

Understanding the SD-WAN ecosystem: 8 leading SD-WAN providers

With several, complex SD-WAN offerings available and different players able to provide on-demand SD-WAN and multi-cloud networking capabilities, the SD-WAN ecosystem and market is becoming an increasingly interesting area and a potential battleground. This article provides an overview of the leading SD-WAN providers.

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August 2021

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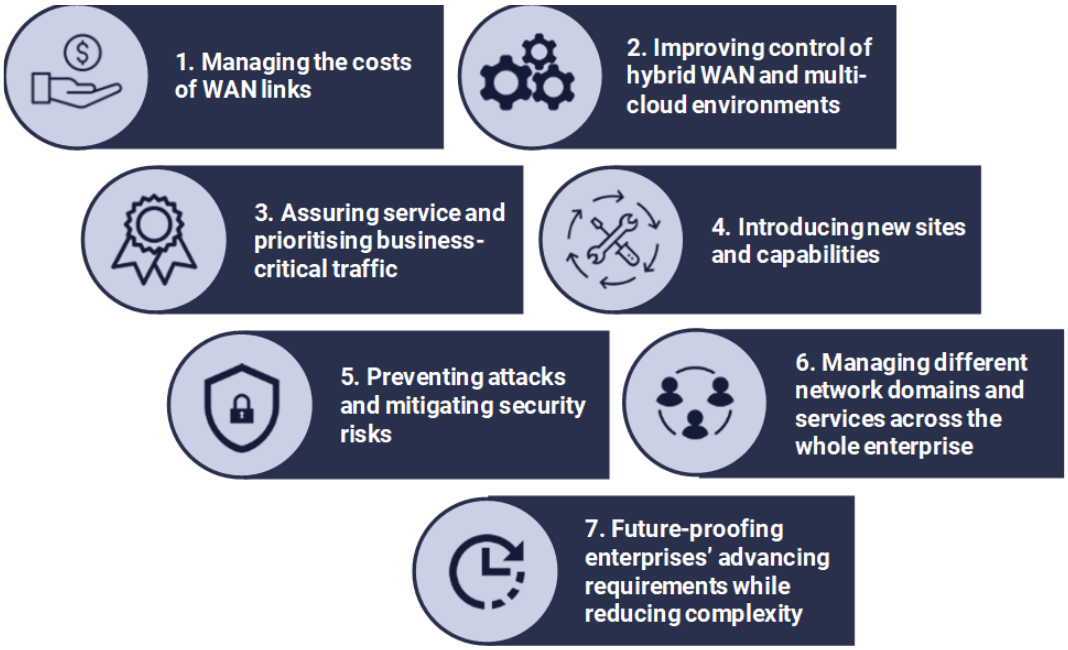
Understanding the SD-WAN opportunity

With several solutions in the market and a vast ecosystem of players, SD-WAN provides an exciting opportunity for companies to vastly simplify their existing WAN architecture while simultaneously cutting costs and increasing business agility. SD-WAN has also been one of the key early drivers of NFV/SDN deployments, particularly among North American operators, and has been in the process of evolving into an increasingly cloud-centric and cloud-native service.

Different SD-WAN solutions align themselves in various ways with different enterprise priorities. Some SD-WAN solutions offer included end-to-end VPN options as standard where others work well with IoT items, such as security cameras, alarms, and sensors. Other SD-WAN offerings are designed to provide clear, reliable voice and video connections or outstanding connections to SaaS platforms such as Salesforce.

SD-WAN is also an exciting opportunity because of its ability to simplify existing WAN architecture. By replacing proprietary, built-for-purpose stacks with whiteboxes and improving automation capacity SD-WAN often **greatly improves technicians' quality of life**, allowing them to focus on other work. SD-WAN is also generally cheaper than MPLS, but price can still be a sticking point for some feature-heavy SD-WAN options. Though installation is often relatively easy and support from major vendors is strong, it is important to make sure your company can handle installation and upkeep, or afford external maintenance.

Figure 1: How SD-WAN enables enterprises with scalability, flexibility and agility



Source: STL Partners

We see SD-WAN also becoming an increasingly interesting area and potential battleground with overlaps between operators, hyperscale cloud providers and vendors, with the latter two groups able to offer on-demand SD-WAN and multi-cloud networking services that bypass telco networks and managed services, or even relegate telcos to the role of basic connectivity providers and resellers. We explore this in more detail in our recent report: 2020 in review and focus on North America: How should telcos do cloud?

