

Avi Networks and VMware NSX

Automated L2-L7 Network and Application Services

“Network automation is critical to our customers' transformation to a more agile infrastructure. Our partnership with VMware NSX provides end to end automation for network and application services such as security, load balancing and application analytics.”

GURU CHAHAL VP
PRODUCT
AVI NETWORKS

KEY HIGHLIGHTS

- Full-featured, enterprise-ready load balancer with automation and elasticity
- 100% REST APIs for policy-driven self-service for developers and automation for IT administrators
- Predictive autoscaling of load-balancing and application resources based on real-time traffic
- Real-time insights into application performance, security, and end user interactions
- Support for VMware NSX APIs for network and app automation

VMware NSX is the leading network virtualization platform that delivers the operational model of a virtual machine for the network. NSX has the most sales and is the largest install base of any “Network Virtualization” in the market today. Gartner, for many years in a row, has named VMware the furthest in the Visionary Quadrant for Data Center Networking indicating most completeness of vision. VMware NSX provides better visibility into the virtual environment than has ever been possible with any hardware-based network visibility offering and allows enterprises to incrementally adopt network virtualization solutions without requiring large upfront capital investments like other SDN solutions in the market. Avi Networks, now part of VMware, is rebranded to VMware NSX® Advanced Load Balancer™.

Challenge

Organizations strive towards agility and increased responsiveness of their IT while eliminating cost and complexity to fulfill their business objectives. With traditional, appliance-based and hardware solutions, enterprises find it to achieve agility in application deployments, networking and application services. The current offerings are modular and appliance-based, prevent them from realizing end-to-end flexibility and automation benefits for the infrastructure stack. The emergence of private, public, and hybrid cloud, and heterogeneous environments (bare metal servers, virtual machines, and containers) further hampers their data center transformation initiatives with traditional offerings.

Network Automation and Elastic Application Services with Avi Networks and VMware NSX

Problem Statement Enterprises and service providers deploy their applications in a heterogeneous environment (bare metal servers, VMs, containers) in on-prem data centers / private clouds as well as in public clouds. They use automation tools and custom scripting to deploy and scale-out/in these applications quickly and automatically. However, traditional networking and load balancing solutions do not support this level of automation:

- Lack of native REST APIs requires manual operations
- Appliance-centric architecture requires static capacity management
- Lack of built-in telemetry results in costly over-provisioning

Value Proposition VMware NSX and NSX Advanced Load Balancer enable enterprises to deliver flexibility, agility, speed, automation, elastic scale, and cost effectiveness – for both the network layer (L2-3) as well as networks services layers (L4-7). Our collaboration enables customers with these three key benefits:

- Networks and application services to be provisioned and scaled automatically
- Automated, real time, reconfiguration of application services with changes in applications or networks.
- Real-time application analytics to track application response times, analyze connection logs, and monitor end user experience for applications

COMPATIBILITY SUMMARY

Software Requirements:

- Avi Controller: 17.1 and above
- VMware vCenter: 5.5, 6.0, or 6.5
- NSX Manager: 6.2.4 and above

For more information on Avi Networks or VMware NSX, please contact your VMware representative or visit www.vmware.com/products/nsx or www.avinetworks.com.

What the Solution Does Avi for NSX ensures that the elastic application services fabric synchronizes in real time with NSX to provide automated provisioning of elastic load balancing and application analytics for applications deployed on top of an NSX environment. Avi also monitors, scales, and reconfigures app services in real time in response to changing performance requirements.

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The combination of Avi Networks and NSX enables Avi Controller to be the single point of management via REST APIs. As developers and network admins configure app and load balancing instances, Avi Controller automatically spins up the distributed load balancers (Avi Service Engines), places the virtual IPs (VIPs) on the Service Engines, and places the network interfaces in the right overlay or underlay network, without manual intervention. Avi also publishes rules by invoking NSX APIs and dynamically manages security for the load balanced resources. As application traffic increases, Avi Controller scales out the resources by creating additional Service Engines and scale-in when traffic recedes. The following diagram demonstrates Avi and NSX interaction:

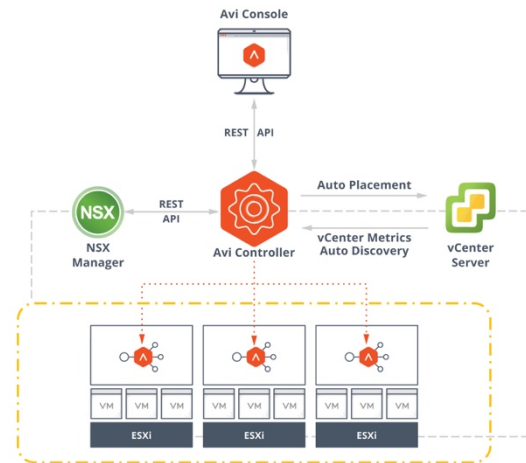


FIGURE 1: Avi Networks with VMware NSX for automated network and application services

Looking Ahead

VMware NSX offers a network virtualization and security platform that can manage any virtualized networking environment, regardless of endpoints - “NSX Everywhere.” With their partnership, Avi Networks and VMware deliver on the promise of network automation: agility, cost-effectiveness and scale, from the network layers (L2-3) all the way up to the application layers (L4-7), for enterprises and service providers alike. Avi Networks syncs with NSX security groups to allow developers to scale the backend dynamically without reconfiguring load balancing. The architectural alignment enables interoperability of Avi and NSX solutions for intelligent application services that go beyond load balancing. Networks and application services can be provisioned and scaled quickly and automatically, to match application and infrastructure automation that is possible in cloud and web-scale environments.