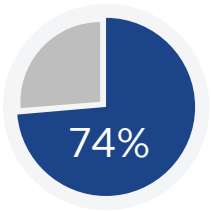
MARCH 2021

Transform Your Network with Advanced Load Balancing from VMware

THE CHALLENGE: GET IT DONE, NOW

Your network ops team is under pressure to deliver. Apps are modernizing and the number of deployments is accelerating, while time to go to market is shrinking. Your team needs to do more with less, so you increase efficiency by scaling up CPUs and automating storage. A global pandemic is driving remote worker dependencies. Yet most of what your overloaded team hears from lines of business is: "Get it done, now."

To evolve with the times and deliver capacity to the business, network ops teams are transforming the tooling of their on-prem, private and cloud environments. However, the full benefit of digital transformation cannot be realized until a key blocker is modernized: Load balancing.



Gartner CFO Survey Reveals

74% Intend to Shift Some Employees to Remote Work Permanently" [1]

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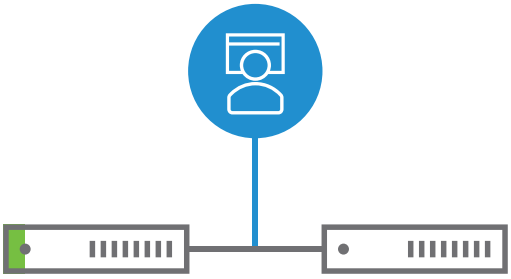
THE PAIN OF LEGACY LOAD BALANCERS AND ADCs

Apps no longer just support the business. For digital enterprises, apps *are* the business. As enterprises come to depend on apps, and as cloud computing transforms the digital landscape, legacy application delivery controllers (ADCs) simply cannot keep pace. Yet network ops teams are often so busy managing existing operations they are not able to consider alternatives.

It's time for you organization to refresh your appliance-based hardware or virtual load balancers when:



Legacy load balancer active/standby architecture results in network overprovisioning.

The Network is Overprovisioned. *Networks are vastly overprovisioned with unconnected islands of active and standby paired load balancers.*

Juggling Environments. *Teams feel challenged by the differing management demands between on-prem and public and private cloud services.*

Spending Too Much Time Troubleshooting. *Teams spend days configuring, managing and troubleshooting decentralized individual appliances.*

Struggling with Complexity. *Troubleshooting requires manual intervention and tedious steps including TCPdumps, Wireshark traces and calls to tech support.*

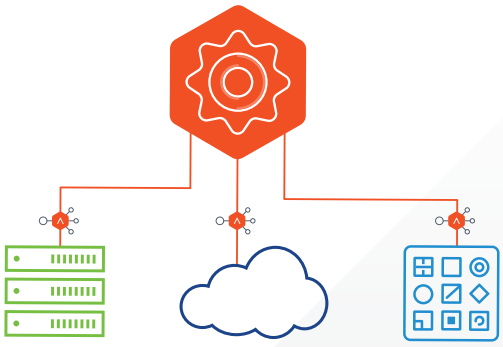
Finger-Pointing. *Application teams blame the network for slow-running apps, with the burden to prove otherwise on the network team.*

No longer should you need to choose between overprovisioning and insufficient load balancing. Transform your network with advanced load balancing from VMware.

MEET THE VMWARE NSX ADVANCED LOAD BALANCER (FORMERLY AVI NETWORKS)

VMware's NSX Advanced Load Balancer (formerly Avi Networks) is a load balancing and application services platform with a single point of network management. This modern platform empowers network ops teams with multi-cloud load balancing. It also provides critical application services such as security, autoscaling, powerful application analytics and container networking.

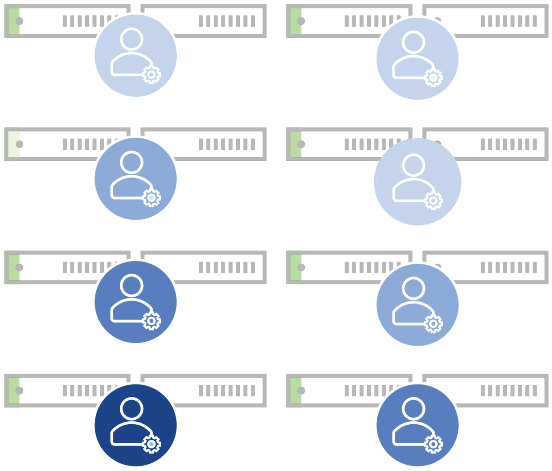
The platform tightly integrates with on-prem ecosystems and public and private clouds. The NSX Advanced Load Balancer does not require VMware's NSX and runs in any environment.



