VMware SD-WAN with Equinix

Optimized and closest connectivity to the multicloud

KEY HIGHLIGHTS

- Site-to-cloud path optimization
- Low-latency and pre-integrated connectivity with multicloud
- Fast and private connectivity between two regions
- Real-time link monitoring and remediation
- Simple to deploy and easy to manage
- On-demand insights into network and application performance

VMware SD-WAN integration with platform Equinix enhances application performance by enabling optimized and secure site-to-multicloud connectivity

With cloud IT becoming mainstream, business possibilities have no limits. Employees and customers alike are dispersed over geographic locations. They access multitudes of workloads from different cloud service providers and at the same time, expect to have the best user experience to be innovative and productive in their roles.

To succeed, organizations need to build their digital infrastructure—whether deployed on private, public or hybrid cloud—to be highly distributed and elastic to match continuously changing opportunities. A multicloud strategy helps companies benefit from best-of-breed services, compliance, and disaster recovery, and avoid vendor lock-in. Cloud service providers, for their part, generally optimize the localization and delivery of their services for desired performance by distributing service tenants scaled out across locations worldwide. However, the application performance and quality of user experience predominantly depends on the efficiency of the network connecting users to these cloud-based applications.

As more applications move to the cloud, the traditional approach of backhauling traffic over MPLS to a centralized Internet gateway via a hub-and-spoke architecture is no longer relevant. It is expensive and introduces unnecessary latency that negatively impacts user experience. To support a cloud transition and deliver a fast user experience, enterprise network architects are reevaluating their WAN architecture designs to find ways to route Internet traffic locally, and to take advantage of inexpensive broadband Internet services, often turning to Software-Defined Wide Area Networking (SD-WAN).

Cloud-delivered VMware SD-WAN™ by VeloCloud® simplifies how traffic is steered and optimizes bandwidth for the branch without the complexity and effort of MPLS. It enables direct access to applications deployed on public or private cloud for branch users through a distributed network of highly available VMware SD-WAN Gateways and the VMware SD-WAN Orchestrator with branch VMware SD-WAN Edges.

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VMware SD-WAN with Equinix Network Edge enables fast and optimized one-to-many connectivity between sites and applications deployed by multiple cloud providers.
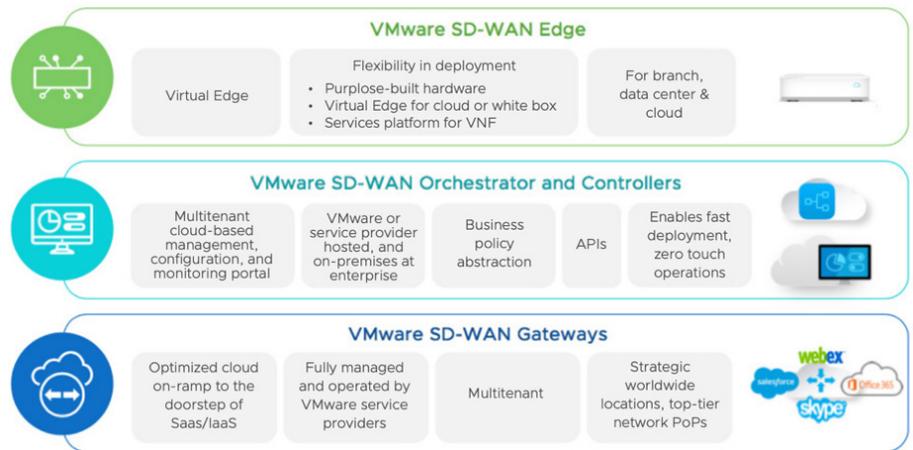

FIGURE 1: VMware SD-WAN Components

VMware SD-WAN simplifies WAN operations with a cloud delivery model which makes it easy to deploy and manage thousands of sites at once. VMware SD-WAN is designed as a transport-independent overlay that can work across any combination of circuits that you have to connect your locations to your applications.

Optimizing multicloud connectivity with Equinix and VMware

With cloud-delivered VMware SD-WAN, there are two options for customers connecting to cloud: via hosted VMware SD-WAN gateway or via virtual edges in the cloud, depending on the customer use cases.

