

Maynooth University

University modernizes data center lifecycle management
with Apstra Data Center Director

Optimize resources and enhance
agility with intelligent automation

[Learn how →](#)

Industry

Education

Region

EMEA

Juniper makes life in the data center easier

Maynooth University is a dynamic, research-led university that attracts students from Ireland and across the globe. Maynooth was recognized as the top young university in Ireland in the 2023 Times Higher Education (THE) rankings. Located about 40 minutes from Dublin, Maynooth consists of two connected campuses: a historic southern campus with 19th-century buildings, shared with St Patrick's College, and a modern northern campus spanning 100 acres.

Maynooth University relies on Juniper's automated data center network solution to support its academic, research, and administrative needs.

Overview

Challenge

"Academia is a tricky environment," said Peter Gaughran, Senior Infrastructure Specialist at Maynooth University. "Our faculty and researchers have many disparate requests that require bespoke solutions. We needed a modern, flexible data center network with automation that wasn't overly complex for our small team to manage."

Between the university's rapid growth and the faculty's unique requests, the legacy data center network could not keep pace. The tiered architecture made the network painfully complex to manage and expand to meet the university's needs.

Network operations were tedious. The IT team spent lots of time at the command line to configure new devices. Adding new switches to the brittle network could take a week or more. Provisioning new services took weeks. Once in production, effectively troubleshooting the aging switches was massively difficult due to the lack of network visibility.





Transformation

Maynooth modernized and automated its data center network fabric with Juniper to support the application, communications, and digital needs of 17,500 students and 3,500 faculty and staff.

Juniper Apstra Data Center Director automates all aspects of data center network design, build, and deployment and Day 0, Day 1, and Day 2 operations. The EVPN-VXLAN fabric uses Juniper QFX5120 switches for the spine and leaf nodes, delivering high throughput, scalability, and resilience to support the university's applications and workloads.

Network automation has transformed the IT team's agility.

"We have three people on the networking team and automation helps us keep up with the increasing demands for more services and new research projects," said Gaughran.

Outcomes

Rapid migration

1 day

Time needed to move
10 hosts to the new fabric

Reliable

100%

Consistent, continuous
uptime during migration

Agile

5x

Faster to provision
new services

Solution and implementation

[Juniper Apstra Data Center Director](#)

[Juniper QFX5120 Switch](#)

Low-risk, high-rewards migration

A demo of Data Center Director revealed the full scope of its capabilities to the university's IT team—from automation and real-time visibility to improved network performance. The team's ongoing experience has reinforced that Data Center Director was the right decision.

IT used Data Center Director to orchestrate the design and build of the EVPN-VXLAN fabric, using blueprints to ensure accurate configurations from the start and speed up deployment. Data Center Director continuously validates the operational state of the network to make sure it matches the intent in the blueprint.

"Data Center Director just works," said Gaughran. "Our everyday life is so much easier."

Key takeaways and outcomes



"Data Center Director blueprints **make it simple to configure new devices**. It speeds up everything and takes the fear out of touching the network."

Peter Gaughran
Senior Infrastructure Specialist,
Maynooth University

Smooth data center transformation

With Data Center Director, Maynooth modernized network operations and benefits from complete lifecycle automation, clear visibility, and improved resilience.

Maynooth is excited to see the increased integration of the Juniper data center portfolio with Mist™, Juniper's cloud-native, AI-native networking platform, and Marvis® AI engine, and plans to explore Juniper Data Center Assurance.

Fast, trouble-free workload migration

Maynooth runs Red Hat virtualization on 10 host servers. Migrating to the new spine-leaf fabric took only one day—with no disruption in application service delivery. In the previous environment, the process would have taken a week—and been very stressful.

"The guardrails in Data Center Director make it incredibly difficult to make a mistake," said Gaughran.

Enhanced visibility and insights

Poor visibility and a lack of insights are no longer obstacles. Data Center Director identifies root causes of potential problems and instantly sends alert notifications. For example, when the networking team was wrestling with an optics issue, Data Center Director pinpointed the problem for a quick resolution.

5x faster provisioning

Now when faculty and researchers have projects that require new data center infrastructure, the IT team can move swiftly. Since adding Data Center Director, the IT team can provision the new hardware and move a new service into production 5x faster than before.

"Using the templates in Data Center Director gives us confidence and greatly speeds the overall provisioning process," said Gaughran.

More information

Juniper Data Center Director

To learn more about Juniper data center solutions, visit <https://www.juniper.net/us/en/solutions/data-center.html>

For more on designing, deploying, and operating networks for AI, visit <https://www.juniper.net/us/en/solutions/data-center/ai-infrastructure.html>

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