



DNS MADE EASY SEES 100% UPTIME FOR 10 YEARS WITH JUNIPER ROUTING AND SWITCHING

Summary

Company:

DNS Made Easy

Industry:

Web Services

Business Challenges:

Offer customers of all sizes a fast, reliable DNS service with a 100% uptime guarantee.

Technology Solution:

- MX10008, MX480, MX240, and MX204 Universal Routing Platforms
- EX4300 Ethernet Switch

Business Results:

- Handles 80 billion DNS queries per day with less than 30 millisecond response time
- Offers 500% back uptime service-level agreement to all customers
- Successfully thwarted a 500 Gbps DDoS attack without any impact to customers
- Focuses on business innovation with an operationally simple global network

In 2001, Steven Job founded DNS Made Easy at a time when Domain Name System (DNS) was anything but simple, creating a dynamic DNS hosting service that was easy to use. Fast forward to 2020, where DNS Made Easy still delivers the fastest, most reliable DNS to individuals, small businesses, and brand-name customers like Square, IHOP, and SourceForge. The foundation of its global DNS service and its cloud-optimized routing service Constellix relies on Juniper high-performance routing and switching platforms.

“DNS Made Easy is repeatedly ranked as the fastest DNS provider,” Job says.

DNS Made Easy and its sister company, Constellix, answers 150 billion queries every day, resolving each in less than 30 milliseconds. More than 900,000 domains are managed by the company. DNS Made Easy is so confident in its excellence that it offers customers a 500% back uptime SLA.

“Our network is the most reliable in the industry with a 10-year 100-percent uptime history, with the help of Juniper,” Job says.

DNS Made Easy delivers its portfolio of fast, reliable DNS services over a foundation of Juniper Networks® MX Series Universal Routing Platforms.

“Our network is the most reliable in the industry with a 10-year 100-percent uptime history, with the help of Juniper.”

- Steven Job, founder and CEO, DNS Made Easy

Fighting Off DDoS Attackers

DNS Made Easy was recently the target of a hacking group claiming to be “Fancy Bear,” which had launched a successful distributed denial of service (DDoS) attack against the New Zealand Stock Exchange a few weeks earlier. The attack was targeted directly at the provider’s network, and it was huge.

“They claimed to be the same Fancy Bear group that has been in the news and tried to shut us down unless we paid in bitcoin,” Job says. “We don’t negotiate with any hacking organizations.”

A DDoS attack is a war of escalation. “We saw spurts of attacks a couple of times a week lasting 10 to 15 minutes, with the longest being four or five hours,” he says. “If you don’t have an outage, they ramp up the attack.”

Even as the attacks continued, Job wasn't worried. "We knew we had enough capacity to handle our DNS traffic, and we could use the MX Series routers to handle the attack in real time," he says.

Then came the biggest surge. "It was a 400 to 500 gig attack worldwide," Job says. "We were faced with 100+ Gbps in numerous POPs simultaneously, and the MX Series routers in each facility blocked the attack traffic with no performance impact. The MX Series could still serve all necessary production DNS traffic without issue. Juniper handles much of these attacks at line rate for us.

"As our customers' digital needs increase, our Juniper network is ready with the fastest, most reliable DNS with built-in DDoS mitigation."

- Steven Job, founder and CEO, DNS Made Easy

"We have used other routers in the past, but Juniper has maintained the ability to do line-rate performance on the same platform. We're confident when we put in a Juniper router that we will have the capacity, and it's been proven time and time again."

Designing for DNS

Designing a global network to deliver fast, reliable DNS queries is quite different than designing for, say, Web hosting. "Most Web companies focus on cheap bandwidth," Job says. "We optimize for unmatched uptime and performance. We need large ports to handle massive DDoS attacks."

As DDoS attacks grow, DNS Made Easy scales its network capacity to continue delivering services flawlessly. "It all comes down to the network," Job says. "As DDoS attacks were moving to 100 gig, we revamped our Juniper routers."

DNS Made Easy and Constellix use the high-scale Juniper Networks MX10008 Universal Routing Platform and Juniper Networks MX480 Universal Routing Platform for its fully meshed core network, and the compact Juniper Networks MX240 Universal Routing Platform and Juniper Networks MX204 Universal Routing Platform for ultra-high 100GbE density at the edge. It also uses the Juniper Networks EX4300 Ethernet Switch, a scalable fixed-configuration switch, to connect its name servers at its points of presence (POPs). The network spans 20 of the largest Internet exchange peering points around the world.

"We have 3000 BGP peers," Job says. "MX Series routers allow us to connect to as many networks and peering points as possible; this helps eliminate performance problems and route hijacking."

Scaling the Business with Simplified Operations

DNS Made Easy has become one of the world's largest DNS providers, but as an entrepreneur, Job is always looking ahead. Growth and innovation are critical.

In 2015, Job founded Constellix to take DNS management to the next level and make it easier for enterprises and service providers to manage multicloud and multiple content delivery networks (CDNs).

"We are not a venture capital-funded company, and we invest our profits into growing our business," Job says. "We never stop investing in our business."

As DNS Made Easy grows, it is bringing fast, reliable DNS to more people and businesses around the world. "We just expanded into Johannesburg, South Africa, and Mumbai, India," Job says. "We are starting to expand into secondary markets that aren't at major peering points."

Having a fast, reliable network foundation for both DNS Made Easy and Constellix is critical, and the consistency of a network running the Junos® operating system simplifies engineering and operations.

"Using Juniper keeps it simple because the different Juniper products are standard," Job says. "Junos OS has a common configuration across platforms, which makes it easier to maintain version control."

Job remains a fan of signature Junos OS capabilities like the ability to roll back configuration changes. "Junos OS was the first to have commit/confirm," he says. "It was huge back then, because if you broke something in the configuration, you could just roll it back. Those kinds of core capabilities have been part of Junos OS for 20 years, and they're crucial for a company like us with small staff."

Operational efficiency empowers the DNS Made Easy team to stay focused on development and innovation, not routine network maintenance tasks. "We have many thousands of name servers and 35 routers around the world, and a very small support team," Job says. "We have many more developers than network administrators."

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Job sees strong demand for rock-solid DNS services and more intelligent traffic routing as more companies embrace digital transformation and multicloud operations.

“E-commerce is growing because of the COVID-19 pandemic,” he says. “Videoconferencing has blossomed. As our customers’ digital needs increase, our Juniper network is ready with the fastest, most reliable DNS with built-in DDoS mitigation.”

For More Information

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

About Juniper Networks

Juniper Networks brings simplicity to networking with products, solutions and services that connect the world. Through engineering innovation, we remove the constraints and complexities of networking in the cloud era to solve the toughest challenges our customers and partners face daily. At Juniper Networks, we believe that the network is a resource for sharing knowledge and human advancement that changes the world. We are committed to imagining groundbreaking ways to deliver automated, scalable and secure networks to move at the speed of business.

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