The NSX Advanced Load Balancer runs in any environment and does not require VMware NSX.

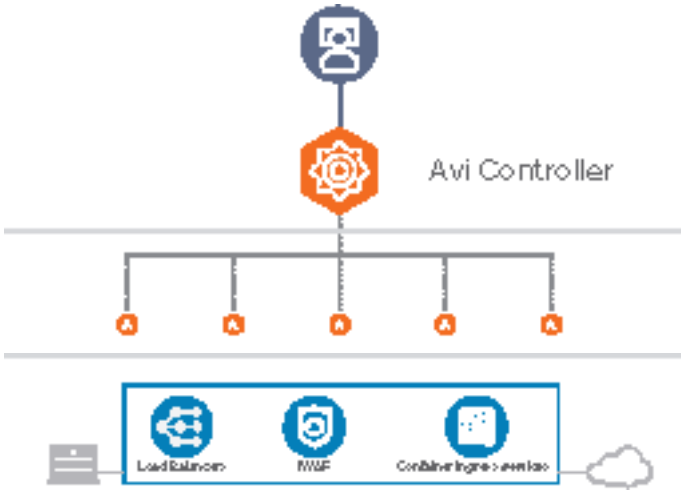
WHY AN ADVANCED LOAD

LEGACY LOAD BALANCER



Legacy load balancers (ADCs) require manual VIP placements as well as management from individual control points.

ADVANCED LOAD BALANCING AND APPLICATION SERVICES



The NSX Advanced Load Balancer separates the control and data planes for next generation load balancing and application services.

When it comes to operational simplicity and so much more, the NSX Advanced Load Balancer is fundamentally better.

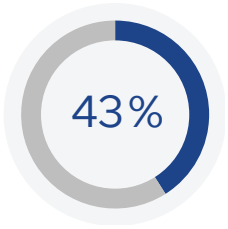
Explore the Benefits of Load Balancing from VMware

BENEFIT: INCREASE OPERATIONAL EFFICIENCY

Network ops teams are forever answering service tickets and upgrading hardware load balancers. Frustrated administrators describe a never-ending pattern analogous to painting the Golden Gate Bridge: a continuous loop of upgrading and updating network infrastructure.

The NSX Advanced Load Balancer software replaces hardware appliances, automates manual processes and delivers consistent load balancing features across multiple clouds. Network ops teams save time and raise their overall productivity.

But operational efficiency is just the start of what the platform's automation can deliver. The NSX Advanced Load Balancer eliminates lag time for provisioning and scaling resources, fundamentally changing how network and application development teams deliver apps and meet service-level objectives (SLOs).



"More Efficient ADC Management" [2]

*IDC Business Value Study of Avi

With the NSX Advanced Load Balancer, teams do more with less.

BENEFIT: ESCAPE THE COSTLY HARDWARE REFRESH TRAP

Load balancing with legacy technology is becoming increasingly unsustainable. Hardware appliances, such as F5 Networks' ADCs, depreciate over time. Load balancing teams spend their time and resources visiting data centers to configure, maintain and replace devices.

The NSX Advanced Load Balancer is software. Configurations are automated and updates are easier. The platform is a clean escape from the costly regular hardware replacement.

Wouldn't it be nice to move away from treating load balancers like pets in need of constant attention?

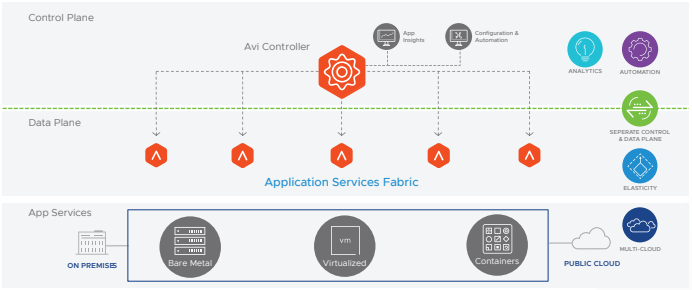
BENEFIT: ORCHESTRATION, AUTOMATION AND LIFECYCLE MANAGEMENT

Central orchestration with the Avi Controller in the NSX Advanced Load Balancer platform is a key differentiator when compared to legacy load balancers.

