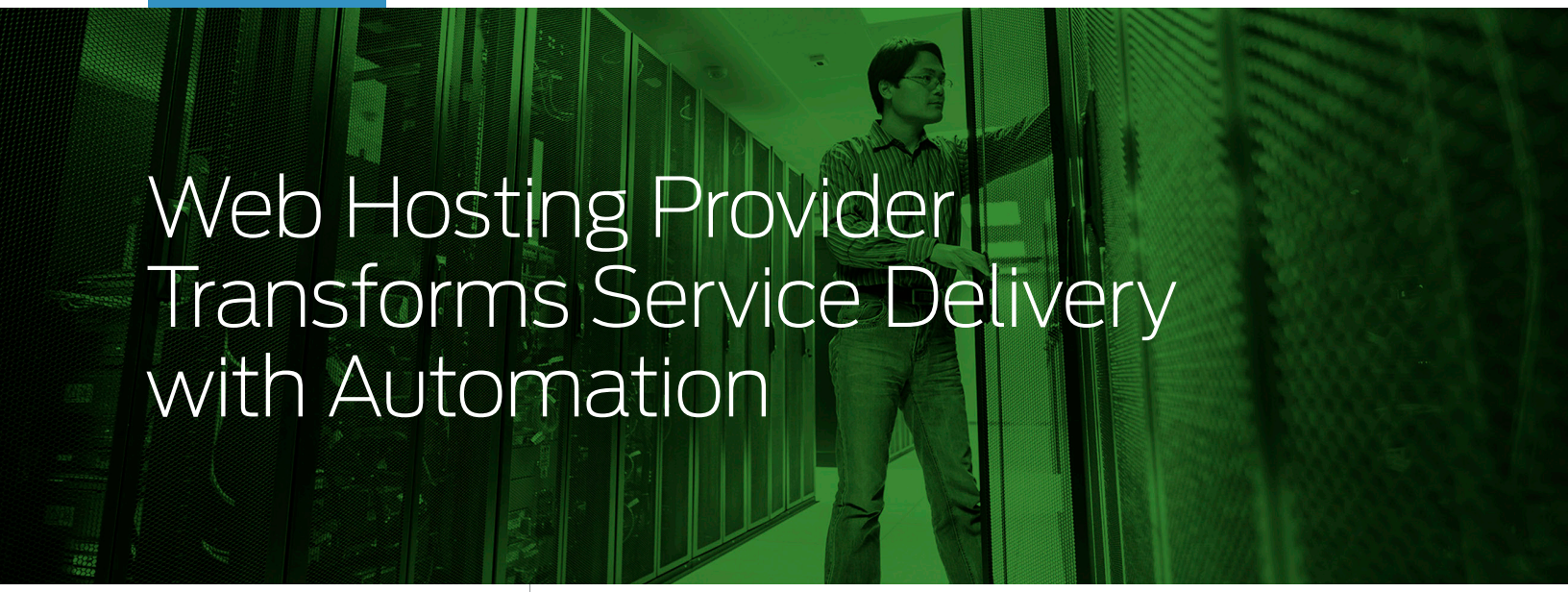

Web Hosting Provider Transforms Service Delivery with Automation

Summary

Company:
Hetzner South Africa

Industry:
Web Services

Business Challenge:

- Expand network capacity to meet growing demand
- Automate provisioning to accelerate service delivery
- Ensure highly available, always-on services to customers

Technology Solution:

- MX80 3D Universal Edge Router
- EX4500 Ethernet Switch
- EX4200 Ethernet Switch
- EX2200 line of Ethernet Switches

Business Results:

- New network enables the provider to cope with unprecedented traffic growth
- Reduced operational costs, with one operating system from network edge to top-of-rack
- Automated provisioning, which reduces two-day process to fifteen minutes

HETZNER™
Trusted in Hosting

Operating since 1999, Hetzner provides Web hosting services to over 40,000 customers across South Africa. The company focuses on delivering reliable and consistent services, and offering good value without compromising service quality. Along with Web hosting, Hetzner also provides self-managed servers, managed servers, and colocation and custom hosting services targeting small to midsize enterprises (SMEs) across the country.

Business Challenge

To meet ever-increasing service demand, Hetzner needed to significantly expand its network capabilities with a new data center. It had reached the limits of its existing network infrastructure and seized this opportunity to build its ideal network from the ground up. Key drivers for the new design were high availability and reliability, horizontal and vertical scalability, ease of management, and network automation.

Technology Solution

After thoroughly researching its options, Hetzner decided to build an entirely new network using Juniper Networks solutions. "After evaluating various network equipment vendors, we decided to deploy Juniper from the network edge to top-of-rack," explains Juan van Zyl, data center manager at Hetzner. "We'd been using Juniper's edge routers in our network for a long time, so we understood the benefits they brought in terms of reliability and ease of operation. In the end, it was an easy decision to implement Juniper equipment across the board."