With VMware SD-WAN Edge available on Equinix Network Edge, connecting to multiple service providers at the same time and enabling transit is simplified. instead of installing virtual edge clusters on different cloud providers, admins can deploy one virtual edge on Equinix. With that, all the services are a few clicks away.

The other key benefit with VMware SD-WAN Edge on Equinix platform is the high-performance and private Equinix global network. With all these virtual edges deployed on the Equinix fabric, users can take advantage of the Equinix global network to connect users across regions. The application traffic is fully secure on the first mile through the Equinix private network. In the mid and last mile, secure VMware SD-WAN is implemented by in-house capabilities or by integrating with third-party security solutions.

Equinix, Inc. (Nasdaq: EQIX) connects the world's leading businesses to their customers, employees and partners inside the most-interconnected data centers. On this global platform for digital business, companies come together across more than 50 markets on five continents to reach everywhere, interconnect everyone and integrate everything they need to create their digital futures. For more information, visit *www.equinix.com*
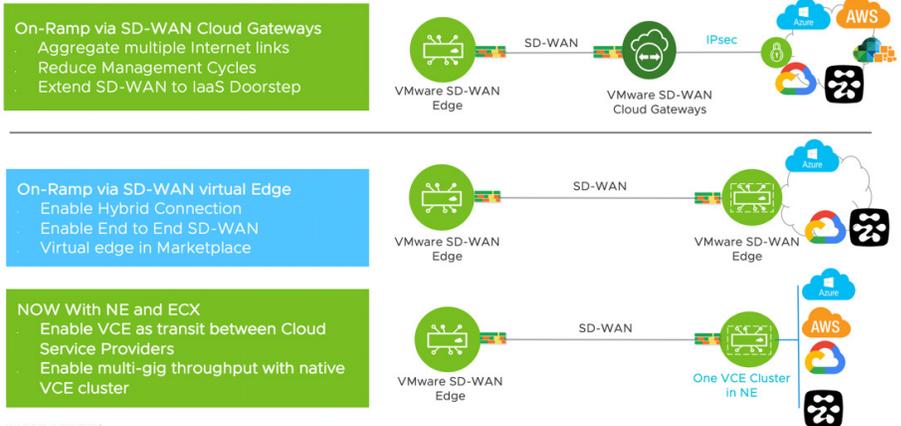

FIGURE 2: VMware SD-WAN enables different connectivity options to the cloud

Customers can select, configure, and connect VMware SD-WAN Edges closest to their users, clouds and networks—the digital edge—in minutes instead of weeks or months. Once instantiated through Equinix Network Edge, these VMware SD-WAN Edge instances can be managed and monitored by VMware SD-WAN Orchestrator.

Solution Components

These components provide the integration for the best overlay for applications co-located on Platform Equinix:

Equinix Cloud Exchange Fabric™ (ECX Fabric) directly, securely and dynamically interconnects distributed infrastructure and digital ecosystems on Platform Equinix. Available across 40+ locations, ECX Fabric is designed for scalability, agility and connectivity over a self-service portal or API. Equinix with VMware SD-WAN delivers predictable performance and an optimal route with minimum latency from user sites to multicloud. ECX Fabric provides direct connectivity to most cloud services a business needs to be innovative and productive.