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There are several large, well-known vendors offering competing services, this article highlights a few of them, example customer deployments and partnerships or engagements with telco operators.

Overview of the leading SD-WAN providers

1. Aryaka

Aryaka positions itself as being the cloud-first SD-WAN company. One of the ways Aryaka differentiates itself from its competition is that it allows for easy connectivity to China and other countries in Asia despite regulatory hurdles and security requirements. The company also prides itself on its customer service support and its ability to deploy quickly in nearly any country in the world.

Example deployment:

- Aryaka worked with a medium-sized industrial manufacturing company that was having application performance issues for their remote users based in China and workers in their Singapore office. Their existing MPLS network was also costly. To overcome these issues, they chose Aryaka SD-WAN. As a result, they increased application performance, including Microsoft 365 access as well as reducing TCO by between 10-25%.

Example partnerships with telco operators:

- Aryaka has an agreement with SK Broadband to offer the former's SD-WAN services, including access to Aryaka's ethernet network connecting PoPs throughout the world.
- It also has a partnership with China Mobile through which Aryaka will use China Mobile's longhaul connections to deliver SD-WAN services to global enterprises with operations in China.

2. Cisco Meraki and SD-WAN powered by Viptela

With more than 30,000 SD-WAN edge customers, Cisco is a behemoth. They have well-established links with many of the largest companies across a broad range of sectors (some form of deployment in 70% of Fortune 100 companies).

They have two distinct offerings: Cisco Meraki and Cisco SD-WAN powered by Viptela. Meraki positions itself as an easy-to-implement offering, primarily aimed at small to medium-size enterprises. It advertises a high failover which works to ensure network resilience, robust support for Wi-Fi and security cameras, and scalability.

Cisco Viptela targets larger, enterprise customers with more features, a stronger ability to automate routine processes such as installing or upgrading software, and the ability to handle larger, more complex networks. Cisco has brought their solutions to a range of businesses including industry leading Fortune 500 companies all the way to conservation charities with an eye on the past, including the National Trust, which manages castles and other historically significant places in England, Wales, and Northern Ireland.

Example partnerships with telco operators:

- Cisco is working with a host of different operators globally. For example, Cisco has an ongoing partnership with MTN Business to deliver Cisco Meraki and Viptela SD-WAN solutions to enterprise customers.
- Orange Business Services is also working with Cisco on its own 'Flexible SD-WAN'-branded multi-vendor SD-WAN offering.

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3. Fortinet Secure SD-WAN

Just as the name would have you believe, Fortinet Secure SD-WAN offers in-built, industry-leading security. Fortinet claims that its in-built security sets it apart from its competitors. For instance, with Cisco Meraki, many companies opt to purchase security features from Umbrella to complement and complete the service offering. Fortinet's SD-WAN is also feature-rich and scalable which caters to businesses that require agile, feature-rich and, most importantly, secure SD-WAN.

Example deployment:

- During the pandemic Fortinet helped Banco Fibra, a wholesale bank based in Brazil, to migrate 100% of its staff to a secure remote working environment using existing FortiGate and FortiClient solutions. The public health situation in Brazil made it necessary for the staff of the bank to work from home. Due to the sensitive nature of the work security was essential which made the task far more difficult. However, in less than 10 days Fortinet enabled this transformation.

Example partnerships with telco operators:

- In the Middle East, Fortinet has partnerships with the likes of du, Oorderoo and Zain to provide managed SD-WAN and security capabilities for enterprises, for example to SMEs in Kuwait.
- In North America, GTT Communications also introduced Fortinet's Secure SD-WAN as part of a multi-vendor managed SD-WAN services portfolio. This leverages dedicated Fortinet appliances combining next-generation firewall, SD-WAN, routing and edge computing capabilities.

4. Juniper Networks

Juniper's SD-WAN focuses on end-user experience, simplicity, and security. Juniper's Mist AI is designed to maintain a strong end-user experience, delivering insights and automatic troubleshooting of issues affecting user experience. This strong ability to automate also helps to simplify day-to-day operations freeing up time for technicians to focus on other important business tasks. Finally, Juniper claims to offer one of the most secure SD-WAN offerings currently available with Zero Trust session integrity and Secure Vector Routing to help ensure a simple, secure SD-WAN. Juniper also recently acquired the start-up company 128 Technology to boost its enterprise AI and edge capabilities.

