

Case Study: Dell Cloud Services



DELL Cloud Services

Challenge

Provide on demand, scalable network security for VMware-based cloud services and customer premises

Solution

Vyatta Network OS Software and Virtual Machines

Benefits

On-Demand
Platform Agnostic
Scalable
VMware Ready
Easy to provision

"No other vendor is offering what Vyatta offered...Now we can add secure VPN connectivity for all of our DaaS customers on the same VMware server. It gives us tremendous flexibility and scalability."

Dell Protects Cloud-based Desktop Services with On Demand Networking from Vyatta

Well known for its PCs and servers, Dell, based in Round Rock, Texas, also offers cloud-based services to enterprises, providing them the technology they need, without the burdens of upfront costs and complex maintenance, through services that feature on-demand scalability. Dell cloud-based services include Software as a Service (SaaS), Data center as a Service (DCaaS), Desktop as a Service (DaaS), and Systems Management as a Service (SMaaS).

Challenge

Through its Desktop as a Service offering, Dell's cloud service keeps its customers' sensitive data safe, helps these organizations stay compliant, and provides employees with the flexibility to work where, when, and how they want. Desktop applications are hosted in Dell's cloud (i.e., datacenter), and accessed by employees via Virtual Private Network (VPN) tunnels.

In 2009, Sanjay Basu, an Advisor within the Cloud Services group, became concerned about the potential cost and complexity of the VPN-related infrastructure as the number of DaaS customers grew. A VPN device would be required in each customer's datacenter, as well as a physical appliance for each customer in the Dell datacenter. "If we grew to hundreds of customers, we would need hundreds of VPN devices in our datacenter," says Basu. The prospect of purchasing hundreds of appliances, provisioning them, powering them, and managing them with the small IT group seemed daunting.

Solution

Basu didn't have to search long for a solution. One of the engineers he worked with had heard of Vyatta and suggested that Basu take a look. Basu downloaded the software and put it through its paces. "No other vendor is offering what Vyatta offered," says Basu.

The Vyatta Network OS combines enterprise-class routing and security with flexibility of software and virtual machines, giving network administrators the ability to innovate, scale, and grow in ways they couldn't before. Basu was particularly pleased to see that Vyatta didn't charge incremental licensing fees, enabling Dell to scale to hundreds, even thousands, of customers cost effectively using Dell's own x86-based servers.

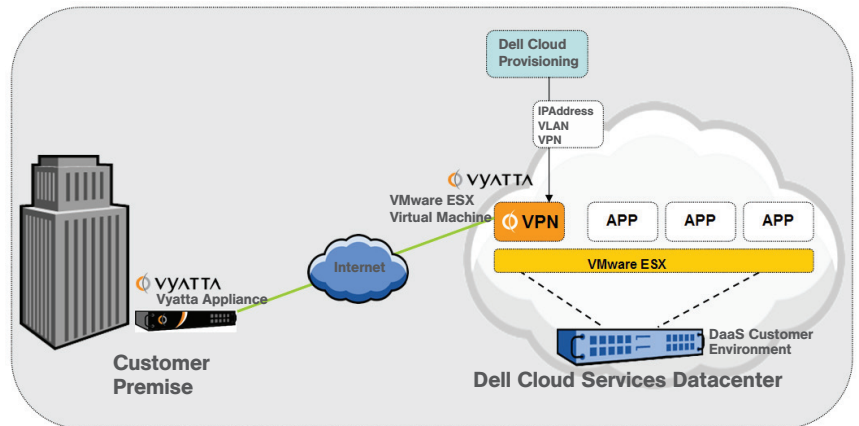
Based on the initial evaluation, Basu moved to a proof of concept stage, implementing the Vyatta solution for an actual Dell cloud customer. That proved successful, and in October 2009, Dell chose Vyatta as its vendor of choice for cloud-based VPN.

Each DaaS customer has a physical Dell server running VMware ESX and Vyatta in their data center. At the Dell end, multiple instances of Vyatta run on a single Dell server. In total, more than fifty instances of Vyatta are running today.



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“..when we have hundreds of customers, we’d have to have role out hundreds of typical devices, which we’d need to buy rack space and power. With Vyatta we can run the software from the same VMware server.”



Early on, Dell had planned to use IPsec for security, but soon uncovered an interoperability issue. Basu contacted Vyatta support, which recommended its integrated SSL-based VPN functionality. “That was an aha moment for us,” says Basu. “Originally we were going to use IPsec, but then we found out how much easier it is to use Vyatta’s implementation of OpenVPN. It’s our preferred method of secure connectivity now, thanks to Vyatta.

Benefits

Dell is saving significant CapEx and OpEx with the Vyatta solution. “Now we can run the Vyatta software for all of our DaaS customers on the same VMware server,” says Basu. Less hardware means less to manage, enabling IT staff to spend their time on more productive tasks. And because there are no incremental licensing fees, Dell saves even more, year after year. “It gives us tremendous flexibility and scalability.”

The Vyatta solution streamlines provisioning of VPN services, eliminating the need to install an additional VPN device within Dell’s datacenter for each new DaaS customer. Technicians simply create another instance of Vyatta’s VMware ESX template on the cloud server using Dell’s cloud provisioning platform to add basic configuration parameters. The service can be up and running within minutes.

Vyatta Network OS in the Cloud

In addition to SSL and IPsec VPN, Vyatta’s network OS provides dynamic routing (BGP, OSPF, RIP) stateful firewall and intrusion detection/intrusion prevention (IDS/IPS) capabilities. Vyatta’s advanced firewall capabilities include IPv4/IPv6 stateful packet inspection, stateful failover, zone- and time-based firewalling, and P2P filtering. The Vyatta Network OS also offers an addi-

tional level of proactive threat protection with integrated secure web filtering and intrusion prevention rules.

Vyatta is easy to manage through the network-centric command line interface (CLI), web-based GUI, or through external management systems using Vyatta’s Remote Access API which provides JSON/Restful API access to all operational commands in the Vyatta system to push and pull data from Vyatta software instances and virtual machines.

Layer 2 Cloud Bridging

An additional cloud-focused feature is secure Layer-2 bridging, which enables customers to securely migrate data to the cloud from the enterprise datacenter. The Vyatta Network OS combines Layer-2 bridging and IPsec/GRE Tunneling functionality to deliver a cloud bridging solution that allows physically separate networks to securely communicate with each other over the Internet as if they were on a single Ethernet network. This capability simplifies the migration of applications and physical servers between data centers, ensures continuity during a phased migration, and enables the moving of virtual machines between physical servers on physically separate networks.

About Vyatta

Vyatta is disrupting the networking industry by delivering a software-based network operating system that is portable to standard x86 hardware as well as common virtualization and cloud computing platforms. Vyatta software provides a complete enterprise-class routing and security feature set capable of scaling from DSL to 20Gbps performance at a fraction of the cost of proprietary solutions. Thousands of physical and virtual infrastructures around the world, from small enterprise to Fortune 500 customers, are connected and protected by Vyatta.