



Case Study: Bourne Education Trust

The expanding Trust were eager to further centralise their operations and upgrade the connected solution they were starting to outgrow.

The Client

The Bourne Education Trust (BET) is a Surrey-based multi-academy trust, now made up of sixteen schools: six secondary and ten primary. The Trust was established in 2013 to create a community of outstanding schools with the highest aspiration and dedication to achieving the best outcomes for all learners.



“After reviewing the work of our technical team last year it highlighted several tasks were being repeated at each school, this was not the best use of time for supporting our schools, which made us change direction on committing to a single central domain. Now issues that are fixed at one school will be resolved for the wider Trust and any future schools.”

Michael Gobey, IT Operations Manager, Bourne Education Trust

The Challenge for 2019

- The BET schools were operating a parent and child domain model. For simplification of management they were keen to move to a hub and spoke single domain configuration.
- The Trust were outgrowing their existing firewall and filtering solutions and required a more scalable solution.
- The backup solution as a whole was in need of an upgrade due to both ageing hardware and lack of central management reporting.
- Bourne Education Trust were in a position to reconsider their data centre connectivity contract to accommodate their ambitious growth plans.

The Projects

Due to the amount of work requiring system downtime it was decided to split the projects in two. The first lot of work would take place in Summer 2019, the second in October half term 2019.

Single Central Domain

The Bourne Education Trust (BET) had grown rapidly since their inception in 2013. Their original parent and child domain model was becoming unmanageable, with each school effectively operating independently under its own policies. Whereas this initially made sense due to security concerns and the practicality of having duplicate staff and student names, it's unsustainable for a growing Trust.





M-Tech migrated the Trust to a single domain during the 2019 summer break. The central domain allows the BET to have one instance of Active Directory, Group Policy, Office 365 and System Centre Configuration Manager (SCCM), ensuring policies only need occur once, rather than individually at each site, dramatically decreasing management time. As more schools join the Trust, onboarding becomes a quick and inexpensive process – each new school is simply migrated to the single domain, reducing human error, imaging and setup time.

The Bourne Education Trust were keen to take advantage of the features available in the latest version of SCCM. All users now have a uniform setup, running the same, single version of Windows. Applications are stored within a global application repository, further reducing the complexity of managing multiple schools.

Firewall and Filtering

M-Tech originally devised the Bourne Education Trust solution with an industry leading Palo Alto firewall and Smoothwall education-focused filtering. Due to their considerable growth, this vendor combination was in need of review. After searching the market, M-Tech recommended an all-in-one filtering and firewall solution from tier one enterprise vendor, Fortinet.

The BET previously relied on a virtual firewall, but the decision was made to move to a pair of physical 500E firewalls, hosted in the data centre. Moving from virtual to physical brings about increased security by isolating security appliances on their own hardware. With the 500Es, the Trust are able to detect and block malevolent content before it can attach itself to vulnerable assets. The hardware is also a lot faster as its purpose-built processors are optimised to perform security-related tasks with more agility and efficiency than shared compute hardware.

The 500Es include Fortinet's Fortiguard Web Filtering as the first line of defence against malware, spyware and risky content. The policy-based controls govern access with highly granular blocking and filtering and keep your defence current with automatic intelligence tools, targeted threat analysis, and continuous updates. M-Tech also recommended the Trust use FortiAnalyzer, for end-to-end visibility. This allows them to monitor and create reports of users' web usage, to track trends and meet Ofsted requirements around safeguarding.

Backup Upgrades

As part of the summer projects, BET recognised that their backup needed addressing. They had a physical server which was rapidly approaching capacity and at the end of its warranty term. M-Tech replaced the original backup with a new 40TB Supermicro server. This is a more power efficient device, at the start of its life with a full warranty, so gives the Trust more confidence in its stability.

The Bourne Education Trust also opted to simplify their backup licensing. All schools were brought onto a new central Veeam Backup & Replication license, under an OpEx model. The Trust took the Enterprise Plus product, giving the full suite of options including built-in WAN acceleration, added snapshot orchestration, role-based access control, recovery delegation and full task automation. All schools can now be managed through a powerful web-based UI, the Veeam Availability Console.

