

Embracing Network Functions Virtualisation Gives U.K. Hosting Provider an Edge Over the Competition

Summary

Company:

Datanet

Industry:

Technology

Business Challenge:

- Replace a legacy network with one that is future-proof, secure, and highly available
- Upgrade capacity from 1 Gbps to 10 Gbps
- Implement virtualised networking technologies to enable rapid service provisioning and advanced security services, while saving precious rack space and power

Technology Solution:

- MX104 3D Universal Edge Router
- EX4300 Ethernet Switch
- vSRX virtual firewall

Business Results:

- Accelerated business growth
- Rapid provisioning of new services on virtualised platforms
- Highly available network driving customer satisfaction and consuming less rack space
- Successful customer migration

Datanet has been providing data hosting and connectivity services to businesses around London for 20 years, specialising in backup and recovery. It was founded by Conleth McCallan, managing director, who recognised the need for hosted rack space that could provide a higher power allowance for customers. Many of its customers are specialist IT companies themselves, who select Datanet's infrastructure to deliver their own services. Datanet is privately owned, with the head office and highly experienced staff operating from its own data centre in Fleet in the U.K., as well as two additional data centre facilities in London.

Business Challenge

Three compounding factors drove Datanet to change its data centre network, eventually resulting in a move away from its incumbent network equipment supplier:

- Datanet's network equipment was approaching end-of-life, causing concern about its long-term viability. As Datanet's customers require extremely reliable services with minimal downtime, a future-proofed and high availability network was needed.
- As Datanet's services became more successful and the volume of backup and recovery services increased, it also needed to upgrade the capacity of its network from 1 Gbps to 10 Gbps to keep pace with traffic volumes. Upgrading its existing equipment would have required a substantial investment, almost the same as replacing it completely, prompting Datanet to look for alternative solutions.
- Datanet had also experienced a distributed denial of service (DDoS) attack that its previous vendor had struggled to deal with satisfactorily. It was keen to deploy comprehensive security throughout its new infrastructure as a fundamental design feature, rather than an add-on.

Datanet decided that it was time to upgrade its network.

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Conleth McCallan, Managing Director, Datanet

Technology Solution

Datanet went out to tender to find the optimum solution for its needs. Despite using its previous vendor for nearly twenty years, Datanet never felt it had established a close working relationship. One of its large customers was a user of Juniper Networks equipment and highly recommended Juniper's technology for the Datanet solution.

As Conleth McCallan, managing director of Datanet, explains: "We knew a lot of network engineers who recommended Juniper to us from their own experiences. This gave us confidence to consider Juniper for our upgrade project, and when we looked further into what they could bring us with SDN and NFV, the answer became really compelling."

The new data centre network was built using Juniper Networks® MX104 3D Universal Edge [Router](#) to provide a data centre core, [Juniper Networks EX4300 Ethernet Switch](#) for aggregation, and [Juniper Networks vSRX virtual firewall](#) for customer security, all in a fully redundant configuration. The MX104 router is a modular, highly redundant SDN-ready router and member of the full-featured MX Series 3D Universal Edge Routers platform. It offers 80 Gbps of capacity and supports a redundant control plane for high availability. [Juniper Networks EX Series Ethernet Switches](#) are carrier-class switching solutions for converged enterprise branch offices, campuses, and data centres, as well as for service provider deployments. [Juniper Networks vSRX virtual firewall](#) delivers a complete and integrated virtual security solution that includes core firewall, robust networking, advanced security services at Layers 4 through 7, and automated life cycle management capabilities.

"Working with (Juniper partner) Infradata has given us access to the same engineers who work on some of the largest carriers and networks in the country. And we've been able to deploy the network in a failover configuration for full redundancy, which was never an easy thing to achieve with our previous equipment. It's easier to monitor and manage what's happening across our infrastructure. These are all advantages of using innovative carrier-grade equipment."

Conleth McCallan, Managing Director, Datanet

As McCallan explains: "The virtual SRX is particularly useful as it has allowed us to avoid deploying new hardware every time we provision a new customer. It's inefficient to locate physical firewalls at customer sites, as it requires expensive truck rolls to every site that needs Internet access. Locating them in our data centre solves this problem, but then they take up costly space and power resources. Deploying firewalls as a virtualised network function is much more efficient and we can provision them immediately without any hardware deployment cycle."

The entire network was simulated inside Datanet's own data centre facilities to provide a proof-of-concept environment before it was migrated into live production. "Planning and testing were really important," McCallan says, "especially as we were switching vendors. But the Juniper experience has been a really good one. They are focused on producing carrier-grade systems and are ideal for providers like us with highly demanding and dynamic needs."

Business Results

The network is now fully operational and Datanet is in the process of migrating its customers to the new platform, which is more resilient and secure, and provides a future-proofed upgrade path from 10 Gbps to 100 Gbps. Infradata, Juniper Networks' partner, is supporting the process, as well as providing financial support to spread the cost of the project. "Working with Infradata has given us access to the same engineers who work on some of the largest carriers and networks in the country," McCallan says. "And we've been able to deploy the network in a failover configuration for full redundancy, which was never an easy thing to achieve with our previous equipment. It's easier to monitor and manage what's happening across our infrastructure. These are all advantages of using innovative carrier-grade equipment."

Now Datanet is winning significant new business particularly in the areas of cloud, hosting, and backup and recovery, partly due to the increased bandwidth, reliability, and flexibility of its new network from Juniper. Datanet has also been able to increase its performance while using less space in its data centre facilities. "The MX104 routers are highly compact yet still offer full power and control plane redundancy, and provide us with much higher bandwidth," McCallan says.

Next Steps

Datanet plans to use the vSRX virtual firewall to offer additional advanced security services at Layers 4 through 7, and it also intends to extend its virtual environment by deploying [Juniper Networks vMX, the virtual MX Series router](#). vMX is a true MX Series router that is optimized to run as software on industry-standard x86 servers. It provides an economical solution for carrier-class routing and adds a DevOps-style service focus to the network.

"Backup and recovery are becoming increasingly important for businesses across the U.K.," McCallan says, "as their applications and data are at the very heart of their operations. Many are recognising that cloud technology is a great solution for secure backup; however, that means we need more capacity, reliability, and pervasive, software-enabled security, and the flexibility that comes from virtualising network functions. This is an edge that Juniper Networks has given us today, along with being ready for SDN in the future."

For More Information

To find out more about Datanet's Hosting, Connectivity and Backup & Recovery solutions please visit www.datanet.co.uk

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](https://twitter.com/juniper) and [Facebook](https://facebook.com/juniper).

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