PAN-OS SD-WAN, VM-Series Virtual Firewalls, and Nutanix AHV

Optimizing Connectivity: Unleashing the Power of Palo Alto Networks PAN-OS® SD-WAN with Nutanix AHV

Benefits of the Integration

- PAN-OS SD-WAN integrated with Nutanix AHV simplifies branch office IT and cloud connectivity, reducing management overhead while optimizing application performance across distributed locations.

- This integration extends robust Palo Alto Networks security to the edge, creating a streamlined and secure solution for modern hybrid infrastructure.

- This integration enhances application performance, boosts security, and reduces operational complexity for distributed organizations.

The Challenge

In recent years, businesses have been embracing digital transformation more rapidly than ever expected. Remote working and online meetings are now standard. Many applications have moved to the public cloud, and many services are now available over the internet. Companies want to reduce costs and manage their infrastructure more effectively. However, the traditional wide area network (WAN) was designed to connect users at remote sites to applications hosted in the company's data center (DC). Dedicated leased lines and MPLS circuits were used to provide secure and reliable connectivity to the DC. Although some applications are now in public clouds and on the internet, the traffic from the remote sites must still come to the DC first and then be routed to the public cloud and back.

The Solution

Software-defined wide area network (SD-WAN) is a technology that allows you to use multiple internet and private services to create an intelligent and dynamic WAN. SD-WAN helps lower costs and maximize application quality and usability.

Nutanix AHV and AOS

- Nutanix Acropolis Hypervisor (AHV) delivers virtualization capabilities for the most demanding workloads and provides an open platform for server virtualization, network virtualization, security, and application mobility. Nutanix AHV extends advanced virtualization capabilities to modern hybrid cloud environments.

- The Acropolis Operating System (AOS) provides the core functionality leveraged by workloads and services running on the platform. The Acropolis Operating System (AOS) is the core software stack that provides the abstraction layer between the AHV hypervisor and the workloads running. It provides functionality such as storage services, security, backup and disaster recovery, and much more.

Palo Alto Networks PAN-OS SD-WAN

- Palo Alto Networks Panorama® simplifies the management and monitoring of SD-WAN deployments, providing centralized control, visibility, and policy enforcement across distributed branch offices. It enables organizations to streamline operations, ensure consistent security, and optimize application performance with ease.

- Palo Alto Networks VM-Series virtual firewalls seamlessly integrate with SD-WAN, extending industry-leading security to distributed locations and hybrid cloud environments. This combination provides comprehensive protection, application visibility, and granular control for optimized SD-WAN deployments.

- The Palo Alto Networks SD-WAN plugin simplifies the deployment and management of SD-WAN overlays within the Panorama management console. It enables centralized control of WAN traffic, application optimization, and enhanced security policies across distributed locations.

Palo Alto Networks SD-WAN and Nutanix AHV

Palo Alto Networks SD-WAN with Nutanix AHV offers numerous benefits to enterprises seeking to enhance their network infrastructure and virtualization capabilities. It combines advanced networking with powerful virtualization, ensuring optimal performance, minimal latency, and robust security for critical data and applications. Nutanix AHV's hyperconverged platform consolidates compute, storage, virtualization, and networking resources, improving system performance, and simplifying management. This integration enables scalability, cost efficiency, and high availability, reducing expenses and ensuring continuous service availability. Additionally, intelligent workload placement, comprehensive visibility, and enhanced compliance further highlight its advantages. Ultimately, leveraging both platforms allows enterprises to future-proof their infrastructure, optimize resource network utilization, and adapt to evolving business needs confidently.

The power of Palo Alto Networks SD-WAN with Nutanix AHV lies in its ability to deliver a comprehensive solution that combines advanced networking capabilities with powerful virtualization infrastructure. Palo Alto Networks SD-WAN offers dynamic routing, traffic optimization, and security features, while Nutanix AHV provides a hyperconverged platform for virtualized workloads. Together, they deliver a robust solution that optimizes network performance, enhances security, and simplifies management for enterprises. Palo Alto Networks SD-WAN dynamically selects the best path for each application based on factors such as performance, latency, and security requirements.

Use Case 1: Simplified Branch and Edge Networking

Challenge

- Managing disparate hardware and software across multiple branch sites created complexity and increased operational overhead.
- Traditional WAN solutions often proved inflexible and expensive.