The Avi Controller goes well beyond a mere management interface that is typical of the central control claimed by legacy load balancer vendors. The Avi Controller:

- Places virtual services automatically in the right networks, on the best available load balancers in the fabric
- Configures VIPs
- Monitors the "health" of the applications
- Delivers real time application insights
- Discovers changes and reconfigures as needed
- Self-heals load balancers if they fail
- Autoscales capacity based on traffic patterns

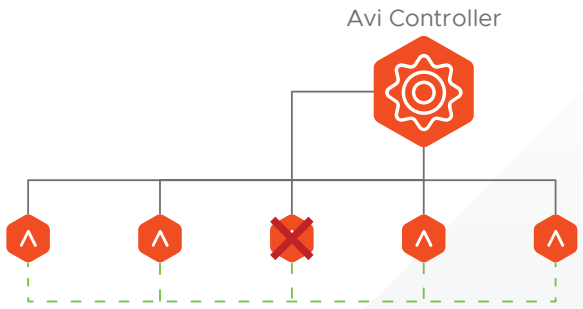
This high degree of closed-loop automation simplifies operations across private and public clouds. The NSX Advanced Load Balancer gives network ops teams comprehensive visibility into end to end application performance.



The NSX Advanced Load Balancer provides predictive analytics that determine traffic bottlenecks before they happen. As a result, organizations get actionable insights that help drive business decisions.

BENEFIT: LOAD BALANCING THAT IS RESILIENT AND SELF-HEALING

The NSX Advanced Load Balancer is a resilient, self-healing application services fabric. Through an active-active configuration, if a load balancer fails, the remaining load balancers in the fabric immediately absorb the load. The Avi Controller will then spin up a new Avi Service Engine to ensure surplus capacity. Not only is the application not disrupted by failure, but the problem gets fixed without intervention. Resilience is an outstanding benefit of orchestration.



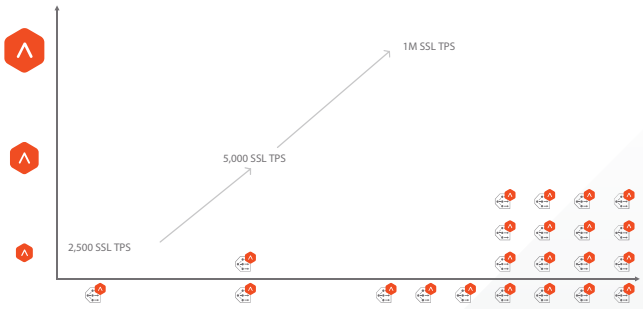
The NSX Advanced Load Balancer is a resilient, self-healing fabric that fixes failures without manual intervention.

BENEFIT: DYNAMIC CAPACITY SCALING

Legacy ADCs cannot scale up or down in response to traffic. This forces network ops teams to overprovision and manually prepare for traffic spikes. When unforeseen traffic causes failure, customers become frustrated and business opportunities are lost.

The NSX Advanced Load Balancer automatically detects the higher traffic and scales out to meet demand. In contrast to legacy ADCs, the NSX Advanced Load Balancer just works.

But don't take just our word for it, take a look at the Principled Technologies report on "VMware NSX Advanced Load Balancer (formerly Avi Networks) powered by Intel Xeon Scalable processors distributed over 1 million SSL transactions per second."

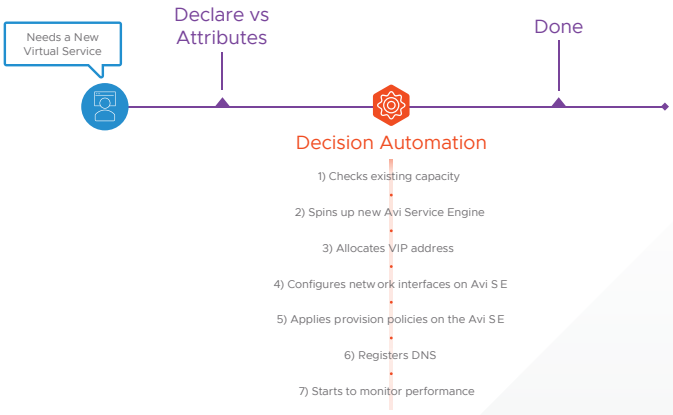


With NSX Advanced Load Balancer it takes seconds to scale to millions of TPS.

