Remove Barriers To Cloud Adoption With SD-WAN

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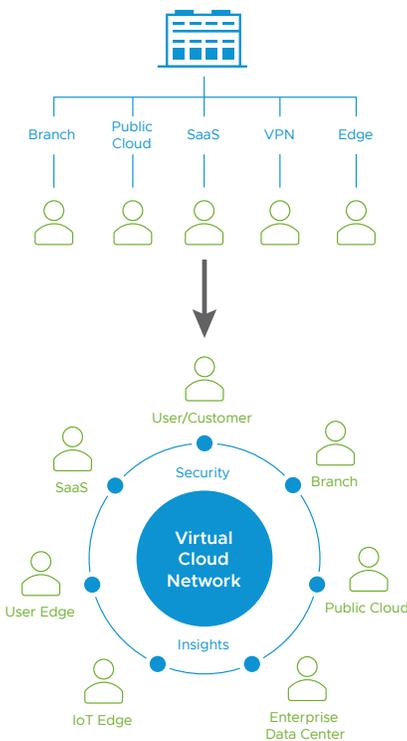**From Silos to an Integrated Approach.**

FIGURE 1: A Virtual Cloud Network enables technology silos to disappear into a software-based, integrated network.

The future of business is in the cloud

As the pace of change accelerates across every industry, IT is under more pressure than ever to drive business growth and innovation. A mass migration to the cloud is underway, as technology teams seek to build more flexible, agile infrastructures to meet the needs of their business stakeholders.

According to Gartner, more than 50 percent of new large enterprise North American application adoptions in 2017 were composed of SaaS or other forms of cloud-based solutions[1]. Public cloud offerings such as Amazon Web Services (AWS) and Microsoft Azure have become popular options for organizations that are extending onto the cloud.

This shift is driving major changes in enterprise network traffic, especially at branch locations. Branch office users are consuming more wide area network (WAN) bandwidth as they collaborate online, through popular services such as Skype for Business, WebEx, and Office 365. Organizations are also increasing the use of Software-as-a-Service (SaaS) and Infrastructure-as-a-Service (IaaS) offerings; accessing large rich-media files; and leveraging other bandwidth intensive applications.

Traditional WANs can't keep up with demands

Businesses are sold on the potential of the cloud as a powerful, agile business enabler. But IT teams face major challenges in addressing new demands due to the complexity, cost, and static architecture inherent in their existing WANs, particularly for branch offices. It simply does not make sense to backhaul Internet-bound traffic from the branches over the data center, then out to the public internet.

Organizations need a secure, reliable way to enable local internet breakout access to cloud applications that power their business operations. They need a solution that brings end-to-end visibility and secure connectivity from the branch to the cloud and data center.

Making the most of the cloud also requires maximum flexibility. The solution they choose must be able to run in any environment and provide a high level of versatility.

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1. "Gartner Says Worldwide Public Cloud Services Market to Grow 18 Percent in 2017," Gartner, 2017

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How to choose the right SD-WAN solution

The right cloud-delivered SD-WAN solution can enable organizations to address the challenges they face with traditional WANs, through a flexible, manageable overlay that employs ordinary broadband internet links. By using these inexpensive links, companies can reduce network TCO by 58 percent[2], while improving branch deployment times. The approach supports a variety of flexible deployment options for every type of branch location. It provides highly secure, reliable ways to access SaaS and IaaS applications, so that organizations can realize the full potential of the cloud.

An effective cloud-delivered SD-WAN solution, such as the VMware SD-WAN™ by VeloCloud®, ensures highly secure and reliable application access over any transport link. The solution consists of key components that prepare you for the cloud era:

• **The VMware SD-WAN Edge** software resides at the network branch, the corporate data center, or in the cloud. VMware SD-WAN Edge provide highly secure, optimized connectivity to private, public, and hybrid applications. It performs deep application recognition and end-to-end quality of service to ensure optimal application performance.

• **The VMware SD-WAN Orchestrator** is cloud-based and provides centralized enterprise-wide installation, configuration, and real-time monitoring, while orchestrating the data flow through the cloud network. Simple and intuitive to use, it enables business policy abstraction and rapid deployment and configuration.

• **VMware SD-WAN Gateways** are the third major component of the solution, providing an optimized cloud on-ramp to the doorstep of SaaS and IaaS offerings. It is fully automated, managed, and operated by VMware SD-WAN or by service providers.

