Irish Data Center Provider Builds on Its Open Standards-Based Infrastructure to Provide Low-Latency Services

Summary

Customer:
Cork Internet Exchange

Industry:
Technology

Business Challenge:
Cork Internet Exchange needed to:

- Support increasing international demand for its low-latency data center services
- Manage its complex operational environment
- Build an open standards-based networking platform

Technology Solution:
The solution was built using:

- EX4200 and EX4550 Ethernet Switches
- EX9208 Ethernet Switch
- MX80 3D Universal Edge Router
- MX480 3D Universal Edge Router

Business Results:
Cork Internet Exchange has now been able to:

- Scale to support new customers, both locally and internationally
- Build a consistent and simplified operational environment
- Create a platform for future self-service provisioning and service automation

Cork Internet Exchange (CIX) is a regional data center provider located in Cork, Ireland. It has been providing data center services since 2008, including colocation, managed services, and more recently, cloud computing services.

A privately owned company, CIX offers its customers low-latency connections to North America from anywhere within the European Union, and is also the Irish data center with ultra-low latency to London. It is connected to North America via the new Hibernia Express subsea transatlantic cable, with direct subsea connectivity to France anticipated in 2016.

CIX benefits from its geographical location in several ways. Ireland is an attractive location for many companies, due to its high level of IT skills and a competitive business environment. In addition, Cork, Ireland's second largest city, has always offered businesses a low cost base and high staff availability, and is now benefiting from improved fiber connectivity. CIX is the only significant data center in Ireland outside of the Dublin area.

Business Challenge

CIX currently supports over 200 customers across a wide spread of industry sectors. They include hospitals, an online betting platform, a multi-national global temping agency, pharmaceuticals, local regional government, and service providers in their own right, who provide managed services from within CIX's own rack space. Many of these customers are local businesses, but CIX has become increasingly appealing to multi-national businesses looking for a location that gives them the lowest latency to North America.

As Jerry Sweeney, founder and managing director at CIX, explains the company's growth strategy, "CIX is growing in two dimensions. We are expanding into international markets, largely due to our unique location and our ability to offer low latency to both Europe and North America from a single hub. We are also broadening our service portfolio, moving higher up the stack. Our new service portfolio includes VPN, L2TP, dedicated servers, and an OpenStack cloud environment.

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Jerry Sweeney, Founder and Managing Director, CIX

Many of CIX's customers have moved beyond pure colocation services, and are using managed services and cloud services, both Infrastructure-as-a-Service (IaaS) and Software-as-a-Service (SaaS). "We're responding to our customers' demands," Sweeney says. "They want more flexibility from their IT infrastructure and the cash flow benefits of buying IT as a service. They need less IT resources in-house but that means they depend on us more and more. In turn, we need our own infrastructure and network to deliver the highest levels of performance and reliability."

Another important element of CIX's strategy is to embrace open networking. As Sweeney explains, "Many of our customers are developing virtualized infrastructure, using VMware or other platforms. To complement this, we decided to invest our R&D Euros into OpenStack. We're completely committed to building our services using this open approach. For example, the new version of our cloud service is about to move to an OpenStack platform based on the Neutron project." Neutron is an OpenStack project to provide Networking-as-a-Service between interfaces and devices managed by other OpenStack services.

Technology Solution

Ever since its initial service launch in 2008, CIX has used Juniper Networks routers to provide connectivity to Ethernet switches and the network core. CIX quickly came to see the benefits of the Juniper Networks® MX Series 3D Universal Edge Routers and Juniper Networks Junos® operating system. When Juniper introduced its own range of Ethernet switches, CIX began to deploy them as its favoured solution as well.

It now uses Juniper Networks EX4200 line of Ethernet switches to provide 1GbE access connections and the EX4550 Ethernet Switch for 10GbE cloud service connections. Both systems are configured as part of a Virtual Chassis configuration, enabling CIX to manage them as a single networking element that reliably delivers both 1GbE and 10GbE ports at large scale. Juniper's Virtual Chassis technology interconnects multiple EX4200 switches that appear as a single, logical device from a management perspective, providing a streamlined operations solution. The EX4200 can be combined with EX4500 and EX4550 switches in the same Virtual Chassis configuration to support mixed 1GbE and 10GbE environments without any additional management complexity. CIX has also upgraded the core of its data center network to the Juniper Networks EX9208 Ethernet Switch.

The edge of the network, which is connected to multiple IP transit circuits for resiliency, now features Juniper Networks MX80 3D Universal Edge Router, with each device fully populated with 1GbE and 10GbE ports. To provide even greater resiliency and capacity, CIX has recently added Juniper Networks MX480 3D Universal Edge Router, also populated with 10GbE ports. These MX Series platforms are SDN-ready edge routers that provide investment protecting bandwidth, subscribers, and services scale.

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Jerry Sweeney, Founder and Managing Director, CIX

Business Results

CIX's new network will enable continued business growth and international expansion, and the consistent implementation of the Junos operating system across all Juniper platforms avoids operational complexity. "The key reason we use Juniper is that we simply love operating over Junos OS. It gives us the same operational platform, from core to edge and across switches and routers. It's simple to configure, consistent, and easy to learn," Jerry Sweeney says.

CIX particularly values operational Junos OS features such as "Commit Confirm," which allows simple rollback, storage of multiple configurations, and the ability to deploy multiple changes simultaneously, rather than one at a time. "Reconfiguring a live data center is a bit like doing brain surgery," Sweeney says. "The advantage of Juniper's operating system is that it makes the whole process simpler and more predictable, which in turn means we can offer higher service levels to our customers."

CIX also sees itself closely aligned to Juniper's philosophy on open standards. It is committed to open networking and believes the deployment of systems from Juniper gives it a competitive advantage over the rest of the market.

Next Steps

CIX now plans to evolve its platform towards self-service provisioning and service automation. As Sweeney explains, "SDN simply has to happen, there is no confusion about this. The support we've had in this area from Juniper and their knowledge of SDN and cloud computing has been excellent." CIX envisages a move to a software-based Virtual Extensible LAN (VXLAN) overlay to help scale beyond current VLAN limitations. This will allow its network to become much more reactive to requests from services such as firewalls and load balancing. CIX is also considering Juniper Networks Contrail Networking for its orchestration system.

CIX has acquired an adjacent building, which will double the square footage of its data center facilities and support even denser deployments of IT infrastructure as it continues to expand.

Sweeney sums up by saying, "CIX is hoping to maintain its consistent growth rate of 30% per annum. Offering ever more sophisticated services to our customers is the key to our growth. Juniper will be a key partner in delivering those services."

For More Information

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

To find out more about CIX's services, please visit www.cix.ie/

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