Hetzner selected Juniper Networks® EX Series Ethernet Switches, carrier-class switching solutions that are optimized for converged enterprise branch offices, campuses, and data centers, as well as for service provider deployments. Specifically, Hetzner has deployed:

- EX2200 line of Ethernet Switches as top-of-rack switches
- EX4200 Ethernet Switch configured as a Virtual Chassis, with link aggregation and rack-level routing providing resilient connectivity as aggregation switches
- EX4500 Ethernet Switch configured as a Virtual Chassis to build out its data center core

"We can have a new switch up and running in minutes, and with a single click, we can provision an entire server and operating system in fifteen minutes, when it used to take us about two days."

Juan van Zyl, Data Center Manager at Hetzner

Juniper's Virtual Chassis technology is used to connect multiple EX Series switches as a single, logical device, delivering an easily managed and scalable solution that is perfect for data center installations. "We felt that Juniper's Virtual Chassis technology was key in achieving high availability with horizontal and vertical scalability," Juan van Zyl says.

Hetzner also upgraded its current edge routers to the Juniper Networks MX80 3D Universal Edge Router to increase capacity. With modular interface and services support, the MX80 provides a flexible and full-featured routing solution that is ideal for space and power conscious facilities.

By taking advantage of Juniper's open and programmable architecture, Hetzner built a highly automated operations environment that includes "zero touch" provisioning, which enables it to support new customers and deliver new services with the click of a button. "The Junos OS is universally deployed across all our elements," explains Van Zyl, "which really simplifies our network operations. We've been able to combine the Junos OS API and zero touch provisioning to completely automate our processes. We can deploy servers in the rack, powered down, and have them automatically woken once the network has been configured."

"This has allowed us to create a really disruptive value proposition," Van Zyl adds. "Automation allows our customers to self-manage their services, isolated in their own VLANs, with the Junos OS script setting up the routing and virtual LANs to the top-of-rack with a single API call. Being able to manipulate the network via an API makes it easy for other departments to interact with the network in a safe environment, while reducing the management overhead of rolling out changes and keeping tabs on configurations."

Business Results

Hetzner's customers are using the new network for general Web hosting as well as for mission-critical online payment systems, e-commerce, vehicle tracking solutions and share trading platforms, amongst other uses.

Since deploying the new network, it has seen a 600 percent increase in throughput, supporting over 100 racks of colocation equipment and nearly 4,000 self-managed servers. Virtual Chassis technology has enabled massive horizontal scaling and allows Hetzner to deploy new infrastructure without any downtime, or added management complexity.

"We cleared a lot of bottlenecks we weren't even aware of," says Van Zyl, "and we only have two engineers running the whole network because it's so automated and stable. Running a single operating system across all devices has lowered our management costs, and has made upgrades simple, cost-effective, and safe. For example, we upgraded from our previous Juniper routers to the new MX Series systems with a simple copy of the configuration file."

Hetzner has also achieved zero touch provisioning for all non-edge network infrastructure. The network team installs them in advance, then uses a templating system to generate the type of switch it needs. "We can have a new switch up and running in minutes," Van Zyl says, "and with a single click, we can provision an entire server and operating system in fifteen minutes, when it used to take us about two days. Self-service management and rapid turn-on is a key differentiator for us."

Next Steps

Hetzner is already planning for future growth, considering higher capacity switches and upgrading its aggregation layer to 40 Gbps. "We wouldn't do anything differently," Van Zyl says. "This architecture is solid, it scales and has a modular design we can easily upgrade when we need to. When we need to expand our network, we're able to deploy new services from core to aggregation to top-of-rack in minutes.

"With Juniper Networks, Hetzner has a reliable, high-performance network that is robust and scalable enough to support us as we grow in the future, which means we can deliver on our promise of a quality service at an affordable price."

For More Information

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

About Juniper Networks

Juniper Networks challenges the status quo with products, solutions and services that transform the economics of networking. Our team co-innovates with customers and partners to deliver automated, scalable and secure networks with agility, performance and value. Additional information can be found at Juniper Networks or connect with Juniper on Twitter and Facebook.

Corporate and Sales Headquarters
Juniper Networks, Inc.
1133 Innovation Way
Sunnyvale, CA 94089 USA
Phone: 888.JUNIPER (888.586.4737)
or +1.408.745.2000
Fax: +1.408.745.2100
www.juniper.net

APAC and EMEA Headquarters
Juniper Networks International B.V.
Boeing Avenue 240
1119 PZ Schiphol-Rijk
Amsterdam, The Netherlands
Phone: +31.0.207.125.700
Fax: +31.0.207.125.701

3520583-001-EN Nov 2016