The Bourne Education Trust 2019

Primary Schools:

Auriol Junior School | Broadmere Primary School | Brookwood Primary School | Meadow Primary School | New Monument Primary School | Pycroft Primary School | Sayes Court Primary School | Sythwood Primary School | West Ewell Primary School | Woodmansterne Primary School

Secondary Schools:

Chertsey High School | Epsom and Ewell High School | Everest Community Academy | Jubilee High School | Teddington School | The Matthew Arnold School

Visit the Trust website: www.bourne.education

NUTANIX

Microsoft

vmware

veeam

FORTINET

Data Centre Relocation

The Bourne Education Trust originally had limited geographical coverage, so housed their kit in the closest data centre. Due to the Trust gradually expanding across the south, and with connectivity reducing significantly in price, M-Tech were free to suggest alternative data centres. A new location was selected purely on its merits of cost, redundancy and security. M-Tech seamlessly migrated the physical equipment in October half term 2019.

The data centre now houses the Nutanix cluster, Fortinet firewall and filtering device and Supermicro backup server.

Find out more about M-Tech Systems

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The History

In 2016 the Bourne Education Trust was looking to build on its ability to offer Trust-wide services to its member schools. They had initially looked into alternative connectivity options due to the poor service they were receiving from their incumbent supplier. They began looking for a way for the Trust to provide its own broadband solution, essentially becoming a service provider, with a view to offering this service to non-Trust schools, offering value for money all round and making the most of economies of scale.

After in-depth discussions about the technology outcome desired by the Trust, M-Tech put together a best-of-breed solution based on the market-leaders in their field, with a mix of connectivity options to a central data centre.

As an end-to-end provider, M-Tech carried out the initial project from start to finish, as well as delivered the training to fully manage the technology in-house. This gave the Trust a centrally-managed, cost effective, scalable and flexible solution, offering:

- Layer 2 symmetrical ethernet connection of differing speeds to suit
- Central next-generation firewall
- Web filtering
- Advanced user-based reporting
- Remote backup
- Technical support service desk

M-Tech have continued to work very closely with the Bourne Education Trust, improving and developing their technology provision for all of the existing schools, and each new school as they're brought into the group.

Since the initial project completion, M-Tech have supported the BET on multiple ongoing projects, including working as their infrastructure partner on the building of a brand new secondary school, Windows 10 upgrades, MDT and Group Policy works and hardware and infrastructure upgrades at individual schools.

“ *One of our challenges when forming the Trust was to provide a consistent user experience, each school was running networks independently of each other and staff were starting to work across multiple Trust schools. We therefore decided to roll-out a single central domain, which is maintained by the Trust central team. School technicians now have delegated access to perform day to day tasks but are unable to make changes that could affect the running of the network, ensuring business continuity is maintained at all times.*

Matt Gibson, Head of IT, Bourne Education Trust

The Benefits of a Connected Trust

- Improved back-up provision; the individual schools are backed up, as well as the central cloud.
- Enterprise-level connectivity for all Trust schools, plus the availability to resell this on to other schools.
- Enhanced security - a breach or dangerous URL only has to be identified in one location for all schools to benefit from this knowledge.
- The network as a whole becomes highly visible, allowing for quicker identification and quashing of threats.
- By purchasing as a group, the Trust can achieve reduced costs.
- By having a central hub which delivers resources, the Trust collectively benefits from lower power costs and a reduced environmental impact.
- Enterprise-level technology can be easily rolled out to member schools who wouldn't have been able to afford to equip themselves individually.
- Inter-school and in-school communications can be made across the WAN using IP telephony, further cutting Trust-wide communications costs.
- By being a beacon of technology, the BET is a very attractive option for schools looking to join a Trust.

