

# Increase Your Business Value with a Managed SD-WAN Service

Service providers can differentiate their hosted services and increase the value of their network by offering a software-defined wide area network (SD-WAN) service using VMware SD-WAN™ by VeloCloud®



## Demand for bandwidth is increasing

Service providers are increasingly challenged to provide quality of service (QoS) for applications hosted at their cloud data centers. The trends towards mobility, video, and the cloud have increased bandwidth requirements for branch offices and exaggerated the poor performance of the Internet for applications that are sensitive to congestion on wide area network (WAN) links.

Internet traffic models project that IP traffic will grow at a compound annual growth rate (CAGR) of 26 percent from 2017 to 2022<sup>1</sup>. 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 additional bandwidth and a more reliable and cost-effective WAN for organizations that access cloud hosted applications.

## SD-WAN is the solution for improved performance

SD-WAN has emerged as the solution for providing better application performance, more reliable network connections and increased bandwidth from branch offices to data centers. As a result, offering a managed SD-WAN service is a growing opportunity for service providers, especially those that offer hosted applications or provide a managed router service.

Gartner forecasts that SD-WAN will grow at a 59 percent CAGR through 2020 to become a \$1.3 billion market<sup>2</sup>. 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<sup>3</sup>.

While many organizations want to benefit from SD-WAN, they don't always want to do the work of setting up and managing the infrastructure themselves. As a result, many service providers are looking to offer SD-WAN as a managed service. The SD-WAN service optimizes traffic over branch office links across the WAN while reducing operational expenses and increasing operational efficiency.

Service providers can provide a better quality of service by offering SD-WAN as a service for the customers of their data center services. This revenue opportunity is even greater because enterprise customers that subscribe to an SD-WAN service are candidates for additional managed services, including hosted applications, security and storage.

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### Business trends are driving the need for a managed SD-WAN service

A large percent of enterprise employees work outside of headquarters. Branch office and mobile workers need reliable access to hosted applications. When taking into account this set of users, the benefits of a managed SD-WAN service include:

- 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.
- More efficient usage of resources for greater flexibility and scalability of apps.

### Service description for a managed SD-WAN

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 service provider data centers.

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

- **VMware SD-WAN Edge** devices are deployed at each branch office, and a core device in the data center where application services are hosted.
- The **VMware SD-WAN Orchestrator** is deployed on a server in the data center and managed locally or remotely by the service provider. Optionally, service providers can utilize VMware's cloud hosted multitenant management systems.
- **VMware SD-WAN Gateways** located at points of presence (PoPs) direct traffic to the appropriate data center. These can be hosted by the service provider or they can use VMware's cloud hosted VMware SD-WAN Gateways. Gateway federation enables access to partner networks and resources.
- Services include: assessment, design, and installation; 24-hour monitoring and management; performance reporting through an online customer portal; and equipment maintenance.

### 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 service-level agreements (SLAs).
Centralized management	Enables management of edge devices for the customer.

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### Phased approach

Service providers can introduce managed SD-WAN services in phases, offering core services to key customers first and then adding features and finally offering the service to a broader range of customers.

**Phase 1:** The service provider introduces a value-added service for existing subscribers to its hosted application services. The core SD-WAN appliance is deployed in the service provider data center, co-located with the application services. The end point SD-WAN appliance is deployed in each of the participating branch offices of the customer. A basic set of SD-WAN features are implemented to enhance the hosted application services.

**Phase 2:** The service provider enhances the SD-WAN services with additional features to improve the performance of additional applications and adds monitoring and reporting with guaranteed service levels. This service attracts enterprise customers that want to access additional hosted applications and appeals to small and midsize businesses (SMBs) that want to outsource their data center operations.

**Phase 3:** The service provider offers additional managed network services in conjunction with its SD-WAN service such as: WAN Optimization, security and firewalling, router replacement, as well as reporting on service quality. The SD-WAN services are also offered to enhance other services such as: server hosting, managed storage services, and business continuity services.

### Tiered and pull-through services

To maximize the revenue opportunity for the SD-WAN service, providers can charge incrementally for additional SD-WAN services. Table 2 shows additional services and the VMware technologies that make them possible.

Services for a managed SD-WAN service

FEATURE	VALUE FOR SERVICE PROVIDERS AND THEIR CUSTOMERS
SD-WAN	SD-WAN as a service to existing customers of hosted applications and managed networks. This is an add-on service that enhances value by increasing link availability and performance.
Security/ firewall	Security services on the SD-WAN appliance as an add-on to the managed SD-WAN service. This adds security without increasing the number of devices in the branch office.
Router replacement	Eliminate the branch office router by configuring routing on the SD-WAN device and offering this as an add-on service without increasing the number of devices to be managed and avoiding the need for the customer to refresh the expensive router.
Gateway services	Gateway services avoid backhauling traffic through the data center and provide direct access to applications in the cloud. This reduces bandwidth costs associated with extra traffic on the customer's data center WAN links and increases performance.
Segmentation	Network segmentation provides isolation for regulated data, such as PCI and HIPAA, as well as overlapping IP address space to accommodate mergers.
Management/ reporting	Reporting on application performance, link utilization, and more. This clearly demonstrates the value that customers are getting from the service. Service providers can choose to offer varying levels of service and use reports to verify delivery.

