BROCADE

CyrusOne

EXECUTIVE SUMMARY

Challenge
Enable customers to exchange massive amounts of data at high speeds by extending their cloud connectivity ecosystem across CyrusOne facilities nationwide

Solution
Brocade MLX Series routers for the network core

Results
- Delivered a cost-effective platform for transparent interconnections by deploying MPLS/VPLS technology
- Met customer demand for high service levels and redundantinterconnections with a highly resilient network architecture
- Improved business agility and service delivery times with rapid provisioning of new Ethernet ports
- Provided investment protection and support for future bandwidth needs with high-density 10 Gigabit Ethernet (GbE) and 100 GbE scalability, supporting terabit LAG capacities
- Achieved a smooth deployment with expert help from a full-time Brocade Onsite Support Engineer (OSE)

National IX Interconnection Platform, the Nationwide Internet Exchange

CyrusOne provides mission-critical, carrier-neutral data center facilities that protect and ensure the continued operation of customers' information technology infrastructures. With state-of-the-art data centers built to be highly flexible, reliable, and available, CyrusOne serves a critical role in helping customers optimize their capital and operating costs associated with data center operations and management. CyrusOne customers include nine of the global Fortune 20 companies and more than 100 of the Fortune 1000.

The CyrusOne National IX delivers a national Internet Exchange (IX) between data centers, ushering in a new threshold in high-performance data transfer and accessibility. The National IX enhances conventional data management by enabling a broad range of choice and reach for transporting large amounts of data over a nationwide ecosystem. The platform is engineered to provide a highly available network for massive real-time data transfer and active-active data centers in multiple locations.

The National IX platform is deployed across 12 CyrusOne facilities in Dallas, Houston, Austin, San Antonio, and Phoenix, enabling robust nationwide interconnection between metros. Using the National IX, customers can choose from a multitude of carriers and providers through CyrusOne's bandwidth marketplace, allowing optimal flexibility and interconnection with anyone at any connected facility and to the cloud.

Building a New Network Infrastructure

In 2012, when CyrusOne began to design the National IX networking infrastructure, it was in the enviable position of having a greenfield environment. It had virtually no legacy network infrastructure or management systems to integrate. Deploying a greenfield environment gave CyrusOne the advantage of being able to optimize the network design for future scalability and reliability, without regard for legacy interfaces or protocols.

CyrusOne considered various platforms from multiple vendors—assessing their cost and features—before choosing Brocade to interconnect its cloud data centers. "We selected the Brocade MLX Series router because it provides the most value and future scalability," says Josh Snowhorn, Vice President and General Manager of Interconnection at CyrusOne.

Working closely with Brocade, CyrusOne designed a network capable of supporting the National IX services at a scalable capacity based on customer needs.

Ensuring a Successful Network Deployment

Today, CyrusOne has 22 Brocade® MLX® Series routers deployed nationwide, interconnecting its 12 data centers between the five metros that comprise the National IX platform. Over 2500 10 Gigabit Ethernet (GbE) and 1000 1 GbE ports are available across the network, with the capacity to expand to 100 GbE as customer demand for bandwidth grows.

The network, capable of meeting or exceeding five-nines reliability, is designed with fully redundant elements at numerous levels. At the physical layer in each metro, two redundant fiber rings with diverse paths are connected to a redundant pair of optical transport switches. In addition, a pair of redundant Brocade MLX Series routers with fully redundant hardware connects to the optical network at each data center. Redundant paths between the Brocade MLX Series routers are established using Multiprotocol Label Switching (MPLS) RSVP-TE, which offers sub-second failover and data reroute capabilities. To enable redundancy at the customer port level, CyrusOne delivers a port connected to each Brocade MLX Series router as part of its standard interconnection service.

This allows customers to manage their traffic flow over the National IX platform according to their needs. For example, they can configure their connections to be active-active load-sharing or active-backup.

Looking Ahead

CyrusOne knows its infrastructure needs to be fast, reliable, and future-ready. The network can accommodate rapid growth and help customers adapt to more data-intensive applications and new technologies that need the massive capacity the platform can provide.

One such new initiative is the exchange of seismic data. The oil and gas industry has long desired reliable and affordable high-capacity solutions that can support the unique requirements of seismic data processing and data transfer. As the world of seismic exploration expands, the CyrusOne National IX is designed to provide sustained and seamless scalability for customers to transfer larger data sets faster.

For more information, visit www.brocade.com.

WHY BROCADE

"The Brocade MLX Series router was simply the best choice for a large-scale Internet interconnection such as ours, with incredible port density and an impressive roadmap for future capacity. Brocade's vast experience with the core infrastructure of Internet Exchanges around the world gave us a high degree of comfort and confidence in our choice."

— Josh Snowhorn, Vice President and General Manager of Interconnection at CyrusOne

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