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Market
Engineering

Analysis of the Software-Defined WAN Market, 2017

An Executive Summary Extract

from Frost & Sullivan Research Report [BCS 11-5](#) (*published Oct 2017*)

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Executive Summary

The SD-WAN market has emerged out of the early adopter stage and entered the growth stage of the product lifecycle. Key factors driving market adoption include: cost savings from efficient usage of private and public networks, ability to optimize hybrid cloud connectivity, and application-aware routing. Below is a summary of key research findings of this report:

- Vendor interviews confirm double digit growth rates in 2016 and 2017 of 16% to 17% for SD-WAN solutions, and a strong pipeline for 2018. 2017 revenues for the SD-WAN market exceeded \$300 million globally, and are expected to grow at a CAGR of 38% to reach \$1.5 billion in 2022. As SD-WAN gains traction and the sales pipeline builds, vendors are focusing their efforts on mobilizing their sales channels.
- North America, specifically U.S., represents 82% of global SD-WAN sales today, with European and APAC markets expected to gain traction throughout the forecast period.
- Most vendors sold their solutions directly to enterprises in the early years. However, the Frost & Sullivan 2016 end-user survey indicates that enterprises are showing a preference toward a managed SD-WAN solution versus the self-managed approach. This preference is driving SD-WAN vendors to build strong partner channels consisting of network service providers (NSPs), managed service providers (MSPs), system integrators, application service providers (ASPs), and value added resellers (VARs). Partnerships with NSPs, in particular, have attracted the most attention from vendors, as NSPs offer services that combine their networks with the managed SD-WAN solution.
- In 2017, a number of SD-WAN vendors introduced integrated solutions with added functionalities, such as integrated routing, integrated WAN optimization, and interoperability with leading security vendors. Most SD-WAN solutions available in the market today have integrated routing functionality that can essentially replace existing enterprise routers.
- Software Defined Networking (SDN), Network Function Virtualization (NFV) and SD-WAN technologies are converging. While SDN and NFV, combined, represent a compelling value proposition for enterprise WAN architectures, SD-WAN makes it better. With the convergence of SDN, NFV and SD-WAN, businesses can use SD-WAN technology to route traffic based on pre-defined policies, change the underlay bandwidth in real-time, and deploy network functions (virtual firewall, virtual WAN optimization, etc.).

