

Transformative Networks Unify Operating Environment, Reduce Costs, and Increase Agility

Summary

Company:

Academia Ltd

Industry:

Technology Reseller and Service Provider

Business Challenge:

- Increase system capacity and scale to meet current and future demand
- Increase security, reliability, and performance
- Simplify operations environment

Technology Solution:

- [MX5 3D Universal Edge Router](#)
- [EX4600 Ethernet Switch](#)
- [EX4550 Ethernet Switch](#)
- [SRX1400 Services Gateway](#)

Business Results:

- Tenfold increase in capacity in less than six months
- Seamless migration to its new network and data centres
- Unified operating environment reduces costs and increases agility
- Customer satisfaction at 100 percent in survey results

The Academia Technology Group, founded in 2003, is a fast-growing group of UK technology companies that has been awarded a place in the [Sunday Times Tech Track 100](#) for five consecutive years. It provides cloud, connectivity, and mobile solutions from the desktop through to the data centre. Academia partners include vendors such as Apple, Adobe, Microsoft, and HP to provide technology solutions across a wide range of markets in both the private and public sectors. Its operations team now supports over 10,000 endpoints.

Business Challenge

Academia launched its initial cloud and hosting infrastructure from a single data centre; however, with increasing market success, this infrastructure had reached a ceiling on its performance. Additionally, Academia wanted to increase the resilience of its solutions. As senior solutions architect at Academia Graham Stewart explains, "Academia runs a multitude of customer applications across its network, ranging from Infrastructure as a Service (IaaS) to Platform as a Service (PaaS) and all the way to pure IP transit. So the reliability and performance of the network is critical."

Academia decided to expand its operations to a second data centre, and identified increased performance, high reliability, and operational simplicity as critical requirements.

"We are looking at Juniper Networks vSRX Virtual Firewall to collapse the CPE functionality back into our own premises, or maybe even running it on an optical termination device. This is one of the benefits of Juniper's open approach to networking. The flexibility we have to run a virtualized Juniper system on a third-party platform is unique, and a great illustration of how the network is moving towards software. It's another example of how Juniper is innovating to help us deliver a cost-effective, reliable, and future-proofed set of services for our customers."

Graham Stewart, Senior Solutions Architect, Academia

Technology Solution

From a technical perspective, Academia wanted to multihomed its new data centre and make it reachable using BGP. Although Academia already deployed a number of Juniper Networks solutions, the new build-out represented a significant investment, and it undertook a full vendor review to see how best to meet the new challenges.

Academia ultimately chose Juniper to expand its network infrastructure as the vendor presented a future-proof, best-in-class networking solution for Academia, as well as offering value and the single unified OS, Juniper Networks® [Junos® operating system](#). “The Juniper technology enabled us to build a network that would scale with us as we grew, and would give us a solid, secure, and reliable network platform right from the start,” Stewart says. “It also enabled our team to move quickly because we only needed training on a single unified platform. It’s proven to be a great choice.”

Academia uses the [Juniper Networks MX5 3D Universal Edge Router](#) at each of its data centre sites, acting as border gateways and providing connection to its tier-1 Internet partners, also with direct and public peers, and providing services to its Internet access only customers. The MX5 is a compact and full-featured routing platform that supports high-density connectivity and dedicated processing for compute-intensive network services. Importantly, the MX5 can be nondisruptively upgraded through 80 Gbps of throughput, providing investment protection in a flexible and efficient “pay as you grow” model.

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Academia has also deployed the [Juniper Networks EX4600 Ethernet Switch](#) at the primary sites and the [EX4550 Ethernet Switch](#) at its disaster recovery site, to provide a resilient backhaul network and to connect customers to its cloud services. It uses [SRX1400 Services Gateway](#) to provide an aggregation layer and implement security and intrusion detection and prevention (IDP) services. It has deployed the SRX1400 gateways at each site, configured as a single high availability cluster by creating a single virtual system running over the network. “We can create a single system without even needing to connect dispersed devices over the same physical cable, which has allowed us to simplify and improve our operations by managing multiple, dispersed components as a single device,” Stewart says.

Academia also provides SRX Series Services Gateways on the end of every customer connection it provides. “Juniper is a well-respected security industry brand, and the SRX Series firewalls are reliable and secure devices,” Stewart says, “so when we use them to provision services, they enhance our own offering.”

As part of the process, Academia took the opportunity to add to its existing Juniper expertise, putting one of its experts through Juniper’s rigorous [Juniper Networks Certification Program \(JNCP\)](#). “We also took advantage of the expertise in [Juniper Technical Assistance Centre \(JTAC\)](#),” adds Stewart. “At one point we had experts staying up with us all through the night to make sure our migration worked smoothly. I have worked with Juniper products over the last 10 years and have yet to meet another vendor like them.”

Business Results

As a result of the new network, Academia has seen a tenfold increase in the network capacity. Network uptime is extremely high, and customer satisfaction is 100 percent in its survey results. Academia has also benefited from increased operational simplicity, needing only three staff to run all of its network and security functions while the other engineers focus on other priorities.

“As a cloud provider and network services provider, it was critical for us that the new network could ensure reliability, scalability, and affordability and Juniper has ticked all three boxes for us,” Stewart says. “And with Junos OS providing a single unified operating system across all our different systems, from security to routing and switching, we have less administration and it’s easy to bring on new skilled engineers. There’s only a single platform to learn, with the same commands required across the whole range of product types. Academia also benefits from a single management environment for both its own network and its customers, because it can manage its customer premises equipment (CPE) from the same system.”

Academia built out its entire cloud and ISP business infrastructure in under two years. The company went from a standing start to being fully operational in its first year and then grew and upgraded its systems in year two. “This was a smooth and rapid upgrade,” Stewart says. “Transition was seamless. We had virtually no downtime and I don’t think we could have achieved that with any other vendor. For example, Juniper’s commit-confirm feature to roll back and forward between configs quickly and easily, along with its ability to validate configurations in advance, helped us minimize our risk through the whole process. We’ve achieved reliability, flexibility, and a great service in an extremely short space of time. This was all a result of choosing the right technology and partners, and Juniper was a key part of this process.”

Next Steps

Academia is now considering [Juniper Networks Junos Space](#) as a consolidated management and control system to enable it to automate both its own systems and its CPE. It is already planning for an additional data centre outside London to enhance its disaster recovery capability. With that sort of growth, Academia anticipates a need to upgrade to multiterabit scale MX Series routers, such as the MX240 and MX480, which would be a straightforward fit into its current architecture.

Academia is also looking at [Juniper Networks vSRX Virtual Firewall](#) to collapse the CPE functionality back into its own premises, or maybe even running it on an optical termination device. "This is one of the benefits of Juniper's open approach to networking," concludes Stewart. "The flexibility we have to run a virtualised Juniper system on a third-party platform is unique, and a great illustration of how the network is moving towards software. It's another example of how Juniper is innovating to help us deliver a cost-effective, reliable, and future-proofed set of services for our customers."

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For More Information

To find out more about Juniper Networks products and solutions, please visit www.juniper.net.

About Juniper Networks

Juniper Networks challenges the status quo with products, solutions and services that transform the economics of networking. Our team co-innovates with customers and partners to deliver automated, scalable and secure networks with agility, performance and value. Additional information can be found at [Juniper Networks](#) or connect with Juniper on [Twitter](#) and [Facebook](#).

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