Deployment use cases for SD-WAN

No two organizations are alike, so ideally a cloud-delivered SD-WAN solution will offer choice and flexibility of deployment. The logical overlay network should be able to encompass any WAN transport, whether private, public, or LTE wireless broadband environments—while providing simplified configuration and ongoing management.

A variety of use cases are available for organizations that wish to extend VMware SD-WAN to public cloud such as AWS. Some customers choose to run VMware SD-WAN in AWS as an instance giving complete end-to-end visibility from the AWS cloud to the branch. Others leverage VMware SD-WAN Gateways to create a single connection into AWS, and no change in AWS is required. The third use case leverages partner implementation of VMware SD-WAN in AWS for connectivity.

• **Over-the-Top Deployment:** An over-the-top deployment is ideal for organizations seeking a solution that will work smoothly with their existing environments, without requiring rip-and-replace. It features a hubless design that provides all the benefits of a site-to-site SD-WAN with minimal change to the data center setup. This use case also delivers the benefits of cloud gateways for SaaS offerings.

• **SD-WAN Integrated with Service Providers:** Some organizations may choose to have mixed branch environments, in which some branch locations are managed by a service provider, and others are directly managed by their own IT teams. The VMware SD-WAN works smoothly with service provider networks, providing flexibility for a combined approach.

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2. "Inside the Compelling ROI of SD-WAN," TeloIP, 2017

Site-to-site VMware SD-WAN plus benefits of cloud gateways for SaaS
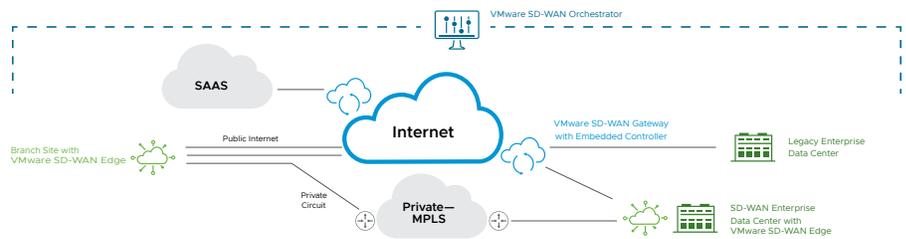
$20,000 TO $1,500,000

A range of total cost savings realized from the global segmentation functionality in SD-WAN solutions, which eliminates the need for firewalls and associated annual maintenance costs.[3]

Benefits of SD-WAN

A cloud-delivered SD-WAN solution enables companies to deliver high-performance, reliable branch access to cloud services, private data centers, and SaaS-based enterprise applications. It gives them the ability to securely support application growth, improve network agility, and simplify branch implementations.

The solution helps organizations reduce their total cost of ownership for branch connectivity, offering an enterprise grade network for the cost of a simple internet connection, such as DSL or cable. It allows organizations to rapidly bring up branch and remote offices when needed or provide better support to bandwidth intensive applications like voice and video. And it provides seamless connectivity for cloud applications without traffic backhaul to the data center.

The solution also simplifies the management of WANs, bringing software-defined networking (SDN) concepts to the enterprise branch WAN. Business policies implemented across the logical overlay enable abstraction of application flows from the underlying physical transport. It offers deployment flexibility, as well as end-to-end visibility across today's complex environments.

A Simplified path to the cloud

It's clear that businesses understand that their future is in the cloud. But successfully extending to the cloud requires a platform that allows them optimized cloud access and application performance, while simplifying management.

VMware SD-WAN helps organizations accelerate their cloud experience by taking advantage of a SDN approach to the enterprise WAN. Companies choose VMware SD-WAN because it is:

• Compatible with any cloud service or Infrastructure-as-a-Service (IaaS), including AWS and Azure, and any network transport system.

• Vendor agnostic, with flexible deployment options.

• A productivity booster. It dramatically simplifies IT management with zero-touch deployment, one-click business policy and services insertion, and cloud-based network-as-a-service.

To learn more about how VMware SD-WAN can enable your organization to realize the benefits of the cloud, sign up for a *Hands-on-Lab* or *learn more about VMware SD-WAN*.

3. The Enterprise Strategy Group, Outcome-Driven Networking – Automation and Intelligence for the Network, 2017