BENEFIT: MEET LINE OF BUSINESS DEMANDS WITH SELF-SERVICE

As applications become the heart of modern enterprises, the need to consistently deliver capacity and update applications across multi-cloud environments increases. Legacy load balancers do not integrate tightly across multi-cloud, container and data center environments. While legacy hardware load balancers may work for slower app rollouts, they are too high-touch to support modern app deployments. Manual configuration changes are not scalable at the volume required, especially as the number of enterprise app deployments increases.

With the NSX Advanced Load Balancer, administrators configure self-service, the platform automates processes and lines of business manage app deployments.

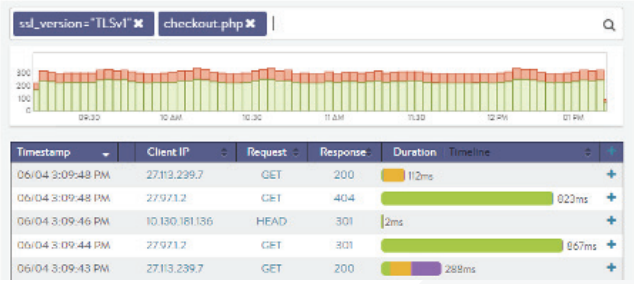


It's automation that simply works and frees up network teams to focus on other priorities.

BENEFIT: STOP THE "BLAME GAME" WITH EASY TROUBLESHOOTING

Legacy load balancer appliances stymie network ops teams by not providing visibility into application performance or network latencies. They also require network engineers to take days to troubleshoot applications with span ports, TCPdumps and Wireshark traces.

Replace these processes with real time analytics that provide actionable information. The NSX Advanced Load Balancer has a user-friendly interface that enables you to fix problems and leverage actionable analytics. On a good day, easy troubleshooting even eliminates the "blame game" often caused by network and application teams when when apps don't perform.



Identify and fix problems with a few clicks.

BENEFIT: OPERATE UNDER SHRINKING BUDGETS

Legacy load balancers are expensive, capacity is vastly underutilized and hardware requires a great deal of operational support.

Reduce the cost of load balancing by switching to a load balancer that:

- Addresses fluctuations on demand
- Increases resource efficiency
- Up-levels application delivery
- Applies software-defined principles

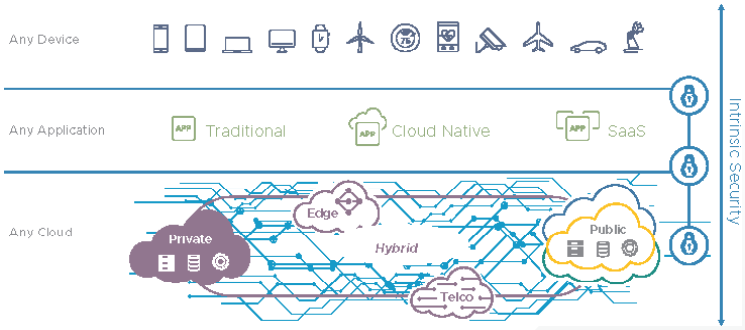
As demand grows and budgets shrink, these capabilities enable teams to do more with less.

Savings associated with NSX Advanced Load Balancer include reduced costs for staff, hardware and maintenance. Additional savings can come from increased productivity and business impact measured by revenue over the term of use. Enterprises report lower ADC solution cost up to 52%, enabling more efficient operations on tighter budgets: The ultimate win-win.

The NSX Advanced Load Balancer eliminates hardware, increases efficiency and decreases costs.

BENEFIT: MODERN LOAD BALANCING BACKED BY VMWARE, A NAME YOU KNOW AND TRUST

VMware acquired Avi Networks and entered the modern load balancing market in 2019. VMware streamlines the journey for organizations to become digital businesses that deliver better experiences to their customers and empower employees to do their best work. VMware means better application support, improved visibility and the best security for your enterprise network.



VMware: Automation for optimal enterprise digital transformation.

BENEFIT: FULLY SUPPORTED MIGRATION FROM LEGACY APPLIANCES

To avoid the anticipated pain of migration, many enterprises retain legacy hardware past the point of needing a refresh. VMware understands transitioning from existing environments is a delicate process and has developed automated tools to simplify load balancer migration.

