



CASE STUDY

# Building a Network for the Future of Education at One of UK’s Largest Universities



UNIVERSITY OF BIRMINGHAM

With a strong reputation for both research and teaching, the University of Birmingham plays an important role on the UK’s higher education stage. As well as being the first English “red brick” university to receive its own royal charter, the University is a founding member of both the prestigious Russell Group and the international network of research universities, Universitas 21. Attracting applicants from around the globe, it boasts a growing network of campuses and over 35,000 students.

But, like many universities, the changing world of higher education meant it faced various network pressures as it strove to deliver world-leading services. To continue with its ambitious growth plans and to support the students and researchers of the future, these issues needed to be resolved.

## Slow and Not So Steady

The University of Birmingham’s network was under growing pressure as the organization expanded both physically, and with the amount of users it had, with a new building added to the campus every few months as part of its capital build program. With more students and staff active on the network, existing systems struggled to deliver the required standard of performance, a trend that would undoubtedly impact the organization’s efficiency as expansion continued.

Changing usage behaviors were also having an impact. Like all universities, the nature of tasks carried out on the network was hugely varied and having to upgrade from 10 GB to 100 GB bandwidth was taxing the legacy system. From the rising popularity of virtual learning platforms to a generally wider scope of network, the old system was no longer a good fit.

Security was another concern. With a growing campus of students and staff using an open network—often for sensitive tasks like online banking—ensuring that the network was secure was becoming more difficult. Complicating matters further, the University had many different security vendors across its estate. This made it difficult to implement one set of standards or make widescale changes, and left the network increasingly vulnerable to malicious attacks.

It was clear that the University of Birmingham needed to upgrade and future-proof its system. The only question was how?

*“Following our migration to the new FortiGate firewalls, we saw rapid improvements. Performance has never been higher, while network security is much easier to manage.”*

– Renyk de’Vandre, Network Development Manager - Core Infrastructure - IT Services at University of Birmingham

### Details

**Customer:** University of Birmingham

**Industry:** Education

**Location:** United Kingdom

### Business Impact

- Increased customer satisfaction and significantly reduced admin overheads
- Improved network connectivity and speed with decreased downtime for a more reliable user experience
- Transformed security management, making it easy to control across the estate

## Picking a Partner

Having partnered with Fortinet in various capacities for over seven years, the University knew Fortinet had a strong understanding of its existing landscape and the challenges it was facing. Fortinet is also well-versed in dealing with the concerns of research-heavy academic institutions, so the IT team was confident Fortinet could help the University meet its goal of increasing performance and security while consolidating vendors and platforms.

The University IT and Security team met with Fortinet to discuss its requirements, which included both a system refresh and future-proofing to ensure the network could achieve its ambitions. As well as being easy to work with, the University's IT team found Fortinet provided the best value for the overall package required.

With a decision firmly in place, it was time to start improving the University's system.

## Solutions

- FortiGate
- FortiAnalyzer
- FortiExtender
- FortiManager

## Freedom To Flourish

The first mission was migrating the old perimeter and internal segmentation firewalls to the new FortiGate 6300F next-generation firewalls (NGFWs). Legacy firewalls were replaced and the addition of Fabric Management Center (FortiManager and FortiAnalyzer) provided centralized management and visibility. This consolidated approach made it easier to manage multiple Fortinet firewalls. Not only is the network much faster and more secure but it is cost-efficient as well.

In addition, Fortinet has provided the University with more granular security controls, making it easier to establish consistency of cybersecurity policy from campus to campus. Before the upgrade, security measures for accessing content or particular sites across campuses were static. This caused bottlenecks when, for example, a lecturer or staff member needed access to content that was forbidden to students. Now, web filtering and application control let the University choose different security measures for different users, assigning settings and whitelisting applications or websites based on the individual user's ID.

General management of the network has drastically improved. After extensively trialing FortiAnalyzer, the Fortinet security reporting and analytics tool that is an integrated product into the Fabric Management Center, the IT team instantly appreciated the fuss-free troubleshooting and analytics it offers. In addition to FortiGate NGFWs, the University also leveraged FortiAnalyzer, which uses indicators of compromise (IOC) feeds to further monitor and extend the capabilities of its security system. Alongside this, FortiSandbox was purchased with a plan to provide zero-day protection against threats in the future.

## A Bright Future Ahead

The University of Birmingham is keen to continue working with Fortinet to develop its network infrastructure and security protections further. While rationalization of new rules is still underway, the additional stages of the deployment are delivering the same excellent level of performance that they did during the initial migration, without any further issues.

The University of Birmingham looks forward to working with Fortinet as its primary security partner in the future. This will include introducing the Fortinet Security Fabric further into the IT security strategy and more digital transformation.



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