PEER 1 Hosting Reduces Downtime by 33 Percent with Juniper Networks Routing, Switching, and Security Technology

Summary

Company:
PEER 1 Hosting

Industry:
IT Services

Challenges:
- Reduce data center downtime and meet power efficiency target
- Reduce the effect of DDoS attacks on customers
- Manage and control its own dedicated network infrastructure

Selection Criteria:
Calyx Managed Services recommended Juniper technology based on past experience, and helped PEER 1 Hosting perform rigorous tests before making the final selection.

Network Solution:
- EX Series Ethernet Switches
- MX Series 3D Universal Edge Routers
- SSG Series Secure Services Gateways
- Junos operating system

Results:
- Reduced data center downtime by 33 percent
- Introduced an energy efficient data center and significantly reduced power consumption
- Reduced the chance of DDoS attack effects by 90 percent
- Achieved operational efficiency with a simplified infrastructure managed through in-house NOC

PEER 1 Hosting offers a full range of colocation, dedicated, and managed hosting services to customers wanting to offer Internet applications while maintaining performance and uptime. This includes value-added solutions such as 3D graphics processing and Payment Card Industry (PCI)-compliant security levels.

PEER 1 Hosting initially shared a data center space in the UK which caused some customer problems, including downtime of the network. This was due to the mix of technologies used within the data center requiring different skill sets for the operational staff, which made it hard to manage the overall infrastructure and build effective vendor relationships. To eradicate these issues and migrate its customers to a reliable network, PEER 1 Hosting planned the build of its own state-of-the-art U.K. data center. It has a lot of experience to build on, with 19 other data centers, 21 points of presence (POPs), and 25,000 miles of fiber carrying only PEER 1 Hosting traffic.

Challenges

Calyx Managed Services was engaged with PEER 1 Hosting in the original, shared location and was a key enabler in the data center transition. It consulted with PEER 1 Hosting on the network equipment required and recommended Juniper Networks, based on previous experience. Richard Harris from Calyx explains: "PEER 1 Hosting is very clear that meeting customer demands is top priority. To support this, we built a supply chain which preempts customer requirements so we can work as one, delivering capacity for new customers seamlessly and quickly."

The new data center, based in Portsmouth, U.K., was built using an innovative POD construction. This means that the build is broken down into phases, providing an opportunity to test the infrastructure on a smaller scale. Dominic Monkhouse, EMEA managing director for PEER 1 Hosting, comments on the decision for a network partner: "We already use Juniper Networks in some of our other data centers and are pleased with the performance of the technology. When it came to the build of the U.K. data center, we were interested in talking to them to see how they could support us in our dual objective of providing secure user services for our customers as well as reducing our energy consumption across the board."

"Juniper's innovation has enabled us to provide the highest levels of secure user services at very low levels of energy consumption."

Dominic Monkhouse, EMEA Managing Director, PEER 1 Hosting

Selection Criteria

Following the build of the first data center pod, Juniper technology was put to the test. The Juniper Networks® EX Series Ethernet Switches with Virtual Chassis technology initially ran only internal traffic, but soon started routing external traffic through the PEER 1 Hosting backbone. The result was a robust process which didn't report any errors, and the decision was made to deploy Juniper Networks as the sole network provider throughout the data center. Virtual Chassis technology enables multiple interconnected switches to operate as a single, logical device, resulting in operational simplicity by reducing the number of switches to be managed.

Liam Enticknap, EMEA network operations engineer, explains its importance: "We need our network technology to provide a strong backbone and resilience for the data center and the Virtual Chassis gave us just that. It also has a simple and easy to navigate command-line interface, and we found practically no bugs at all. It's great to be able to reroute traffic more easily, without relying on third parties. The Juniper infrastructure is plugged directly into our own fiber and is managed through our own in-house network operations center (NOC)."

Solution

Juniper Networks technology provides the flexibility of 10GbE hot-swappable modules, allowing PEER 1 Hosting to run huge amounts of bandwidth within the data center network and over the backbone. Mr. Enticknap explains the impact this has on day-to-day business: "It means lower latency and we also estimate it reduces the chance of being affected by distributed-denial-of-service (DDoS) attacks by 90 percent."

Juniper Networks MX Series 3D Universal Edge Routers connect to PEER 1 Hosting's FastFiber Network for high-speed Internet access. The MX Series routers are used at PEER 1 Hosting's edge and core network levels, terminating transport links and learning global routing tables. The PEER 1 Hosting Internet-facing services are protected by Juniper Networks SSG Series Secure Services Gateways, ensuring operational and secure services without affecting the end users' Internet experience. Multiple security services are consolidated onto a single platform, simplifying operations and management. This simplicity is further emphasized by the Juniper Networks Junos® operating system, reducing the time and effort required to plan, deploy, and operate a network and security infrastructure.

Mr. Enticknap comments on the use of Juniper Networks technology: "The Juniper solution helps PEER 1 Hosting reduce downtime by approximately 33 percent compared to our previous infrastructure."

Results

The latest PEER 1 Hosting facility is one of the most energy efficient data centers in the U.K. Within a data center, energy is consumed by powering the equipment and cooling down the environment. PEER 1 Hosting looked for ways to improve both ends of the spectrum. It implemented a revolutionary cooling system, which uses a combination of natural cooling from water and air, a heat-exchange system, low energy fans, and water atomizers. This, combined with reducing the number of physical devices through the use of Juniper Networks Virtual Chassis technology, has achieved a significant reduction in energy consumption.

These measures help PEER 1 Hosting achieve its Power Usage Efficiency (PUE) target of 1.1, much lower than the industry standard. It also allows end customers to lower the environmental impact of their IT infrastructure by using the new facility.

"Getting your data where it needs to be, fast and reliably" is a PEER 1 Hosting motto, and this is exactly what Juniper Networks is helping achieve within the latest data center. Mr. Monkhouse concludes by summing up the relationship between PEER 1 Hosting, Calyx Managed Services, and Juniper Networks: "Our relationship with Calyx is founded on the core value of delivering on your promises. By recommending Juniper, Calyx certainly has done this and it has cemented our partnership going forward. Juniper's innovation has enabled us to provide the highest levels of secure user services at very low levels of energy consumption. It supports our "green" mission with its high-performance network infrastructure built on reliable, high quality products that are environmentally friendly."

For More Information

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

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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