Array Networks

SOFTLAYER®
an IBM Company

SoftLayer, an IBM Company

IaaS provider offers load-balancing services powered by Array ADCs, and leverages Array SSL VPNs to enable on-the-fly provisioning and remote management for customer and provider administrators.

Background

Founded in 2005, SoftLayer (now an IBM company) is an infrastructure-as-a-service (IaaS) provider with data centers and network points of presence in a growing number of locations worldwide. The company serves diverse customers ranging from startups to global enterprises. SoftLayer offerings include bare metal and virtual servers, networking, big data, private cloud solutions, and more. From its beginnings, the company has focused on differentiating its services through fast, automated provisioning, and a suite of service offerings to augment and enhance the customer experience.

Industry:

Infrastructure-as-a-Service (IaaS)

Challenges:

Offer value-added load-balancing services that provide high availability for applications and servers

Offer basic and dedicated load-balancing services on the fly, with rapid provisioning and simplified configuration

Provide secure remote access that allows customers and SoftLayer administrators to manage infrastructure on their respective network segments anytime, anywhere

Solution:

Multiple Array application delivery controllers and SSL VPNs at every SoftLayer point-of-delivery (PoD)

Benefits:

Richly-featured shared and dedicated load balancing services provisioned on the fly via tight integration with SoftLayer's cloud Web portal

Consistent configuration and cloud integration across all Array ADC models

Reliable performance with hardware-accelerated SSL for all service offerings

Scalable and easy-to-use secure remote access for customers to manage services from within SoftLayer's online Web portal

Challenges

Growing from a pioneer in cloud-hosted infrastructure to its current status as a premier cloud IaaS provider, SoftLayer has focused on delivering top-tier service, dubbed "cloud without compromise."

Global data centers are all built to the same rigorous blueprint, and each device (right down to the power strips) is connected to a single cloud management platform. The strategy allows automated deployment of both physical and virtual infrastructure and gives customers control of all aspects of their hosted environment via one Web portal and API. In addition, SoftLayer developed the industry's first triple-network architecture, which serves to segregate public, private and management traffic while ensuring that globally distributed servers can interact and communicate without boundaries.

Soon after the company's founding, SoftLayer identified two technologies that would differentiate the company's offerings while providing a premium user experience. The first was SSL VPN secure remote access, which would allow customers to easily and securely enter SoftLayer's online portal to manage practically all aspects of their cloud-hosted infrastructure services. SSL VPN would also give SoftLayer administrators the ability to access their network segment to service equipment.

The second technology was application delivery controllers, which would add the ability to offer a high availability offering for customers running business-critical applications in the cloud.

Solution and Results

After an extensive review process, SoftLayer selected Array Networks' SSL VPN secure access gateways and APV Series application delivery controllers to provide secure remote access and load balancing capabilities, respectively.

Each SoftLayer Point of Delivery (PoD) includes two Array SSL VPN appliances that allow customers and SoftLayer administrators to securely and remotely manage infrastructure on their respective network segments.

Through SoftLayer's secure online Web portal, customers can enter any node on their network segment, access billing, control servers, manage devices and more.

"For our competitors who offer only virtual ADCs, SSL processing can be a big problem. Using Array hardware to support LBaaS, SoftLayer can assure both scalability and performance."

Will Tharp
Manager, Network Services, SoftLayer

In addition, multiple Array Networks APV Series application delivery controllers, often in a wide range of models, are deployed per PoD to provide both shared and dedicated local server load balancing using a load-balancing-as-a-service (LBaaS) model.

SoftLayer's lower cost, shared-server load-balancing service offers multiple techniques to load balance network traffic among two or more servers, and can be activated and configured on the fly. Servers can be added or removed from the load balancing pool on-demand as well, with little or no downtime. Noted Will Tharp, Manager, Network Services for SoftLayer, "The shared load-balancing service is really inexpensive, and

oftentimes enterprise users can spin up load balancing with no previous experience."

SoftLayer also offers dedicated APV Series load-balancer appliances for customers who require higher capacity. A high-availability option is also offered for those who require failover protection and automatic fallback, as well as SSL offloading to remove compute-intensive SSL processing from servers. Feature sets for both the shared and dedicated load-balancing offerings are identical; however the dedicated load-balancing service can be customized by SoftLayer personnel as needed for customer requirements.

Both load-balancing services use Array's innovative eCloud API to integrate with SoftLayer's cloud management platform for automated provisioning and configuration of APV Series application delivery controllers.

Cloud management integration was a deciding factor in selecting Array to power load-balancing service options, allowing Softlayer to providing high-performance shared or dedicated load-balancing services in a fraction of the time it takes competing IaaS providers.

"Array's eCloud, with its extensible XML-RPC APIs, allows customers to 'fire and forget' when configuring load balancing services," said Tharp.

Benefits

Through Array's APV Series application delivery controllers, SoftLayer provides LBaaS offerings to fit the needs of any customer, from lower cost shared load balancing to high performance, dedicated load balancing solutions, all running on Array's dedicated APV Series appliances for guaranteed performance and throughput.

Noted Tharp, "For other cloud service providers that are running only virtual ADCs, SSL processing can be a big problem."

This is because virtual ADCs with software SSL processing simply don't have the horsepower to process the massive amounts of data generated by the 2048-bit SSL encryption.

With a hardware-based approach powered by Array ADCs, SoftLayer and its customers do not have this problem. APV Series ADCs allow rapid deployment and scaling of SSL performance to any degree necessary.

"Software consistency across all 9 APV models has also been a benefit," Tharp said. "Users have the same experience across all models. They're very versatile in our environment."

Tharp also noted that Array products work very well, even under highly adverse conditions. "In one case, we had an APV6600 that was running far above its stated capacities, but it refused to die. We were able to seamlessly insert a [higher-capacity] APV10650, essentially plug and play, on the fly, to ensure sufficient capacity to support future traffic growth," he said.

In addition, Array's SSL VPN gateways provide customers with secure remote access to manage their SoftLayer environment anytime, anywhere.

Tharp has also been impressed by the Array account and support teams' responsiveness. "If there's a question or problem, they're very responsive—we get answers no matter what," Tharp said.

Summary

For IaaS providers like SoftLayer, Array's application delivery controllers enable flexible, versatile LBaaS offerings that provide value-added services for end customers as well as a new revenue stream for the provider. In addition, Array's SSL VPN gateways provide secure remote access that allows both customers and SoftLayer administrators to easily and securely access their respective management portal anytime, anywhere.

SoftLayer Point of Delivery (PoD)

Storage Services

Load Balancing Services

Compute Services

VPN

Customer Administrators

SoftLayer Administrators

Internet

End Users

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