Executive Summary—Market Engineering Measurements

SD-WAN Market: Global, 2017

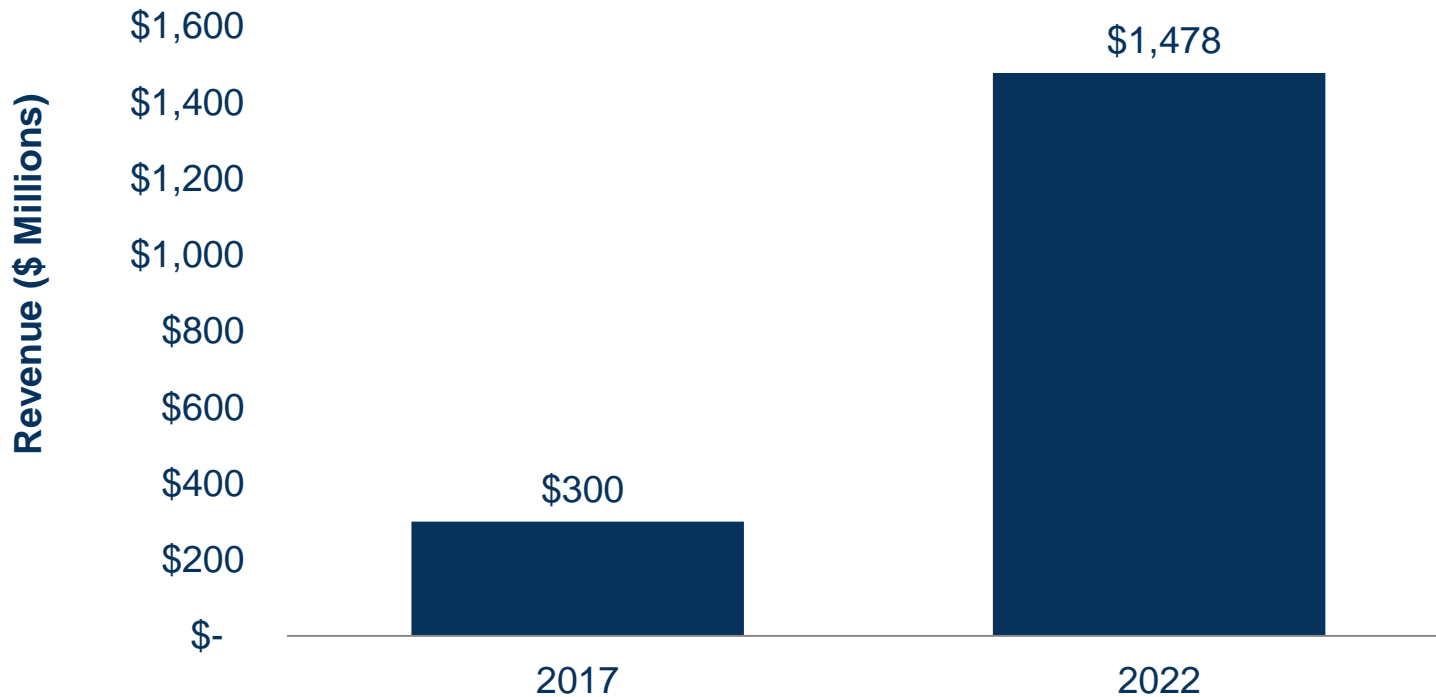
 Market Stage	 Market Revenue	 Market Size for Last Year of Study Period	 Base Year Market Growth Rate
<p>Growth</p>	<p>\$300 M </p> <p>(2017)</p>	<p>\$ 1.5 B </p> <p>(2022)</p>	<p>40% </p> <p>(Global)</p>
 Forecast Period Market Growth Rate	 Customer Price Sensitivity	 Degree of Technical Change	 Market Concentration
<p> 38%</p> <p>(CAGR, 2017–2022)</p>	<p>7 </p> <p>(scale:1 [Low] to 10 [High])</p>	<p>7 </p> <p>(scale:1 [Low] to 10 [High])</p>	<p>~56.0%</p> <p>(% of market share held by top 3 companies)</p>

Decreasing  Stable  Increasing 

Note: All figures are rounded. The base year is 2017. Source: Frost & Sullivan.

