

# VMware SD-WAN for Hybrid Cloud

## Optimizing performance for VMware Cloud™ on AWS



“According to business decision makers surveyed, 21% say poor web or cloud application performance due to network connectivity is among their biggest productivity drains.”<sup>1</sup>

ESG RESEARCH

Hybrid cloud combines the best of both public and private clouds—accessibility, elasticity, agility and cost benefits of public cloud, along with the control, security and reliability of private cloud. At the same time, if the user experience and performance of the applications deployed anywhere are not consistent while using either IT delivery model, the benefits of hybrid cloud or any cloud model fall flat. To support the transition to cloud while maintaining the desired user experience, enterprise network architects are reevaluating the design of their wide area network (WAN) architectures to efficiently route Internet traffic. To take advantage of inexpensive and ubiquitous broadband Internet services, customers are turning to software-defined wide area networking (SD-WAN).

The cloud-delivered VMware SD-WAN™ by VeloCloud® simplifies how traffic is steered and provides bandwidth optimization for the branch without the complexity and efforts of Multiprotocol Label Switching (MPLS). VMware SD-WAN 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.

Unique to the VMware approach is the Dynamic Multipath Optimization™ (DMPO) technology that steers traffic on a per packet basis to the optimal path and remediates transmission degradations. The VMware SD-WAN Orchestrator offers a single pane of glass, enabling admins to define policies, deploy new services, and monitor and manage all the deployed VMware SD-WAN Edges. The combination connects the user and application through a low latency and highly reliable path without any major change required from the customer side.

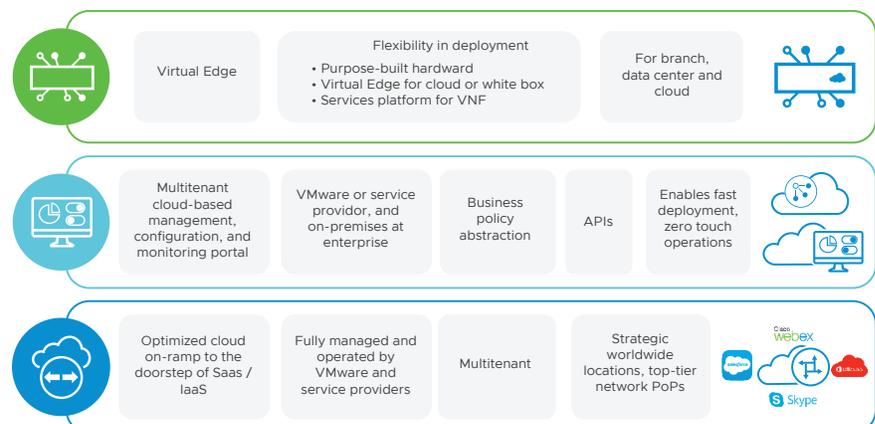


FIGURE 1: Cloud-delivered VMware SD-WAN

1. <https://www.velocloud.com/sd-wan-resources/white-papers/the-emergence-of-network-edge-platforms>

**VMWARE CLOUD™ ON AWS HIGHLIGHTS**

- VMware SDDC running on dedicated AS EC2 elastic, bare metal infrastructure
- Sold, operated and supported by VMware and its partners
- On-demand capacity and flexible consumption
- Full operational consistency with on-premises SDDC
- Fast and simple bi-directional workload migration
- Seamless large-scale workload portability and hybrid operations
- Global AWS footprint, reach, availability over time
- Direct access and integration with native AWS services
- Spin up entire SDDC in under 2 hours and scale host capacity in minutes

**VMware Cloud™ on AWS**

Customers across industries are accelerating adoption of both Amazon Web Services (AWS) Cloud and VMware infrastructure. Many of them want the ability to integrate their on-premises data center environments with AWS using their existing tools and skill sets within a common operating environment based on familiar VMware software. VMware Cloud™ on AWS delivers on this promise by providing a unified infrastructure framework that bridges the gap between private and public clouds.

VMware Cloud™ on AWS delivers a seamlessly integrated hybrid cloud that extends on-premises vSphere environments to a VMware Software-Defined Data Center (SDDC) running on Amazon EC2 elastic, bare-metal infrastructure and is fully integrated as part of the AWS cloud. VMware Cloud™ on AWS enables enterprise IT and operations teams to continue to add value to their business in the AWS cloud, while maximizing their VMware investments, without the need to buy new hardware. This offering enables customers to quickly and confidently scale up or down capacity, without change or friction, for any workload with access to native cloud services. VMware Cloud™ on AWS is powered by VMware Cloud Foundation™, the unified VMware SDDC platform that integrates VMware vSphere®, VMware Virtual vSAN™ and VMware NSX® virtualization technologies. This service is optimized to run on dedicated, elastic, bare-metal AWS infrastructure and is delivered, sold and supported by VMware and its partners. The service provides access to the broad range of AWS services, together with the functionality, elasticity, and security customers have come to expect from the AWS cloud.

