SD-WAN Simplified

Isn't SD-WAN really SDN? SDN is an architecture, whereas SD-WAN is a technology that can be purchased. SD-WAN is built on the foundational concepts of SDN.

What is SD-WAN?

Software-Defined Wide Area Network (SD-WAN) is the application of software-based network technologies to WAN connections to more effectively route all network traffic between headquarters or data centers, remote and branch offices, and the cloud.

More simply, it is the method of leveraging the benefits of the cloud, the bandwidth of broadband and existing enterprise-wide network infrastructure to more efficiently and cost effectively transmit media (data, video, voice) and quickly access cloud applications from every location in the network.

SD-WAN dynamically utilizes multiple available connections (MPLS, broadband, LTE) to find the optimal delivery path for traffic across the entire network, shaping the bandwidth as needed to eliminate jitter and dropped data packets, thereby delivering an optimal user experience regardless of location.

The more sophisticated solutions will first attempt to dynamically steer traffic to the best available link and if the available links show any transmission issues, they will immediately apply on-demand remediation to the link to ensure performance of the high priority applications.

Why is it changing the network game?

Traditionally, enterprises utilized dedicated and private, but bandwidth constrained, and expensive MPLS networks for communications between branch offices, to/from headquarter locations, and to access applications and data housed in data centers. Broadband was only considered acceptable as a back-up due to unreliable performance and security concerns.

Then cloud applications (such as SalesForce, Office365, WebEx, etc.) entered the picture and as enterprises moved to utilizing these on a day-to-day basis, MPLS alone was inadequate from an architecture or bandwidth perspective, especially for cloud and real-time applications.

Enterprises needed a method of allowing each enterprise location to quickly, with business grade performance, and continuous uptime, access every other location in the network; data center-located applications and data; and all cloud applications.

Buzzword or the New Normal?

SD-WAN is no longer a buzzword, but a proven technology to deliver the scalability, affordability, and flexibility that enterprises require to support today's evolving technological landscape. Market research giants Gartner and IDC both concede that the technology has reached beyond an early adopter phase and will soon gain wide-scale adoption over the next few years.

- Gartner reports that the SD-WAN market for infrastructure and services will reach $1.3B by 2020. It also reports that while only 5% of the WAN is managed using SD-WAN, by 2019 that market share will increase to 25%.
- IDC forecasts that the SD-WAN market will reach $8B by 2021, growing at a 90% compound annual growth rate (CAGR) for the next several years.

Benefits of SD-WAN

Network Agility: Because SD-WAN is cloud-delivered and software-based, it allows for quick adaptation to changing needs including adding access to cloud-based services, standing up new branches or remote offices, and dynamic routing of all traffic for optimized application and data delivery.

Ease of Deployment: SD-WAN allows for various deployment options including completely cloud- or software-based, hardware based, or a hybrid (cloud/software and hardware). In each instance, all the components are able to connect to each other when brought online and configurations are pushed from the central monitoring and management orchestrator. There is no need for a specialized technician to facilitate installation.

Central Management and Control: A centrally located orchestrator monitors all network activity, alerting of problems, and enabling the remote remediation of issues. The orchestrator enables the automatic push of configurations to each network node and addd accessibility to common software platforms to every location quickly and efficiently. In addition, it delivers real-time analytics and reporting.

Assured Application Performance: SD-WAN boosts the service level and capacity of hybrid networks or of standard broadband Internet links by implementing its unique Dynamic Multi-Path Optimization.

Unified and Robust Security: SD-WAN provides unified secure communications no matter what the underlying transport may be steered across.

Quality of Experience (QoE): Reporting shows the application specific quality of experience delivered by SD-WAN. Application performance is assured, delivering a high quality and capacity WAN via a virtual overlay across multiple links, including private and Internet broadband.

Cost Reduction: Gartner reports that an SD-WAN deployment is 2.5 times less expensive than traditional WAN architectures. The root of this reduction is attributed to:

- Leveraging existing infrastructure to transmit all traffic and access cloud applications (MPLS, broadband, LTE).
- Reducing problem identification and associated remediation costs: Central management and control of network activity eliminates the need to send out trained technicians to assess issues and repair them.
- The lack of need to deploy application-specific hardware or software at each branch location as all locations can access the same cloud-based applications.

VeloCloud Networks, Inc., the Cloud-Delivered SD-WAN™ company, Gartner Cool Vendor 2016 and a winner of Best Startup of Interop, simplifies branch WAN networking by automating deployment and improving performance over private, broadband Internet and LTE links for today's increasingly distributed enterprises. For more information, visit www.velocloud.com and follow the company on Twitter @Velocloud.

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