SD-WAN Market: Total Revenue Forecast, Global, 2017 & 2022

SD-WAN Market: Total Revenue Forecast, Global, 2017 & 2022

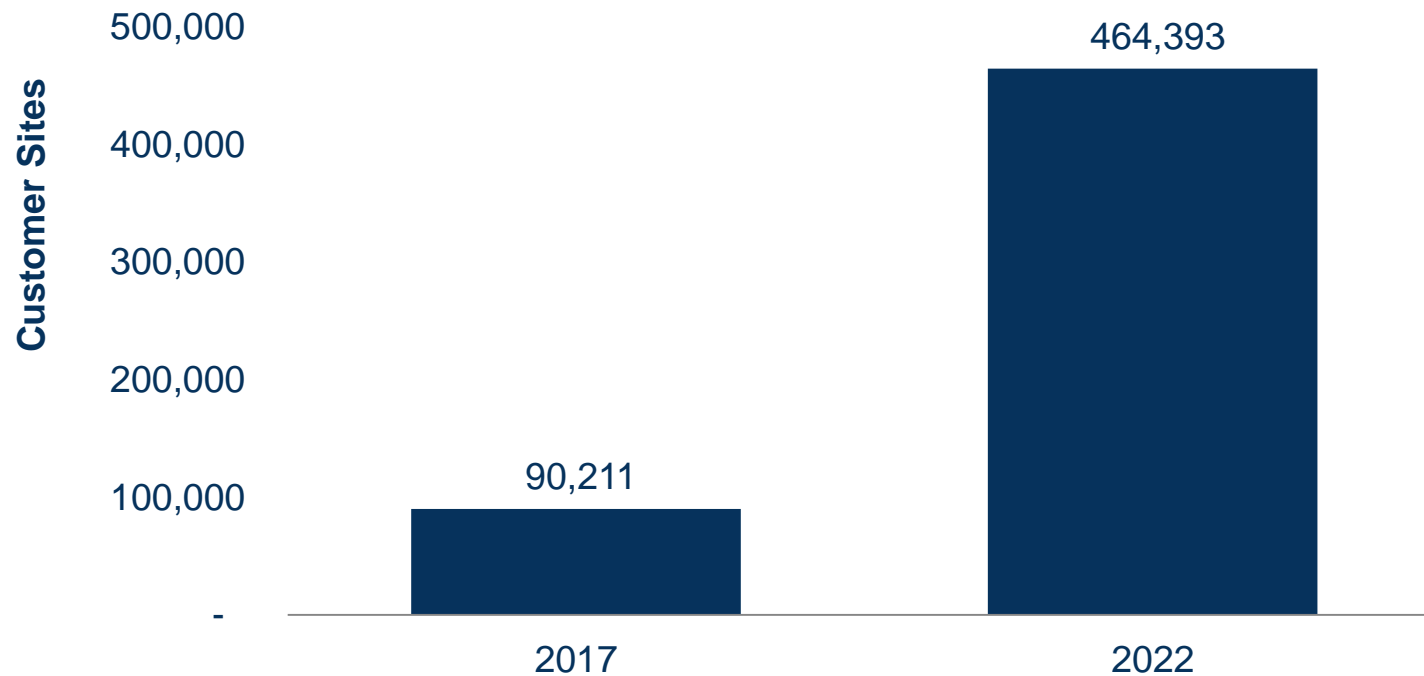


SD-WAN market revenues are expected to grow in higher double digits throughout the forecast period as it enters the growth phase of product lifecycle.

Note: All figures are rounded. The base year is 2017. Source: Frost & Sullivan.

