



Manchester Metropolitan University



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Overview

With a history dating back to 1824, Manchester Metropolitan University (MMU) is a leading modern university with over 40,000 students and 4,000 members of staff. The university's mission is to make higher education accessible to all those with a passion to succeed.

MMU had a large, ageing, on-premise infrastructure that supported multiple on-site solutions, maintained by a highly respected infrastructure team. It had therefore devised a cloud-first strategy, with a vision to modernise its digital infrastructure to provide the flexible environment needed to support the changing needs of the university and its students.

Its long-term vision is to achieve application modernisation, drive cost efficiencies and adopt sustainability initiatives by utilising the public cloud.

Ultimately, the university sought to bring its technology services on par with its extensive academic record, marking its commitment to the ever-changing future of work and study.

Key Facts

- 650 VMs migrated in total (to AVS and new on-premises solution)
- 99% migration success rate
- 40 on-premises hosts replaced by an 11-node AVS cluster and an 8-node on-premises cluster

Challenge

To realise this vision, MMU needed to embrace a new model of organisational working. This would encompass the latest technology to improve productivity and efficiency and provide a flexible and scalable environment which properly reflected modern business requirements. The university's aim was to refocus teams away from frequent and time-consuming tasks, such as administering hardware, to those more valuable to long-term strategy.

To help achieve this, MMU had identified an onsite data centre to be repurposed for educational needs. The infrastructure team were faced with the challenge of relocating this ageing infrastructure, the upkeep

of which already cost money and valuable time. Additionally, reductions in vendor support for much of its legacy hardware was introducing security and compliance vulnerabilities to its environment.



MMU also needed to maintain a hybrid cloud position, using VMware to retain on-premises hosting ability for specific workloads.

With a multi-faceted approach to its infrastructure, MMU required a new Azure Landing Zone and Azure VMware Solution (AVS) within its existing Azure tenant, and to migrate its VMware server estate to the new AVS environment.

To achieve this, the university needed a partner with experience and ability in the education sector, who aligned with its cultural values. It sought a business with demonstrated Azure expertise to deliver not only a successful digital transformation to a highly technical specification, but also compliance with all industry regulations and requirements.

MMU approached Advania to understand how it could leverage Microsoft's Azure public cloud to reduce its on-premises infrastructure and take advantage of the many benefits available from Azure via a public cloud partner.

Approach

We started by creating a business plan which clearly outlined and identified the changes that would be implemented through MMU's migration. This allowed us to clarify our strategy for achieving the university's goals.

A detailed cloud assessment and discovery phase was run to identify workloads suitable for migration, alongside workshops and interviews to build a clear understanding of the existing architecture.

By extending its VMware data centre to Azure, MMU would be able to take advantage of extended security updates, as well as having the scalability to meet the on-demand capacity and high levels of availability that the university regularly requires.

We held open conversations with the university throughout to assess and address any issues that arose, and to ensure that the project was developed in line with all necessary requirements. This knowledge sharing meant that the desired outcomes could be achieved promptly and securely, and timely conversations and collaboration kept all parties aware of expectations and timeframes.

“Working with Advania has been a great experience. The team are very skilled and knowledgeable in many areas including Azure, VMware and Cisco, which has ensured a successful delivery for MMU's hybrid hosting solutions. It absolutely feels like a partnership – very flexible and continuously adjusting to the needs of the project – which has ensured a smooth transition in a period of significant infrastructural change for the university.”

**Feedback from the MMU Project
Manager Claire Peers:**



Solution

AVS provided a path for a fast migration, without introducing the complexities of new technologies. It helped us ease the university's capital expenditure and allowed them to retain their infrastructure team with their strong VMware skills and wealth of MMU-specific knowledge.

Our expertise in Azure and experience with full-scale transformations meant we were able to build a successful Azure target architecture, including Azure Landing Zone, AVS environment and network connectivity, ensuring that the underlying Azure platform hosting the migrated servers would be cost-effective, secure and easy to manage. In designing and building the Landing Zone, we followed Microsoft best practice, including the Cloud Adoption Framework.

We used the VMware HCX mobility platform to establish a service mesh across on-premises and AVS, stretching networks where required, and migrated the existing virtual machines to the new cloud solution utilising a lift and shift migration. We repurposed and implemented existing MMU tools for monitoring and backup, collaborating with MMU and third parties to ensure this was done without disruption.

An end-to-end project management service was provided via our Project Management Office, fully managing the delivery of all our in-scope activities and deliverables. Detailed migration runbooks were created for each migration wave.

In total, 450 virtual machines were migrated from VMware to Azure. We completed the migration and modernisation successfully within the scheduled timeframe with a 98.5% first-time migration success rate.

To support MMU's long-term requirements, we documented all skills requirements and mapped plans to the existing team. We also created a comprehensive cost analysis report – provided to MMU during the project handover phase – to ensure MMU can take full advantage of any Microsoft offers available, including Azure Migration and Modernisation Programme funding, Reserved Instances and Azure Hybrid Benefit licensing.

As part of the transformation service, MMU received Early Life Support to ensure the transition from our project team to MMU's operational team was smooth and without risk. This service enabled a fully documented environment to be handed over securely and with clarity of function.

Products and Services Taken

- Azure Professional Services
- Cloud Migration



Outcomes

- Design, build and implementation of an Azure Landing Zone to host MMU's cloud resources. This was deployed utilising infrastructure-as-code (IaC) comprising the following four subscriptions:
 - management subscription
 - connectivity subscription
 - identity subscription
 - data subscription (to facilitate MMU's Rubrik backup solution)
- An AVS private-cloud environment deployed within the Landing Zone to host MMU's virtual server estate, with the ability to scale up to 14 VMware ESXi hosts and a dedicated Microsoft managed Express Route peered with MMU's Express Route
- Fully managed migration of MMU's virtual server estate including post-migration support using a lift and shift methodology, principally utilising the VMware HCX bulk migration method
- Technical handover of the new environment to MMU's support teams via hosted workshops
- Deeper insight and constant remediation of potential security threats and compliance issues
- Provision of design and as-built documentation
- A reduction in hosting and on-premises maintenance costs and, ultimately, more predictable ongoing costs
- A reduction in support costs
- Alignment/compliance with MMU's cloud-first strategy
- An improvement in MMU's environmental footprint



The Future

Following the successful adoption of AVS, MMU engaged Advania to help design and implement a new on-premise HCI solution.

In response, we designed and architected an 8-node VMware stretched vSAN ESA cluster across two sites, migrating approximately 100 virtual machines to the new environment.