Equinix Network Edge is a network functions virtualization (NFV) infrastructure platform optimized for the instant deployment and interconnection of network services. With VMware SD-WAN and Equinix integration, customers can provision VMware SD-WAN Edges in minutes using Equinix Network Edge, enabling local connectivity with one-hop to an ecosystem of cloud services. With VMware SD-WAN Edge available on Equinix Network Edge, connecting to multiple service providers at the same time and enabling transit is simplified. Instead of installing virtual edge clusters on many different cloud providers, admins can deploy just one virtual edge and with that, all services are a few clicks away.
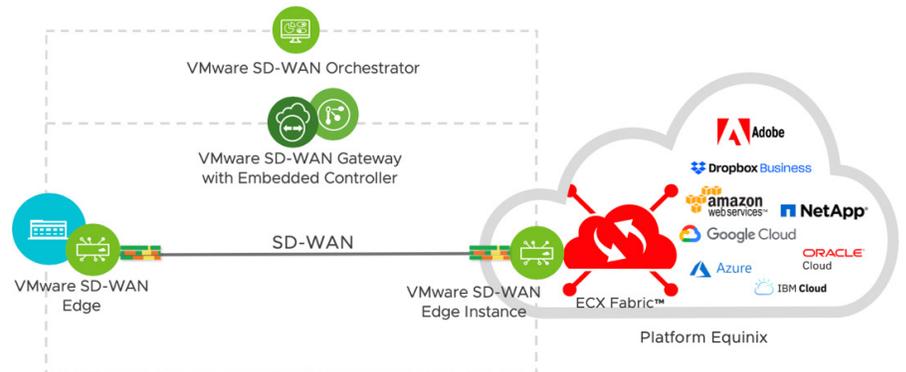
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FIGURE 3: Fast and optimized connectivity to multicloud

VMware SD-WAN Edge expands WAN bandwidth by logically combining WAN links to offer capacity that individual applications need. VMware SD-WAN Edge automatically joins the SD-WAN fabric once powered on and connected to the Internet, and downloads the business policies from the VMware SD-WAN Orchestrator. These edge devices differentiate and prioritize traffic among over 3000 applications based on business intent. The VMware SD-WAN Edges implement Dynamic Multi-Path Optimization (DMPO) enabling real time monitoring, packet steering and link remediation on the links connecting them with other edges. With a VMware SD-WAN Edge instance on Platform Equinix, all the optimization features can be extended further and closest to the cloud applications.

VMware SD-WAN Orchestrator is the management plane of the architecture. It pushes the business policies on the VMware SD-WAN edges as soon as they connect to the fabric, and seamlessly updates the application recognition engine on thousands of VMware SD-WAN Edges with a single click. A cloud-hosted or on-premises secure and scalable web-based central management tool provides simplified configuration, provisioning, monitoring, fault management, logging, and reporting. The Orchestrator also offers a single pane of glass for real-time insights into network and application performance. The integration enables insights into network and application performance for the edge of the Equinix platform.

VMware SD-WAN Gateways are hosted multi-tenant virtual instances on cloud, functioning as the control plane and optional data plane for the SD-WAN network. SD-WAN Cloud Gateways are automatically assigned to the SD-WAN Edges depending on the type of traffic. These horizontally scalable gateways enable route distribution among the SD-WAN Edges as soon as the Edges are powered on and connected to the SD-WAN fabric, reducing the complexity and spend on traditional infrastructure.

ABOUT VELOCLOUD, NOW PART OF VMWARE

Velocloud, now part of VMware simplifies branch WAN networking by automating deployment and improving performance over private, broadband Internet and LTE links for today's increasingly distributed enterprises. VMware SD-WAN by VeloCloud includes: a choice of public, private or hybrid cloud network for enterprise-grade applications and optional data center appliances; software-defined control and automation; and virtual services delivery. For more information, visit *www.velocloud.com*

The VMware SD-WAN Edges on Equinix are easy to configure and can be deployed on ECX Fabric via Equinix Marketplace in a matter of minutes. Once created, these VMware SD-WAN Edge instances can be managed and monitored by the VMware SD-WAN orchestrator as any other edge in the network.

The VMware SD-WAN portion of the integration delivers optimized routes from branch sites to Platform Equinix which then provides low-latency interconnectivity to an ecosystem of multiple cloud applications. The integration between Equinix and VMware SD-WAN enables organizations to securely connect with cloud applications through the best possible route with the lowest latency, delivering scale and great user experience no matter where sites are located. With Equinix fabric as the backbone, the VMware SD-WAN Edges on Platform Equinix can be connected through private and high-performance network spanning regions and multicloud.

More Resources

- Equinix Network Edge: *https://www.equinix.com/services/edge-services/network-edge/*
- VMware SD-WAN by VeloCloud test drive: *https://www.velocloud.com/sd-wan/vmware-sdwan-by-velocloud-hands-on-lab*
- Learn more about integration at *Info.equinix.com/VMwareVelocloud.html*