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### Benefits for service providers

For service providers, a managed SD-WAN service provides immediate revenue opportunities, as well as long-term strategic advantages, including:

- **Strong customer loyalty** – By positioning the managed service as a strategic part of business process transformation, the service provider augments its portfolio of branch offices and increases its value for customers.
- **Revenue opportunity** – SD-WAN adds incremental revenue per customer and leads to opportunities to add other network services like security, and routing.
- **Low cost of entry** – Service providers can meet customers' needs for a managed SD-WAN service at a low cost as multiple services can be offered from one appliance.
- **Competitive differentiation** – The managed service differentiates the provider's existing hosted virtual desktop service by improving reliability and performance.
- **Pull-through for other services** – Customers that subscribe to the managed SD-WAN service are also candidates for application-management services, managed storage, business continuity services, load balancing, and SaaS.

### Benefits for enterprise customers

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 by combining services on one managed device.
- Greater savings by using lower cost broadband connections together with other link types.
- Improved resilience since the managed service provides 24-hour monitoring.

## Technical differentiators of the VMware SD-WAN solution

**Comprehensive solution** – VMware SD-WAN is an all-in-one solution that enables service providers to offer multiple branch office networking services from one device with integrated SD-WAN, routing and firewall. You can lower the cost for branch networking by replacing the router and firewall as separate appliances. By reducing the amount of support required, VMware makes it easier for the service provider to offer service and increase revenue per customer and revenue margins.

**Dynamic Multipath Optimization™** – The service provider can offer traffic steering capabilities over multiple links to optimize application performance and availability. Path assignment is made by packet, adaptation time is in milliseconds, adaptation basis is bi-directional, application optimization is comprehensive and integrated, and over 5000 enterprise apps are supported with templates.

**VMware SD-WAN 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 data center WAN links and increases performance.

**Router replacement** – Enables the service provider to offer a replacement for the VMware SD-WAN Edge router and simplify branch office deployment and management.

**Networking services** – Support for dynamic routing protocols (DRP), dynamic host configuration protocol (DHCP) server and relay, Internet Protocol Security (IPsec) virtual private network (VPN) termination, virtual routing and forwarding (VRF), and generic routing encapsulation (GRE) tunnel termination makes it an alternative to the traditional branch office router.

**Stateful firewall** – Enables the service provider to offer a more complete service with security. 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** – With the VMware SD-WAN Orchestrator management is simplified for the service provider. 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 service providers to deploy appliances without making a site visit, thus reducing costs. ZTP is operated by VMware in the cloud. ZTP discovers new remote office appliances and authenticates and configures them according to data and instructions in the ZTP servers.

**Application visibility** – Application performance monitoring enables service providers to report on application SLAs. VMware SD-WAN monitors how well applications are being delivered to users in the branch. Service providers can use this information to show value to their customers.

**Congestion mitigation** – Packet duplication copies every packet in the session along independent paths. Traffic shaping and dynamic bandwidth reservation provide for managing quality of service (QoS) for different classes of traffic. Packet reordering and loss mitigation offload reordering and retransmission tasks from applications.

**Direct branch connection** – Enables service providers to offer better branch-to-branch service. Support for latency and bandwidth sensitive applications enables the service provider to offer VoIP, video conferencing and virtual desktop services. It allows direct paths between two branch offices, reducing latency between locations and reducing backhaul through the data center, bringing down bandwidth costs.

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

### VMware resources for service providers

VMware is a large vendor with over 20 years of history that has a large customer base, including most of the global 2000 enterprises. VMware also has global name recognition, so service providers can be confident that their customers will know VMware. Due to its size, VMware has resources to do joint marketing and demand generation.

The VeloCloud Partner Program includes hundreds of global members. Perks include taking advantage of VMware marketing and technical expertise and VMware market recognition for planning, building, and going to market with the managed VMware SD-WAN service.

In addition to service provider program benefits, VMware can provide other services, such as training for the service provider's sales and technical staff and professional services to help ramp up service deployments.

### A managed SD-WAN service is the answer

Organizations want to have reliable and high performing access to hosted applications. To do this, they need to add bandwidth while maintaining MPLS-like performance and reliability. Service providers can address this need by offering a managed SD-WAN service based on VMware SD-WAN. By offering this managed service, providers can differentiate their hosted application services and gain a new revenue source while increasing customer satisfaction.

For more information about VMware SD-WAN, visit [www.velocloud.com](http://www.velocloud.com).

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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