Solution

Nutanix AHV consolidates compute, storage, and virtualization at the branch office. PAN-OS SD-WAN provides optimized WAN connectivity, intelligent traffic steering, and integrated security. This combined solution simplifies IT management at distributed locations and improves application performance.
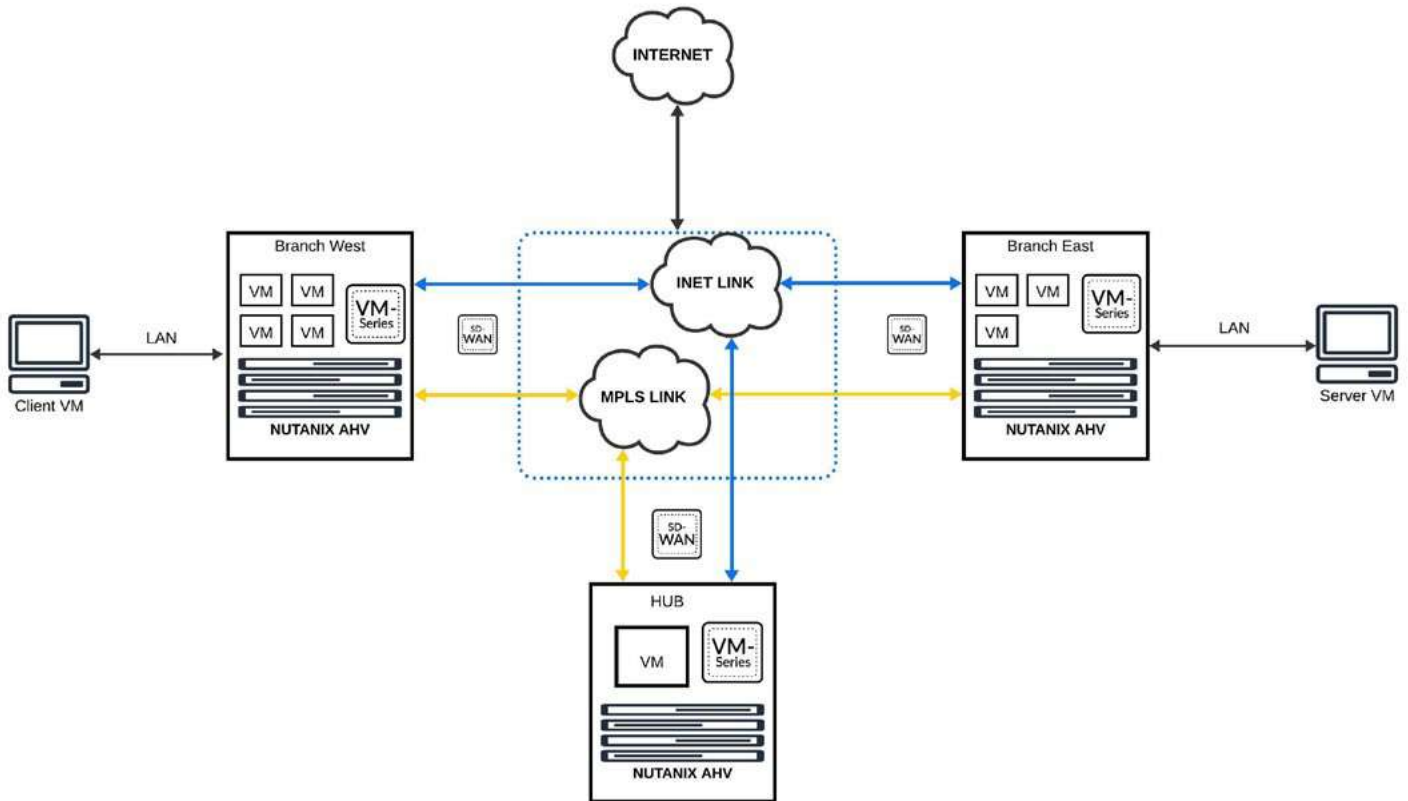

Figure 1: Integration view

Use Case 2: VDI Performance

Challenge

Real-time VDI applications were particularly sensitive to network latency and packet loss, impacting the user experience over traditional WANs.

Solution

PAN-OS SD-WAN can prioritize and optimize real-time VDI traffic, ensuring a smooth user experience even over less-than-ideal WAN links. Nutanix AHV provides a scalable and efficient platform for delivering virtual desktops.

About Nutanix

Nutanix makes infrastructure invisible and secure, elevating IT to focus on the applications and services that power their business. The Nutanix Cloud Platform leverages web-scale engineering and consumer-grade design to natively converge compute, virtualization, and storage into a resilient, software-defined solution with rich machine intelligence. The result is predictable performance, cloud-like infrastructure consumption, robust security, and seamless application mobility for a broad range of enterprise applications. Learn more at www.nutanix.com or follow us on Twitter @nutanix.

About Palo Alto Networks

Palo Alto Networks is the world's cybersecurity leader. Our next-gen security solutions, expert services, and industry-leading threat intelligence empower organizations across every sector to transform with confidence. For more information, visit www.paloaltonetworks.com.