

Software-defined Load Balancing for VMware Environments

CHALLENGES

- Appliance-based load balancers lack native integration with VMware vCenter, making it complex to deploy and manage applications.
- Operational complexity and overprovisioning requirements increase operational costs.
- Lack of comprehensive visibility and analytics slows down application rollouts and troubleshooting.

SOLUTION

- NSX Advanced Load Balancer separates data and control planes to deliver application services in on-premises data centers or cloud environments.
- The Avi Controller (control plane) runs as a virtual machine on VMware ESX servers and integrates seamlessly with VMware vCenter.
- Automation of service provisioning and placement, eliminating extensive change-management cycles.
- IT teams can troubleshoot rapidly by analyzing end-to-end traffic, recording and replaying network incidents, and correlating real-time insights with vCenter logs.

BENEFITS

- 100% REST APIs enable policy-driven self-service for app developers and automation for IT administrators.
- For security, NSX Advanced Load Balancer offers insights to enforce L4-L7 policies, pinpoint and mitigate DDoS attacks.
- On-demand autoscaling of load balancing and application resources eliminates the need for overprovisioning, lowering TCO by more than 50%.

CHALLENGES FOR VMWARE ENVIRONMENTS

Enterprises wanting to automate L4-L7 services and enable self-service for their developers find that appliance-based load balancers slow down application rollouts, cause overprovisioning, and increase their operational costs. IT teams lack comprehensive visibility into the end-user experience and application performance. Legacy application delivery controllers (ADCs) offer little more than traffic counters; they lack analytics and insights, which makes troubleshooting application problems slow and complex. These legacy solutions also lack native integration with VMware vCenter, making it complex to deploy and manage applications, requiring manual virtual machine setup and networking configuration.

MODERN LOAD BALANCING WITH VMWARE NSX® ADVANCED LOAD BALANCER™

NSX Advanced Load Balancer is built on software-defined architectural principles delivering the flexibility and simplicity expected by IT and lines of business. Unlike legacy ADCs, which carry forward the disadvantages of their hardware appliances into their virtual software balancers, NSX Advanced Load Balancer separates the data and control planes to deliver application services in on-premises or cloud environments. This provides a centrally managed dynamic pool of load balancing resources for individual applications. Native integration with VMware vCenter automates configuration and deployment of application delivery, analytics, and autoscaling services.

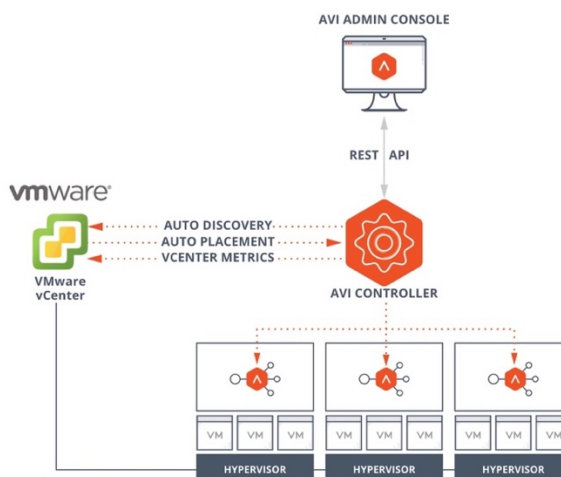


FIGURE 1: NSX Advanced Load Balancer Integration with VMware

Avi Controller (control plane) runs as a virtual machine on VMware ESX servers and integrates seamlessly with VMware vCenter to automate service provisioning and placement, thereby eliminating extensive change-management cycles. With significantly reduced operational complexity and consumption-based subscription pricing, NSX Advanced Load Balancer reduces the total cost of ownership by more than 50 percent (See Figure 1).

Native integration with VMware vCenter automates configuration and deployment of application delivery and analytics services. Network administrators can dynamically configure VIPs by discovering the networks, pool members, and servers. Direct integration with vCenter also enables IT administrators to use real time traffic triggers for application autoscaling by spinning up (or spinning down) VMs for application components (See Figure 2).

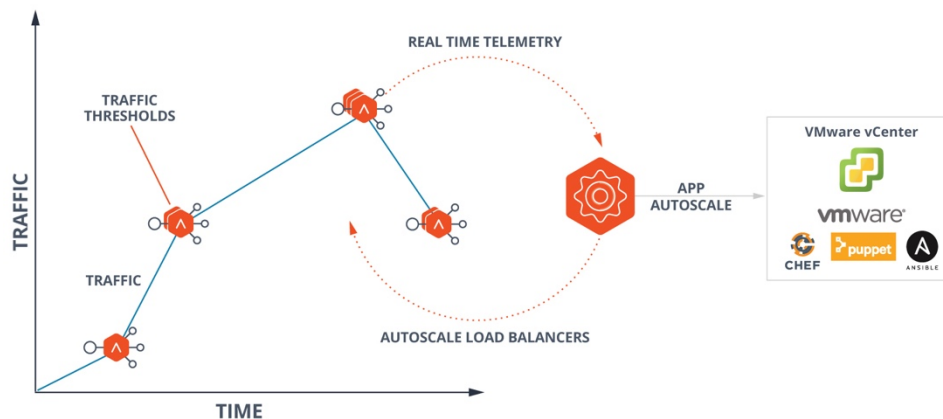


FIGURE 2: On-Demand Autoscaling for VMware Environments

KEY LOAD BALANCING CAPABILITIES FOR VMWARE ENVIRONMENTS

30-second Load Balancer:

Integrates with VMware vCenter to:

- Discover networks, pool members, and server configurations from vCenter
- Spin up/download balancers by querying vCenter images
- Horizontally autoscale load balancers

Multi-cloud Load Balancing:

Infrastructure-agnostic load balancing supports:

- Multiple hypervisors in an environment
- Multi-cloud deployments across public and private clouds
- Distributed data plane to deploy load balancers close to applications

Multitenancy:

Provides complete isolation to:

- Prevent service disruptions across multiple tenants
- Deploy load balancers per-application
- Deploy distributed load balancers and manage centrally

Pinpoint Analytics:

End-to-end traffic visibility delivers:

- Real-time insights into network traffic
- Network-DVR capabilities to record-and-replay network incidents
- Rapid troubleshooting in under a minute

Predictive Autoscaling:

Autoscales resources to support:

- Zero-touch scaling via rate thresholds without requiring manual configurations
- Load balancer autoscaling on VM tier with vCenter APIs
- Trigger autoscaling of applications based real time traffic patterns