail over to another host in the event of an issue with the physical host. With single server configurations, if the server goes offline, all workloads go offline.

Server backup and restore functionality is provided by Blaze Vault. Blaze Vault is designed to restore access to data extremely quickly, keeping the cost of downtime to an absolute minimum in the event of a problem. It can also be used to provide data security to mitigate against ransomware and other cyber-attacks.

The Blaze Vault set-up backs up to primary storage (dedicated clusters) on Blaze Cloud. When access to backed-up data is needed, Blaze Vault mounts a copy of the backup on a dedicated cluster within Blaze Cloud and establishes a connectivity link to it. This enables the Trust to immediately re-commence using their data without the need for the backup to be restored back through the network onto an alternate platform provided by the customer.

All backup data is securely kept within the UK and is duplicated across separate clusters for added disaster protection.

POSITIVE RESULTS

By implementing a secure, private network based on SD-WAN and moving to cloud hosting the Fallibroome Trust has achieved significant economies of scale, in part derived from enabling the central IT function to have much improved visibility and control across its IT and network estate.

The application-aware SD-WAN network enables a previously unattainable level of visibility and control over network activity, including substantial gains in cybersecurity and the ability to pre-program (and automate) network and security changes in response to a range of events and scenarios.

Through improved network design, response times have improved substantially: at Fallibroome Academy average Google response times have reduced from 32 milliseconds to just 8 milliseconds.

Student safeguarding has been substantially enhanced with the Protected Environment and enhanced reporting capabilities.



Alongside technical and cost reduction benefits, the Fallibroome Trust also has a far simpler method of resolving any problems and requesting moves and changes on its network: the Blaze Service Desk is a single point of contact for the Trust's IT Team, and it has full visibility across the Trust's new network with any changes being very quickly made.

Overall, a reliable, secure, agile and more easily manageable network infrastructure has been established based on a future-proof design and leading technology.

The creation of a central, cloud-based infrastructure enables all schools in the Trust to be easily moved to the new system as soon as existing leases and commercial considerations allow.

We build the network.
You build the business.

blazenetworks.co.uk

SECURE

MANAGED

AGILE

Andrew Harris, Chief Information Officer at The Fallibroome Trust, commented:

"The Fallibroome Trust strives for excellence in all that it does. It is essential that the IT Team provide efficient and effective systems for all our staff and students to support this ethos. Working with Blaze Networks, we have a cost efficient, robust, and secure infrastructure that will match the pace of growth in the Trust over the coming years."

A key aspect of the infrastructure centralisation project was to establish a strong relationship with a long-term strategic partner: we believe in Blaze Networks that we have achieved this."

Jordan Cooper, IT Manager at The Fallibroome Trust, added:

"We were impressed with the technical expertise of Blaze, and the ease in which we were able to seamlessly migrate critical systems into Blaze Cloud with minimal downtime to our schools. The SD-WAN has been a significant advancement for our infrastructure with improved performance and reliability over previous site connectivity. The ability to quickly provision new sites or services will be a major benefit for the Trust."



Ben Brassington, Managing Director at Blaze Networks, added,

"The Fortinet SD-WAN technology and security fabric combined with Blaze Cloud provides a simple, secure, scalable and cost effect model for the Trust. The Blaze support team looks forward to being an extension of the Trust's own talented in-house IT team for many years to come."

If you'd like to see how
Blaze Networks could future
proof your network needs,
give us a call today.

0333 800 0101



blazenetworks.co.uk
Call: 0333 800 0101 | Email: Info@blazenetworks.co.uk
@BlazeNetworksGB | in Blaze-Networks-Ltd

Copyright © 2022 Blaze Networks Limited All rights reserved.

SECURE
MANAGED
AGILE