Managed SD-WAN Service

Improve application availability and performance over the WAN, risk free

velocloud™
Now part of VMware

Get better performance and reliable access to hosted applications with a software-defined WAN service from your service provider based on VMware SD-WAN™ by VeloCloud®.

Internet traffic models project that IP traffic will grow at a CAGR of 26 percent from 2017 to 2022[1]

Cloud applications need to perform better

IT organizations are increasingly challenged to provide quality of service (QoS) for applications hosted at cloud data centers. The trends toward mobility, video, and the cloud have increased bandwidth requirements for branch offices. The lack of performance enhancements has exaggerated the poor performance of applications that are sensitive to the lower quality of Internet links.

Internet traffic models project that IP traffic will grow at a compound annual growth rate (CAGR) of 26 percent from 2017 to 2022[1]. The trends point to the requirements for more bandwidth at the branch, with a focus on branch-to-internet performance. As a result, a solution is needed that can address the need for more bandwidth and a more reliable and cost-effective WAN.

SD-WAN is the solution

Gartner forecasts that SD-WAN will grow at a 59 percent CAGR through 2020 to become a $1.3 billion market[2]. A new forecast from International Data Corporation (IDC) estimates that worldwide SD-WAN infrastructure and services revenues will see a CAGR of 69.6 percent and reach $8.05 billion in 2021[3].

While many organizations want to benefit from SD-WAN, they don't always want to manage the solution themselves. As a result, many service providers are offering SD-WAN as a managed service. The SD-WAN service optimizes branch office links across the WAN while reducing operational expenses and increasing operational efficiency.

Business drivers for a managed SD-WAN service

A large percent of enterprise employees work outside of headquarters. Branch office workers need reliable access to hosted applications, and IT departments want to lower costs.

Gartner forecasts that SD-WAN will grow at a 59% CAGR through 2020 to become a $1.3 billion market[2].

Businesses can gain these benefits from a managed SD-WAN service:

- Increased reliability and better performance of application delivery
- Enhanced employee productivity due to reduced application downtime
- Reduced capital outlay and management overhead for SD-WAN
- Decreased risk and cost by using service provider's expertise and facilities
- Improved focus on core business needs by outsourcing context operations
- Use of service provider resources for greater flexibility and scalability

Managed SD-WAN service offering

A managed SD-WAN service optimizes the availability of connections and applications across the WAN, thereby enabling enterprise organizations to confidently offer applications to the branch office from cloud data centers.

Business Value of Managed SD-WAN Services for Enterprise Customers

SERVICE FEATURE	BUSINESS VALUE
Dynamic Multipath Optimization™	Provides a higher level of link availability for uninterrupted access to applications
Dynamic virtual paths	Provides direct branch to branch connect for latency sensitive applications
Visibility of application performance	Provides application performance reporting to ensure SLAs
Centralized management	Enables management of Edge devices for the customer

Managed service components

A managed SD-WAN service combines hardware, software, and services:

- VMware SD-WAN Edge appliances are deployed at each branch office, and a core device is placed in the data center where application services are hosted.
- The VMware SD-WAN Orchestrator is deployed in the data center and used to configure and manage the Edge devices.
- The service provider configures the system for traffic steering over multiple links to provide more reliable access to applications and higher bandwidth.
- Related services can include: assessment, design, and installation; 24-hour monitoring and management; performance reporting and equipment maintenance.

A new forecast from IDC estimates that worldwide SD-WAN infrastructure and services revenues will see a CAGR of 69.6% and reach $8.05 billion in 2021[3]

Tiered service levels

Service providers might offer the managed SD-WAN services in phases.

Phase 1: The VMware SD-WAN Edge is deployed in each of the participating branch offices of the customer. A basic set of SD-WAN features are implemented to improve application delivery.

Phase 2: The service provider enhances the SD-WAN services with additional features to improve the performance of applications and adds monitoring and reporting with guaranteed service levels.

Phase 3: The service provider offers additional managed network services, such as security and firewalling, and configures them to enhance services, such as managed storage and data backup.

Benefits of the SD-WAN service

A managed, SD-WAN service enables enterprises to experience many advantages, including:

- Increased reliability and better performance of application delivery
- Enhanced employee productivity due to reduced application downtime
- Reduced capital outlay and management overhead for SD-WAN
- Decreased risk by using service provider's expertise, economies of scale, and facilities
- Allows IT to focus on core business needs by outsourcing context operations
- Fewer devices to own in the branch office due to combining services on one managed device
- Greater savings by using lower-cost broadband connections together with other link types
- Improved resilience resulting from the managed service providing 24-hour monitoring

Features of the VMware SD-WAN solution

Comprehensive solution – VMware SD-WAN is an all-in-one solution that provides multiple branch office networking services from one device with integrated SD-WAN, routing and firewall.

Dynamic Multipath Optimization – Steers application traffic over multiple links to ensure reliable delivery and high performance. Path assignment is made by packet, adaption time is in milliseconds, and adaption basis is bi-directional, to provide comprehensive application optimization.

Gateway services – Avoid backhauling traffic through the data center and provide direct access to applications in the cloud. This saves the customer the bandwidth costs of extra traffic on their DC WAN links and increases performance.

Router replacement – Support for dynamic routing protocols makes the VMware SD-WAN Edge device a replacement for the Edge router and simplifies branch office equipment management.

Networking services – Dynamic host configuration protocol (DHCP) server and relay, IP Sec VPN termination, virtual routing and forwarding (VRF), and generic routing encapsulation (GRE) tunnel termination are provided for complete network support.

Stateful firewall – The built-in firewall allows policies between services and zones, and supports static network address translation (NAT), port address translation (PAT), and dynamic port forwarding (DPF) for secure data delivery.

Centralized management – The VMware SD-WAN Orchestrator allows for centralized policy definition across all network services reducing the time and effort to turn up a new location on the network.

Zero touch provisioning (ZTP) – Enables the service provider to deploy appliances without making a site visit, thus reducing time to deploy. ZTP discovers new remote office appliances and authenticates and configures them according to data and instructions in the ZTP servers.

Application visibility – VMware SD-WAN monitors how well applications are being delivered to users in the branch. Customers can use this information to see the value that SD-WAN is providing.

Congestion mitigation – Application delivery is ensured by technologies that include: packet duplication, which copies packets along independent paths, traffic shaping and dynamic bandwidth reservation, which enables management of QoS for different classes of traffic.

Direct branch connection – Creates direct paths between two branch offices, reducing latency between locations and increasing the performance of delay-sensitive applications, such as VoIP and video.

Segmentation – Network segmentation provides isolation for regulated data, such as PCI and HIPAA, as well as overlapping IP address space to accommodate mergers.

A managed SD-WAN service is the answer

Organizations want to have reliable and high-performing access to applications. To achieve this, they need to add bandwidth while maintaining MPLS-like performance and reliability. Service providers address this need by offering a managed SD-WAN service based on VMware SD-WAN. By using the managed service, customers get better WAN reliability and application availability for a monthly fee, without having to deploy or manage the infrastructure themselves.

For more information see, *www.velocloud.com*

---

1. Cisco Visual Networking Index: Forecast and Trends, 2017–2022
2. Gartner report: Impact on Traditional Router and MPLS Services Revenue, Worldwide, 2016-2020
3. The IDC report: Worldwide SD-WAN Forecast: 2017-2021

vmware®

VMware, Inc. 3401 Hillview Avenue Palo Alto CA 94304 USA Tel 877-486-9273 Fax 650-427-5001 vmware.com