BLACK LOTUS SIMPLIFIES OPERATIONS WITH A HIGH PERFORMANCE, RESILIENT NETWORK

Summary

Company: Black Lotus

Industry: Service Provider

Challenges: Expand data center and WAN infrastructure to meet growing customer need for DDoS protection and secure hosting services

Selection Criteria: Black Lotus needed a high-performance, scalable data center network and WAN that would be resilient under severe attack.

Network Solution:

- EX9208, EX8208, EX4200, and EX3200 Ethernet Switches
- MX960 3D Universal Edge Router

Results:

- Deployed a high-performance, resilient network that scales with growing demand for security services
- Built a 480 Gbps data center interconnect with an easy migration path to terabit speeds
- Automated network operations with Junos OS

Scaling data center operations to meet rapid growth is a challenge for many businesses. With cyberattacks growing in volume and sophistication, more businesses are turning to organizations like Black Lotus for secure hosting services and protection against denial of service attacks.

Challenge

Black Lotus needed to increase the scale and performance of the networks to support its secure hosting and DDoS mitigation services. "We are in the middle of a growth spurt," says Shawn Marck, CEO of Black Lotus.

> "Our network is the target of all of those compromised systems on the Internet, and we have to be confident that our network will hold up to that level of abuse. With Juniper, we are."
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> - Shawn Marck, CEO, Black Lotus

Selection Criteria

To scale its data centers as customer demand grew, Black Lotus needed to expand its carrier-class network infrastructure to scale to terabit speeds, be unfailingly resilient even under constant attack, and simplify operations to deliver a low total cost of ownership.

Solution

Black Lotus has used Juniper Networks® MX480 3D Universal Edge Routers to connect its data centers since 2005, and with the growing demand for its services, the company has migrated to Juniper Networks MX960 3D Universal Edge Routers. As part of its data center expansion, Black Lotus replaced its incumbent switch vendor with Juniper Networks EX Series Ethernet Switches as well.

"With the MX Series routers interconnecting our data centers, we can clean traffic and stop attacks faster," says Marck. A 480 Gbps network interconnects the company's five data centers, and it has near-term plans to scale to terabit speeds, especially as more customers move to 40GbE and 100GbE networks.

The scale and performance of the MX Series router provides long-term investment protection for Black Lotus, both in terms of capital investment and operational processes. Every MX Series 3D platform supports the same Juniper Networks Junos® operating system and high-performance Junos Trio programmable chipset. Black Lotus was able to reuse its Juniper line cards in the new MX960 routers. As its bandwidth needs continue to grow, Black Lotus can add additional cards to the MX Series routers to add more processing power and support more services.

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With a need for a more powerful data center network, Black Lotus replaced its existing switches with EX Series Ethernet Switches. The programmable Juniper Networks EX9208 Ethernet Switch is used for the network core, and the modular EX8208 Ethernet Switch is used for aggregation. The programmability of the EX9208 switches enables network automation, which brings operational efficiency. Marck also appreciates Juniper's Virtual Chassis technology on the EX4200 and EX8208 platforms, which allows multiple interconnected switches to be operated and managed as a single, logical device, reducing operational expenses.

The performance and design of EX Series switches are particularly critical in an environment that's always under attack. For example, the EX Switches run Junos OS, which has been hardened through the separation of control forwarding and services planes, with each function running in protected memory. The switch's control plane CPU is protected by rate limiting, routing policy, and firewall filters, which ensures switch uptime even under severe attack.

"We use the EX9208 switches for their scalability," says Marck. He describes a recent scenario: "In one attack, the attackers were targeting customers that had open Domain Name System (DNS) resolvers. It looked like our own network was attacking us. But with the EX Series switches in place, nothing happened to our network. We mitigated the attack, and the switches protected themselves."

Black Lotus recommends that its secure hosting customers use Juniper Networks EX4200 or EX3200 Ethernet Switches for a simple, easy-to-manage connection. "The EX Series switches are easy to deploy, easy to maintain, and I don't have to worry about outages," says Marck. "Using EX Series switches lowers our risk."

Results

Black Lotus saw the number of unique DDoS attacks triple in 2013, and having a Juniper network gives the provider plenty of headroom to protect its customers from even the biggest attacks, while maximizing its technology investment.

"Our network is the target of all of those compromised systems on the Internet, and we have to be confident that our network will hold up to that level of abuse. With Juniper, we are," says Marck.

Black Lotus has achieved operational efficiencies through automation and Junos OS, which runs across Juniper's routing, switching, and security platforms. "Our network has always been automated. It auto-heals and makes intelligent decisions about traffic," says Marck. "With Juniper, I can use open standards to automate the network. With other routing platforms, I would have needed a full development team to have the same level of automation."

Next Steps and Lessons Learned

With Juniper in the data center, Black Lotus can scale its services to protect customers against devastating attacks. "We're pushing the limits of technology and having a Juniper network has allowed us to innovate," says Marck.

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About Juniper Networks

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