Besides having the right tools, VMware helps enterprises address individual needs. Dedicated migration teams freely share best practices collected while replacing over 7,000 enterprise legacy load balancers. That's why an increasing number of Fortune 500 companies come to VMware to modernize their load balancing.

Migration doesn't have to be complicated. But when it is, VMware will support you through it.

ADVANTAGES FROM INTEL DEVELOPER TOOLS AND TECHNOLOGIES

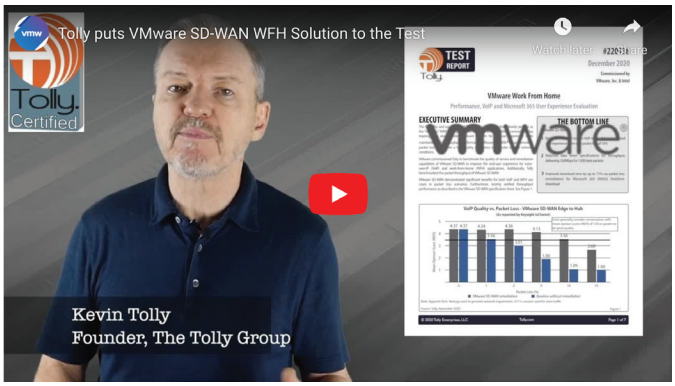
Co-engineering by VMware and Intel® has built optimizations into the solution using the Intel developer tool set, taking advantage of capabilities built into the Intel platforms used for the SD-WAN appliances. Intel-based optimizations help improve performance and security of VMware SD-WAN solutions including the specific offerings for WFH use cases. The Intel developer tools and technologies include the following:

- **Data Plane Development Kit (DPDK)** is a library of open standard software drivers originally developed by Intel that drive up packet-processing performance by routing network packets around the Linux kernel.
- **Intel QuickAssist Technology (Intel QAT)** provides a software-enabled foundation for security, encryption and decryption, authentication, and compression, significantly increasing performance and efficiency.
- **Intel AES New Instructions (Intel AES-NI)** accelerates key parts of the encryption algorithm in hardware, making pervasive, end-to-end encryption possible without degrading performance. These instructions can execute using significantly fewer clock cycles than a software solution.

As WFH will only continue to gain in importance going forward, third-party support provides additional assurance for users their environments are robust and resilient.

LEARN MORE

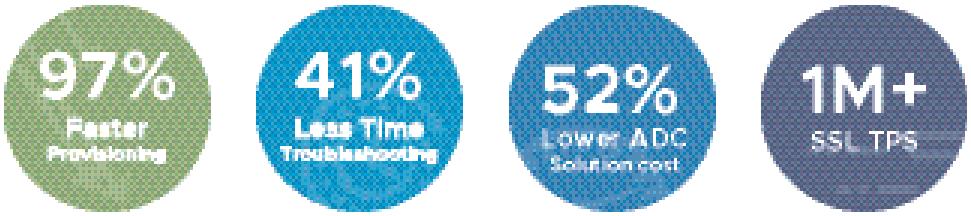
Watch The Tolly Group video of the VMware SD-WAN report below, download the report and visit our work-from-anywhere web page.



ARCHITECTURE FOR TODAY AND TOMORROW

The NSX Advanced Load Balancer's innovative architecture utilizes a software-defined scale-out design that separates the central control plane (Avi Controller) from the distributed data plane (Avi Service Engine). This innovative architecture creates a single point of control that does not just manage but *orchestrates* across Intel x86 servers, virtual machines, containers and public and private clouds. The platform automates decisions, provisions efficiently, supports modern apps and leads to self-service.

Evolving to the NSX Advanced Load Balancer enables your network to experience the full benefit of digital transformation today, and positions your enterprise to meet tomorrow's challenges head-on.



See the Benefits of the NSX Advanced Load Balancer in Action

Schedule a Demo

Sources

[1] *Gartner Press Release, "Gartner CFO Survey Reveals 74% Intend to Shift Some Employees to Remote Work Permanently," April 3, 2020. https://www.gartner.com/ en/newsroom/press-releases/2020-04-03-gartner-cfo-surey-reveals-74-percent-of-organizations-to-shift-some-employees-to-remote-work-permanently2*

[2] *IDC White Paper. "The Business Value of Avi Vantage: A Study of Enterprises Using Next-Generation Application Delivery." March 2018. https://info.avinetworks.com/idc-study-business-value-of-next-generation-application-delivery*

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