SD-WAN Market: Total Customer Sites Forecast, Global, 2017 & 2022

SD-WAN Market:
Total Customer Sites Forecast, Global, 2017 & 2022

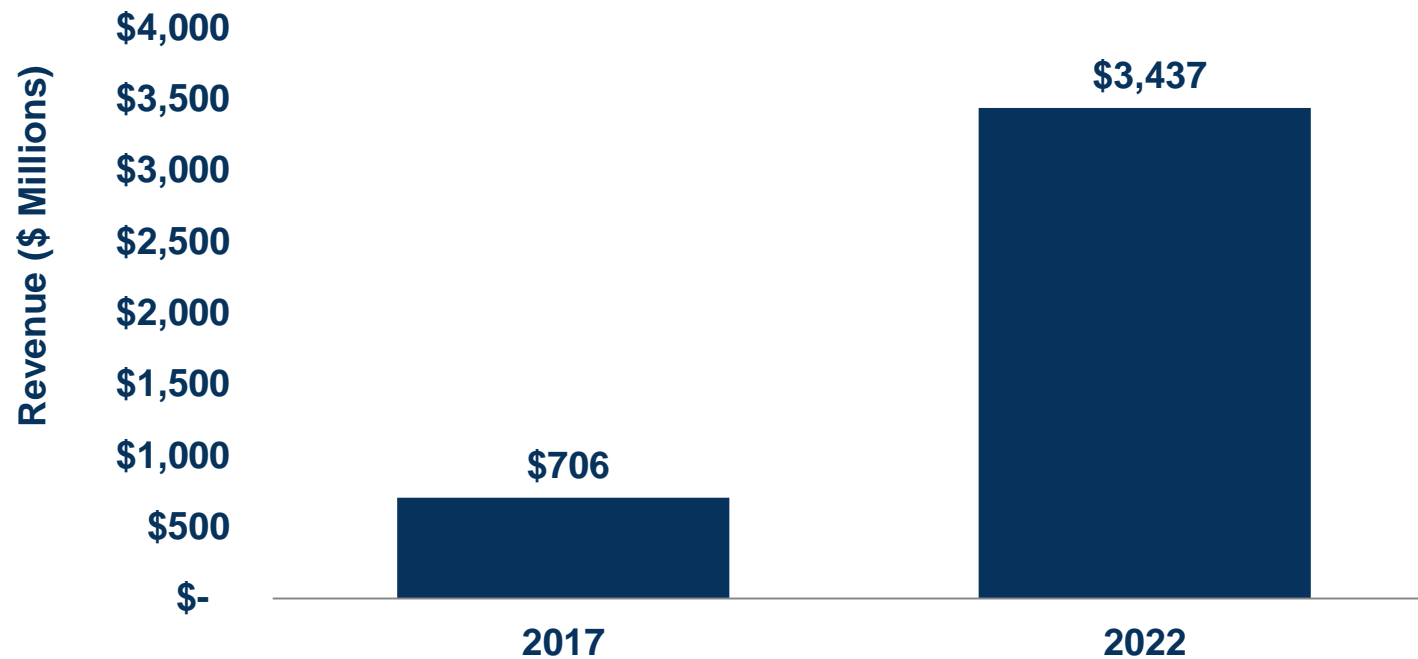


90K plus SD-WAN sites are operational in 2017, globally. The numbers of sites are expected to grow 35-45% to reach 450K plus sites by 2022. The gradual increase in the number of sites is because of the phased approach users take to deploy sites. While the initial contract is signed for the total number of sites, the rollout is typically in phases spread over 6-12 month period, or more.

Note: All figures are rounded. The base year is 2017. Source: Frost & Sullivan.

Managed SD-WAN Market: Total Revenue Forecast, Global, 2017 & 2022

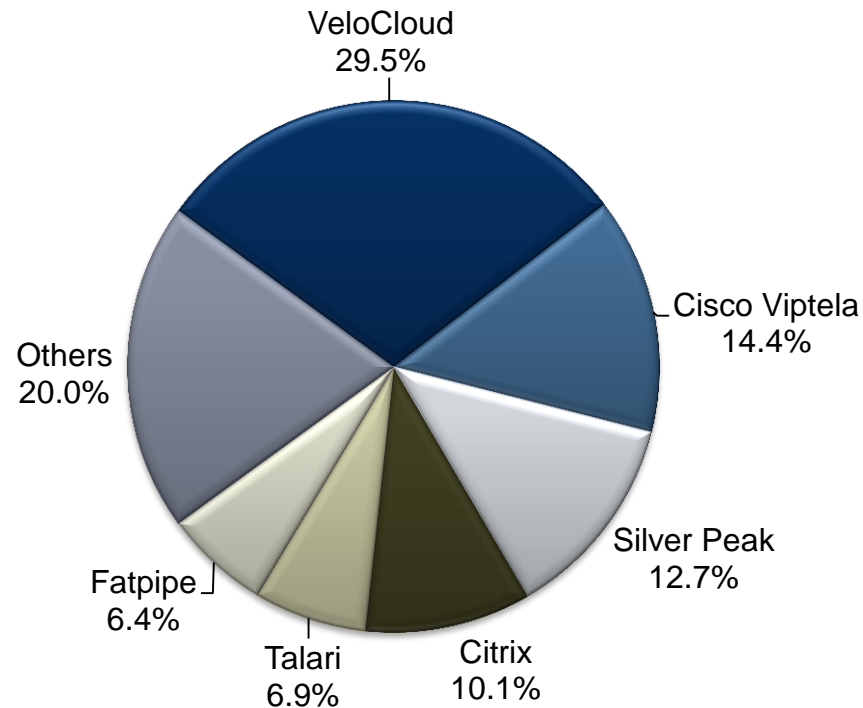
Managed SD-WAN Service Market:
Total Revenue Forecast, Global, 2017 & 2022



Note: All figures are rounded. The base year is 2017. Source: Frost & Sullivan.

SD-WAN Market Shares, 2017

**SD-WAN Market:
Market Shares by Revenue, Global, 2017**



VeloCloud leads the global SD-WAN market with a market share close to 30%, followed by Cisco Viptela and Silver Peak. The “Others” category includes Versa Networks, CloudGenix, Mushroom Networks, Aryaka, and multiple other SD-WAN vendors that each have annual revenues less than 10 million.

. Note: All figures are rounded. Source: Frost & Sullivan.

Competitive Factors and Assessment

The SD-WAN competitive landscape has evolved significantly since mid-2016. While the market players still involve a mix of SD-WAN start-up vendors (such as VeloCloud), WAN optimization vendors (Riverbed), security vendors (Fortinet), and WAN specialists (Cisco), the lines are blurring among these vendor offerings. For example, start-up SD-WAN vendors are adding routing and security functions to their products; WAN optimization vendors have evolved their offerings to offer integrated routing, WAN optimization and security functions; and security vendors are entering the SD-WAN market with an emphasis on security. The evolution of different vendor strategies to offer integrated multi-function capabilities is expected as the industry shifts to a virtualized model and NFV makes inroads into vendor platforms. SD-WAN is expediting this evolution by injecting virtualization into the enterprise WAN edge.

