



University of Bristol Unlocks Global Opportunities with VMware Cloud Foundation

The [University of Bristol](#) is one of the top-ranking institutions globally, with more than 28,000 students attending every year. It is also renowned for advancing scientific research in many fields that positively influence society, healthcare, industry, and the environment.

Industry

Education

Strategic priorities

- Virtual Cloud Networking
- Multi-Cloud

Partner

[Xtravirt](#) is a modern cloud consulting and managed services firm focused on unlocking the full potential of cloud and business.

VMware footprint

- VMware Cloud Foundation™
- VMware vSAN™
- VMware vRealize® Suite
- VMware NSX-T™ Data Center

With technology helping dissolve geographical boundaries, today's education and research institutions need to be able to deliver and compete on a global scale. When the University of Bristol selected VMware Cloud Foundation™ as the basis for a strategic transformation program, expertise provided by VMware Principal Partner Xtravirt was critical to its success. As a result, the university is well-positioned as the partner of choice for international research projects and is able to expand the minds of increasing numbers of international students.

Helping students and society fulfill their potential

The University of Bristol has offered the highest standards of student education and research capability since 1909. As one of the top ten universities in the UK, it has more than 20,000 undergraduate and 7,000 postgraduate students attending every year. World class teaching sits alongside cutting-edge research and the university is renowned for advancing scientific research across many fields, positively influencing society, healthcare, industry, and the environment.

Maintaining this position requires capabilities that reach far beyond the traditional requirements for a higher education establishment. To compete on the global stage, the University of Bristol must deliver a strategy that it describes as 'delivering education without boundaries'. This ensures students can participate in education, and academics in research, globally. University CIO, Keith Woolley, explains: "Our digital vision aims to ensure we bring parity for our students. No matter where they are or what their background is, they're able to attend the University of Bristol."

Enabling research and education without boundaries

Universities are competing globally to attract students, staff, academics, and funding; education and research without boundaries are the foundation for future growth. And the University of Bristol is no exception. Empowering students, research partners, and staff with better technologies is critical.



Research partners working on cutting-edge projects need to be able to collaborate securely, stand up equipment quickly, and undertake research at scale wherever the data resides. Students expect a modern learning experience. “Our previous technical environment only had a limited ability to integrate new technologies,” says Woolley.

Consisting of several thousand servers and more than 1,000 virtual machines along with 30,000 endpoints, the university’s fragmented legacy infrastructure was also too costly to manage and too complex to maintain; as Dr. Barney Craggs, Cyber Security Lecturer at the University of Bristol, notes: “We’re limited by physical space, cost, and time for managing our technology.”

Needing to cater to this wide variety of needs, the university embarked on an ambitious multi-year digital transformation strategy. Working with VMware Principal Partner and specialist cloud consulting and managed services business, Xtravirt would assure the success of the complex transformation program, mitigating any risks that come with ‘going it alone’. By leveraging Xtravirt’s experience and expertise, the university is accelerating its time to value of its digital transformation.

Adopting a flexible hybrid cloud foundation

After reviewing the market, the university chose VMware Cloud Foundation as a robust, scalable hybrid cloud platform to support its strategy. “VMware Cloud Foundation allows us to meet and exceed requirements today, and grow, evolve, and flex over time,” says Aron Bibby, Senior Network Engineer at the University of Bristol.

The hybrid infrastructure includes compute, storage, and networking, and can integrate with any public cloud provider worldwide. It can also run any traditional or cloud-native business or bespoke research application, including high-performance computing workloads.

VMware NSX-T™ Data Center virtualizes the network, enabling the micro-segmentation of the university’s diverse environments for increased flexibility. VMware vSAN™ provides software-defined enterprise storage, and the university is also leveraging Dell vSAN Ready Nodes to accelerate its adoption on its Dell PowerEdge servers. A VMware vCenter® plug-in from Dell dramatically reduces complexity, speeds deployment, and minimizes errors in IT operations.

The solution also includes VMware vRealize® Suite, which provides a robust hybrid cloud management platform with deployment automation, intelligent monitoring, and real-time insights. Its consistent web-based front end and self-service automation will provide standardized and reactive deployment to empower academic staff. “VMware vRealize Suite gives us a platform for management, monitoring, and getting an overall sense of the health of our IT environment,” says Bibby.

As an experienced cloud consulting and managed services business, Xtravirt’s role was to guide and support the university through its complex and far-reaching program of modernization. “VMware Cloud Foundation essentially gives the University of Bristol a solid base on which to build. With the capability to extend to public cloud and run modern applications, the university can look forward to participating in even larger research projects with partners around the world, and can take its teaching to increasing numbers of international students,” explains Robin Gardner, Strategic Services Director, Xtravirt.

“VMware Cloud Foundation is going to help us compete on the global stage by allowing us to work in environments where we couldn’t work before.”

Aron Bibby, Senior Network Engineer, University of Bristol



Eliminating time and complexity for research projects

The ability to bring up and bring down discrete research networks very quickly is incredibly valuable to academics. Craggs explains how the solution is helping: “With VMware Cloud Foundation, researchers are no longer reliant on IT services. We can self-provision networks as we need them.”

Craggs is looking forward to how NSX-T Data Center will simplify doing research at scale by eliminating the cost, time, and space required to set up and run large, connected environments. He continues: “Moving toward software-defined networks means we can digitally twin our large environments, making it easier for us to do research at scale.” Moreover, cost of ownership reduces dramatically because individual research projects no longer need to invest in fixed assets.

Being cloud-ready is of paramount importance for the university’s research arm. “As an agnostic platform, VMware Cloud Foundation enables integration with any public cloud provider,” explains Gardner. “This means researchers can integrate their workloads with their partners’ environments and the research data. It doesn’t matter where in the world they’re working.”

Enabling education and research without boundaries

Adopting Cloud Foundation will help the university deliver a world-leading, digital university experience anywhere, anytime, from any device. “VMware Cloud Foundation is the basis of our boundaryless education and research capability,” says Woolley. “Partners can continue their research, while students can enjoy learning from anywhere across the globe as though they’re onsite.”

And VMware vRealize Suite self-service and automation will enable efficient and consistent deployments and workload provisioning. “VMware vRealize Automation accelerates services delivery, which is a critical objective for the university,” says Gardner. Faster access to services means academics and students can focus on their chosen subjects without delays.

Simplifying management for IT services

The project will streamline infrastructure requirements and standardizing IT services will make it easier for IT services to manage them. As Bibby comments: “VMware Cloud Foundation will allow us to spin out environments quickly and scale resource allocation easily as needs change.” Additionally, the VMware solution provides a standardized platform for managing and monitoring, providing an overview of the environment through a single pane of glass.

Moreover, the software-defined networking enabled by NSX-T Data Center will ensure IT services can react quickly to researchers’ changing requirements. It eliminates the physical limitations of traditional infrastructure and enables micro-segmentation of environments. “Having everything software-defined gives you an incredible amount of flexibility,” adds Bibby.

Looking ahead

The future phases of the project will focus on delivering an enterprise digital workspace solution, including endpoint management, and defining the university’s future IT governance strategy.

The university is also considering expanding on the use of VMware Cloud Foundation to automate software delivery across platforms, implementing VMware Horizon® VDI, and leveraging VMware vSAN for big data. It is already starting to see the broader benefits of the VMware platform. “VMware Cloud Foundation is going to help us compete on the global stage by allowing us to work in environments where we couldn’t work before,” concludes Woolley.

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