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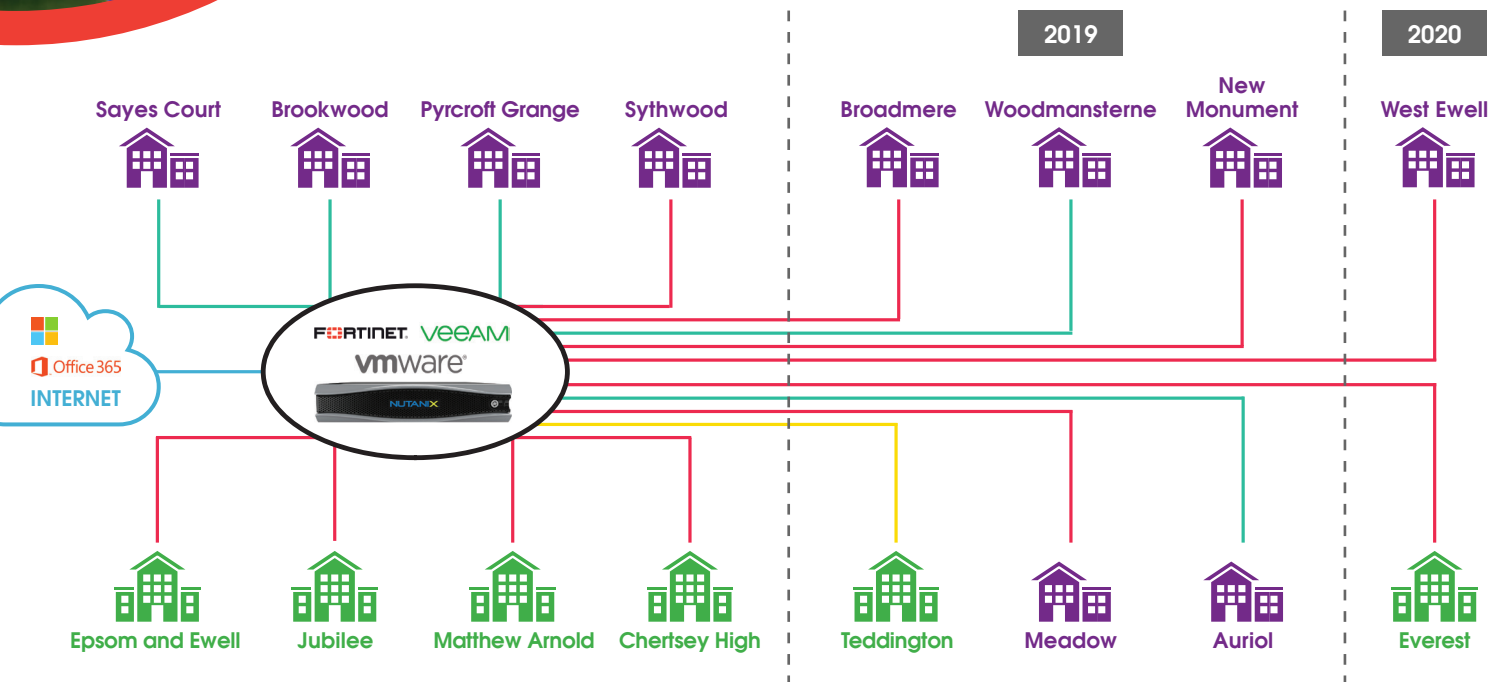
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The Bourne Education Trust Network

The six secondary schools all benefit from a Layer 2 1GB synchronous circuit. The primaries have either an EoFTTC connection or Layer 2 100/100.



“The Bourne Education Trust are one of the most ambitious we work with. They’re always willing to push the traditional boundaries of IT in education, exploring enterprise level solutions for their schools across the South East. We look forward to continuing our strong relationship as the Trust grows.

Stuart Taylor, Education Solutions Specialist, M-Tech Systems

Future Plans

The Trust is now looking at reducing the onsite infrastructure in each school by moving more services to its private cloud, which will reduce the need for schools to purchase expensive equipment.

“M-Tech have gone above and beyond to ensure the brief has been achieved and nothing has been a problem for them no matter how complex the project is.

Matt Gibson, Head of IT, Bourne Education Trust

About M-Tech Systems

M-Tech Systems offer ICT services and solutions to enterprise and educational establishments of all shapes and sizes across the UK. Our specialist technical team deliver an invaluable level of knowledge and expertise to every one of our clients.

We can work in any way that suits you, either on a per project basis, alongside your existing team to bring additional expertise, or as a fully outsourced IT department, providing a service desk.

Our aim is to revolutionise end-user perception and encourage cutting-edge technology adoption.

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