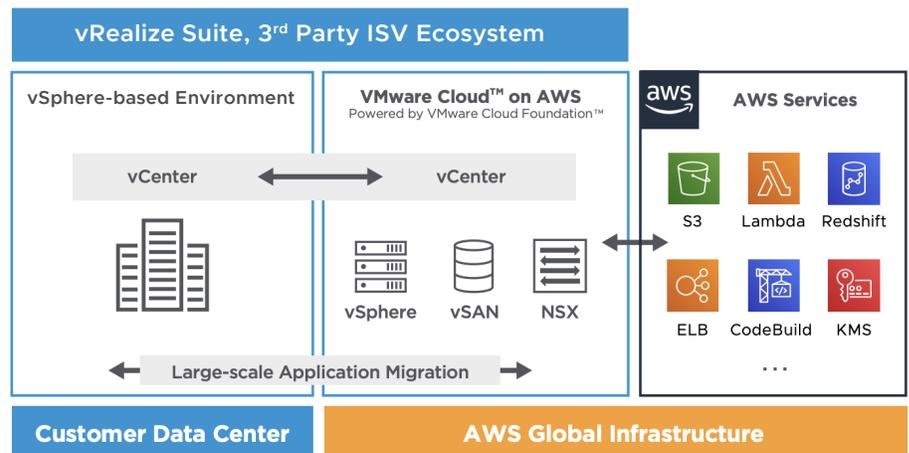


FIGURE 2: Hybrid Cloud with VMware Cloud™ on AWS

**Optimizing Connectivity with VMware SD-WAN**

VMware Cloud™ on AWS provides a seamlessly integrated hybrid cloud empowering users to enjoy the flexibility of public cloud, at the same time, control the distribution of workloads based on their business intent. Networks connecting the users and workloads, whether deployed on customer premises or on AWS, play a pivotal role in deciding the performance and experience for the end user. Connectivity to applications on cloud over the last mile can be greatly enhanced by using VMware SD-WAN delivering better user experience and real time visibility into application and network performance. VMware SD-WAN Edge logically aggregates all types of WAN connections emerging from branch offices or other remote locations widening the bandwidth for the applications.

VMware SD-WAN delivers zero-touch, enterprise grade connectivity for NSX workloads on AWS.

VMware SD-WAN Gateways are deployed at interconnect points around the world to provide scalability, redundancy, and flexibility in traffic steering. VMware SD-WAN Gateways optimize routes to workloads deployed on the cloud, enabling optimal delivery of services from the cloud. These highly available cloud devices perform dynamic application-aware, per-packet link steering and path conditioning to deliver enterprise-class network quality and performance for the most demanding applications anywhere.

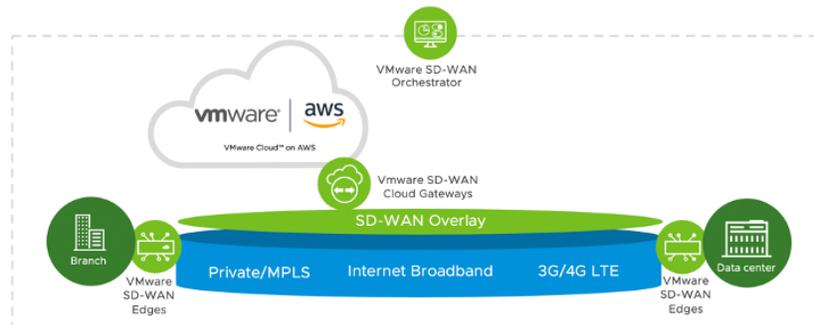


FIGURE 3: Secure and reliable cloud-delivered SD-WAN

The most important benefit of using VMware SD-WAN with VMware Cloud™ on AWS is users get all the features of VMware SD-WAN even when there is no VMware SD-WAN Edge installed at the AWS zones where VMware SDDC is deployed. The branches/locations with no VMware SD-WAN Edge are referred as non-VMware SD-WAN-sites (NVS) on the VMware SD-WAN Orchestrator. In this scenario, the VMware SD-WAN Gateways are used to construct the last mile VPN. The site in point might be a potential future hub, and so the Gateways must be used to establish IPsec tunnels to this location. Through the Orchestrator, the NVS is deployed, and an IPsec configuration for the NVS site is created for simplification and ease of configuration. Once the configuration is applied, the connection state of the VMware SD-WAN Orchestrator can be verified.

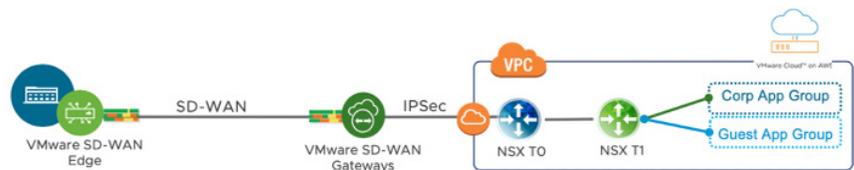


FIGURE 4: Delivering Assured Performance for Non-VMware SD-WAN Site

The connectivity between SD-WAN enabled branches and NVS sites is up and running once the IPsec VPN to an NVS using the VMware SD-WAN Gateways has been established. SD-WAN enabled branch locations can then reach applications or functions within NVS.

VMware Cloud™ on AWS enables users to run, manage, and secure production applications in a seamlessly integrated hybrid IT environment. VMware SD-WAN ensures the desired performance of those workloads and the experience of the users at the branches.

For more information, visit [www.velocloud.com](http://www.velocloud.com)