

CYRUSONE MEETS MASSIVE DEMAND FOR CLOUD SERVICES WITH 100GbE NATIONWIDE NETWORK

Summary

Company: CyrusOne

Industry: Cloud Builder

Challenges: Build out network of data centers to support businesses' insatiable demand for cloud computing

Selection Criteria: CyrusOne needed a robust, scalable platform to facilitate connectivity among data centers and support rapid build out of new facilities.

Network Solution:

- PTX5000 and PTX3000 Packet Transport Routers
- MX80 3D Universal Edge Router

Results:

- Greatly increased scalability, reliability, and flexibility of nationwide network for cloud data centers
- Able to support rapid build-out of data centers
- Simplified network and lowered cost with converged packet transport

The largest enterprises in the world rely on data centers to keep their businesses running smoothly. And running those data centers is a task that often falls to cloud service providers, who give organizations an appealing alternative to the huge challenge of operating their own data centers. CyrusOne is a major provider of cloud and data center services, focusing on Fortune 1000 companies that have not historically outsourced IT operations. The company is growing rapidly and operates more than 25 data centers in the U.S., U.K., and Singapore.

Challenge

To meet customers' exploding demand for cloud services, CyrusOne wanted to upgrade the nationwide network that interconnects its data centers.

Unlike most data center providers, CyrusOne operates its own Internet exchange to interconnect its data centers. "The Internet exchange at CyrusOne was actually designed on a napkin," says Josh Snowhorn, vice president and general manager of interconnection at CyrusOne. "We sat at lunch, drew something out, and thought about how to interconnect our data centers differently than anybody else was doing it."

In the CyrusOne model, the Internet exchange effectively functions as a carrier Ethernet exchange. Each data center might have connections to a dozen telecom providers and also be connected via an optical network to other major exchanges in the area, which provide direct connectivity to hundreds more carriers. This design enables CyrusOne to pull any carrier into any location around the country, and ultimately, it allows customers to easily scale and grow their bandwidth needs.

"We're trying to get customers closer to the center of the Internet so they have better performance and lower cost," says Snowhorn. "We help customers interconnect directly with carriers, reducing their cost and giving them better control over their interconnected destiny."

"Juniper has been a tremendous asset for us to ensure we always have uptime, high-speed connectivity, and complete resilience."

- Josh Snowhorn,
Vice President and General Manager, CyrusOne

Selection Criteria

The Internet exchange connecting CyrusOne data centers had to be able to deliver the highest levels of flexibility, reliability, scalability, and security. "From a product level, we wanted to have massive scalability, low cost, and rapid delivery of services," says Snowhorn.

Solution

Snowhorn and his team selected Juniper Networks routing solutions for its nationwide network. CyrusOne uses Juniper Networks® PTX5000 Packet Transport Router and PTX3000 Packet Transport Router for its Internet exchange network. With the optical layer and IP layer integrated in a single platform, the PTX Series router can handle the massive growth of traffic between CyrusOne's data centers, while delivering significant

advantages in terms of lower cost, less rack space, and lower gig-per-watt capacity.

"We chose the PTX Series because of its rapid deployment, low cost per port, and the ability to avoid needing a separate DWDM platform due to its inherent ability to offer optics within the platform," Snowhorn says.

CyrusOne uses Juniper Networks MX80 3D Series Universal Edge Router to provide customer connectivity. Most CyrusOne customers choose an IP service for in-band or out-of-band management, which provides multihomed connectivity to multiple upstream telecom providers to ensure redundancy and ensure peak traffic flow—often at speeds up to 40GbE. "We chose the MX Series router because it is the most reliable platform out there for routing, for upstream connectivity, to guarantee access to the full routing table, and to make sure we had full resiliency," Snowhorn says.

CyrusOne worked closely with Copper River IT, a premier solutions provider and Juniper's 2013 East Region Partner of the Year. Copper River's network engineering expertise and extensive knowledge of Juniper's portfolio was integral during the 10-month evaluation and training period. "Copper River brings an agnostic, expert view to service delivery," says Snowhorn. "They architect a complete solution for us and tie it together into a platform that we can offer our customers."

"As a value-added reseller, we work with a variety of vendors and manufacturers, but we've gravitated to and invested heavily in Juniper, because we feel Juniper delivers a unique vision and ability to execute in high-performance networking, which customers value tremendously," says Boladji Agueh, sales director at Copper River.

Results

With a high-IQ network from Juniper, CyrusOne can take cloud computing to a whole new level. "CyrusOne is really giant supercomputer farms for large enterprise production facilities or seismic processing for the oil and gas industry," says Snowhorn. "All that data processing takes massive supercomputer farms, and sometimes these companies need to use a supercomputer cloud service. In that instance, we would use our partners within our facilities to offer them slices of supercomputer time and use our Internet exchange to tie together those services."

With its new network interconnecting its data centers, CyrusOne can meet the exploding demand for data center services from its customers. CyrusOne scaled its backbone to 100GbE and greatly improved its reliability, but the real business value has been the company's ability to sell out the floor space in its data centers quickly and then move on to build out a new facility, fueling profitable business growth.

With Juniper providing high-performance, highly reliable routing over a converged packet transport, CyrusOne can deliver the powerful data center services its customers desire. "The network is crucial for the survivability of these services," says Snowhorn. "The interconnect services we provide from data center to data center can't be second class. Juniper has been a tremendous asset for us to ensure that we always have uptime, high-speed connectivity, and complete resilience."

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Next Steps and Lessons Learned

From its roots in the oil and gas industry, CyrusOne is expanding its focus into financial services, content providers, carriers, and other Fortune 1000 customers.

According to Snowhorn, CyrusOne has about 1 million square feet of data center space under construction. "In the future, we're looking to provide low-latency replication services—staying under 5 milliseconds from data center to data center—and rolling that out throughout North America and eventually the world," he says. "We've been very successful using Juniper's MX Series platform and scaling into the PTX Series platform, and our customers see that confidence when we present the platform, and they experience the uptime they receive from it."

For More Information

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

About Juniper Networks

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