

O3b Takes to the Skies with Next-Gen Satellite Network from VirtualArmor and Juniper Networks

Summary

Challenge:

Build a high-performance network to support a new global satellite service

Technology Solution:

- MX Series 3D Universal Edge Router
- EX Series Ethernet Switch
- SRX Series Services Gateway
- ACX Series Universal Access Router
- Junos Space Network Management Platform, including Security Director
- STRM Series Security Threat Response Manager

Business Results:

- Delivered the reach of satellite with the speed of fiber
- Built future-proof network to thrive in new markets
- Able to support hybrid networks
- Gained flexibility with programmatic access to the network



Even in the 21st century, there are pockets around the world where broadband connectivity doesn't reach. For places like remote inland countries and island nations, fiber simply isn't a viable option and traditional communications service providers may be hesitant to make the investment in such far-flung areas.

O3b Networks is tackling this important issue with a next-generation satellite network. Launched in 2014, O3b's commercial network uses medium earth orbit (MEO) satellites, which reduces round-trip transmission times to no more than 150ms, enabling O3b to deliver fiber-like speeds that radically improves the customer experience. Access to the cloud becomes possible. And, the doors of opportunity open for businesses and individuals to participate in the knowledge economy for the first time.

The Challenge

Bringing broadband to people who've never had high-speed Internet in Latin America, Africa, the Middle East, Asia, and Australia is no small feat, and O3b wanted to make sure its plans stayed on course. O3b was on the hunt for a network infrastructure with a 10- to 15-year lifespan that would allow it to scale as needed and add new capabilities to meet future needs. In addition, O3b needed to design, build, and launch global gateways within a strict timeframe and deploy operations centers with trained engineers and staff. By locating these unmanned gateways on the Internet backbone, O3b could enable fast, reliable, and secure connectivity to customer locations.

To ensure smooth operations, O3b needed an autonomous network that would deliver high performance, high availability, and redundancy for its gateways as well as centralized, automated management tools. O3b wanted a network infrastructure that was scalable and was provided by a manufacturer that could provide support for years to come and a solution partner that could remotely support, manage, and maintain the entire infrastructure.

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Andre Christian, Vice President, Customer Care, O3b Networks

Selection Criteria

O3b worked with VirtualArmor, a managed service provider with deep expertise in advanced network and security. As a long-time Juniper Elite partner, VirtualArmor has extensive knowledge of Juniper Networks solutions and was able to educate O3b's decision makers about the benefits of a Juniper Networks solution. VirtualArmor also provided training to key personnel at O3b to show the strength of Juniper's solutions.

Solution

VirtualArmor's longstanding relationship and knowledge of Juniper's products and services were exactly the qualities that O3b was looking for in a partner. VirtualArmor helped O3b build and deploy a complete Juniper network, including routing, switching, security, and management, for its gateway stations. The team deployed the Juniper solution for the gateway stations, points of presence (POPs), customer-premise equipment, and multiple operational centers around the world.

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SDN-ready Juniper Networks® MX Series routers allow O3b's gateways to scale in bandwidth, subscribers, and services with industry-leading system capacity, density, and performance. O3b also uses Juniper Networks EX Series Ethernet Switch for carrier-class switching. With Virtual Chassis™ technology, multiple interconnected EX Series switches can be operated as a single device, reducing operational expense and management complexity. Juniper Networks SRX Series Services Gateway provides next-generation firewall services with advanced integrated threat intelligence, delivers on the industry's most scalable and resilient platform. Carrier Ethernet 2.0-compliant Juniper Networks ACS Series Universal Access Router platforms are used for efficient mobile backhaul.

O3b uses Juniper Networks Junos Space® Network Management platform to centralize and automate management of its switching, routing, and security infrastructure. It leverages Junos Space Security Director for security management and security policy administration. Juniper Networks STRM Series Security Threat Response Manager provides intelligent security threat management.

VirtualArmor brought to the table deep expertise in Juniper's product portfolio. VirtualArmor's skilled engineers worked with Juniper's reference architectures to help design the unmanned, remote gateways. VirtualArmor tested and validated the network in its lab prior to field installation. VirtualArmor also supplied professional services to ensure the entire project ran smoothly under a very tight schedule.

Results

"O3b is transforming communications with a next-generation satellite constellation that brings our customers connectivity that is better, faster, and more affordable," says Andre Christian, vice president of customer care at O3b Networks. "With a Juniper network, we are enabling flexible, programmable hybrid connectivity options that will take us into the future unknown."

O3b reduced CapEx and OpEx while deploying an ultra-reliable, carrier-grade solution. With Juniper and VirtualArmor working side by side, O3b achieved its goals for improved network reliability and centralized, automated network management, which enabled the gateway sites to run unstaffed. It also achieved 99.999-percent uptime and maximized its expensive satellite resources as well as lowered support costs by 80 percent compared to its previous infrastructure.

Next Steps and Lessons Learned

O3b's network is opening the door to high-speed Internet access for billions of people in emerging markets. Entrepreneurs and small businesses will have a new opportunity to tap into the global economy and thrive.

For More Information

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

About VirtualArmor

VirtualArmor is an information technology company that provides advance network and cybersecurity solutions that incorporate a wide range of managed services, professional services, and software development. By working with well-established and respected technology partners in network appliance, software and systems, VirtualArmor provides the most advanced network and cybersecurity support available. VirtualArmor's services run 24/7/365 by leveraging highly trained engineers through a primary NOC located in Littleton, CO and a secondary NOC located in Middleborough, UK. Learn more at www.virtualarmor.com.

About Juniper Networks

Juniper Networks is in the business of network innovation. From devices to data centers, from consumers to cloud providers, Juniper Networks delivers the software, silicon and systems that transform the experience and economics of networking. The company serves customers and partners worldwide. Additional information can be found at www.juniper.net.

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