Currently, there are around 30 SD-WAN vendors in the market with varying levels of product maturity. Notable among those with mature product offerings include VeloCloud, Versa Networks, CloudGenix, Silver Peak, Riverbed, Citrix, Fatpipe, Nuage Networks, Talari, and Cisco Viptela. Cisco acquired Viptela in May 2017, and has stated that it will lead with the Viptela SD-WAN solution for all new sales.

VeloCloud is the global SD-WAN market leader with highest revenues and customer site deployments, followed by Cisco Viptela and Silver Peak. Cisco Viptela's market share is wholly based on Viptela's revenues, which has retained its traction since its launch in 2014. Cisco intends to integrate Viptela's SD-WAN solution into its enterprise routing platforms, which should help the company retain its router customers. Silver Peak has been very successful tapping into the midsize business segment through its existing channel partner network; that strategy has resulted in the company's quick rise to the #3 market share position. Similarly, other WAN specialists such as Talari and Fatpipe have offers that have evolved to offer integrated routing and WAN optimization capabilities.

As indicated in the market trends section, integrated SD-WAN and WAN optimization solutions from Riverbed and Citrix are fairly new in the market and, hence, represent a smaller share of the market. However, these vendors are in the process of mobilizing their existing global WAN optimization sales channels to start selling SD-WAN solutions—a move that is expected to positively impact their sales throughout the forecast period.

VeloCloud

VeloCloud Cloud-Delivered SD-WAN consists of the following:

- **VeloCloud Edge** in physical or virtual form-factors: The VeloCloud Edge recognizes 2,500+ applications, and steers application traffic over the right WAN link, or remediates it when required, based on business policy and continuous real-time assessments of the WAN links.
- **VeloCloud Gateways:** VeloCloud Gateways are deployed at top-tier colocation and IaaS locations around the world. The software gateways provide cloud-delivered services, performance, reliability, and secure optimized paths from all branches to IaaS and cloud applications.
- **VeloCloud Orchestrator:** The VeloCloud Orchestrator provides centralized configuration, business policy definition, real-time monitoring, analytics, and one-click provisioning of virtual services.

VeloCloud SD-WAN offers a multi-tenant, multi segmented architecture with gateways integrated within service provider and cloud provider network architectures. The cloud-based solution delivers a broad set of integrated capabilities as a Virtual Network Function (as opposed to the traditional hardware-centric model), which includes network overlay control, dynamic path selection, application performance monitoring, application access control, network and app visibility, and other services.

2017 Highlights

- In September 2017, VeloCloud announced the new [VeloCloud “Ready Set GO” Program](#), which turns up an end-to-end Service Provider SD-WAN solution in 30 days or less. The timing of this announcement is auspicious considering the immense traction SD-WAN has seen in the service provider market, pushing service providers to quickly launch SD-WAN services. VeloCloud also announced crossing the milestone of 50 paying worldwide Service Provider partners.
- Introduced the SD-WAN Security Technology Partner Program that includes security companies such as IBM Security, Check Point Software Technologies, Forcepoint, Fortinet, Symantec, VMware and Zscaler. Service provider partners and enterprises will now be able to service-chain their preferred interoperable security products with SD-WAN.

GTM Strategy: VeloCloud sells to enterprises through a global channel partner network that includes network service, managed service providers and system integrators. The company’s cloud-based architecture has been popular with managed services providers, which integrate VeloCloud solutions with their own core networks to offer better application performance, speed up deployment times, and reduce bandwidth costs for their customers. As of September 2017, VeloCloud has over 1,000 paying enterprise customers, comprising more than 50,000 customer sites. Its global network of more than 150 channel partners includes: AT&T, Sprint, IBM, CHT Global, CBTS, GTT, Global Capacity, Megapath, NetOne Systems, Macquarie Telecom, Meriplex Communications, MetTel, Mitel, Netregy, Newcloud Networks, Saicom, Telstra, TPX Communications, Vonage, and Windstream. The majority of VeloCloud’s sales come from North America, followed by Europe and APAC.

Pricing & Contracting Models: Subscription-based model with 1, 3 or 5 year contracts.

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