Example partnerships with telco operators:

- In September 2018, Vodafone selected Juniper as an Enterprise Global SD-WAN Partner. This partnership involves the deployment of Juniper's Contrail SD-WAN solution across Vodafone's global networks, intended to support Vodafone's forthcoming 'Ready Network' product. The solution included Contrail Service Orchestration, providing automated implementation, management and assurance of multi-domain networks along with a customer portal for managing the WAN from end to end. The service used the Juniper NFX Series as a uCPE on which the VNFs forming the service - including advanced firewall - were installed at each enterprise site.

5. Palo Alto Networks

Primarily known for network security and firewalls, Palo Alto Networks was found in 2005 by Nir Zuk. They position their offering as being a true next-gen SD-WAN because it is "application defined" meaning that the

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WAN can understand what applications are running and so what priority certain traffic should have. This is meant to lead to more efficient networking and a greater ability to meet specific business requirements. Palo Alto has also acquired SD-WAN provider, CloudGenix in 2020.

Example deployment:

- AutoNation, an automotive retailer, wanted to reduce costs and simplify their network while also increasing reliability and application access. To do this they decided to move from a legacy MPLS system to Palo Alto Networks Prisma SD-WAN. This helped them achieve their goals while also reducing their telco budget by 25%.

Example partnerships with telco operators:

- Palo Alto is also working with Orange Business Services, where OBS is leveraging Palo Alto's Prisma SD-WAN and Prisma Access as an integrated SASE solution.

6. Silver Peak

Sliver Peak, now part of Aruba (a Hewlett Packard Enterprise company), positions its SD-WAN solution as providing both strong control as well as agility and economic efficiency. The former is provided by private the latter pair is provided by public broadband and cloud. The CEO of Silver Peak — David Hughes — wants to reimagine SD-WAN not as software-defined wireless access networking — which is the canonical expansion of the abbreviation — but as self-driving WAN, a WAN that can intelligently meet and maintain specific business requirements, such as application performance, automatically.

Example deployment:

- A leading financial software firm works with Silver Peak to implement an EdgeConnect SD-WAN edge platform in order to boost end-user application performance. The company was using MPLS to connect over twenty branch offices to their US headquarters. With SilverPeak they moved to dual bonded commercial internet circuits and entirely decommissioned MPLS reducing costs significantly.

Example partnerships with telco operators:

- Silver Peak has an ongoing relationship with Verizon Business that taps into its Unity EdgeConnect edge platform, using the Unity EdgeConnect CPE together with the cloud delivery of the SD-WAN software and controller functions, integrated with WAN optimisation.
- KDDI's London-based subsidiary, KDDI Europe, has also adopted Silver Peak's SD-WAN platform to serve global enterprises. The platform is either delivered either via dedicated appliances at enterprise sties, generic uCPE appliances or the cloud.

7. Versa Networks (OS)

Versa Networks has been targeting global, security-focused, or cloud-first businesses. It claims to provide excellent scalability, deployment, flexibility and security. Versa OS claims to be the only SD-WAN offering that combines SD-WAN, network security, advanced routing, and secure access in a single piece of software. Versa also has another SD-WAN offering, known as Versa Titan, which is targeted at lean IT environments.

Example partnerships with telco operators:

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- Versa Networks is working with Deutsche Telekom to develop an SD-WAN service solution based on Versa Secure SD-WAN, and has launched it in a series of markets, including Austria, Czech Republic, Poland, Slovakia and Croatia.

8. VMware SD-WAN by VeloCloud

The virtualisation giant, VMware, boasts over 9,000 SD-WAN customers. In December 2017, it acquired another SD-WAN market leader, VeloCloud, and its roster of telecommunications and large enterprise customers. VMware's SD-WAN does not target one particular use case, it can be deployed at any scale to companies in nearly any industry.

Example deployment:

- One instance of VMware SD-WAN deployment was with Redmond, a leading sea salt brand in the United States, that was undergoing rapid expansion. To manage this expansion as well as their increased need to operate voice and multiple virtual desktops they chose a VMware SD-WAN solution to replace ageing branch infrastructure. As a result, they delivered high-quality VOIP and virtual desktops company-wide, increased performance for internet-bound traffic by 50%, and significantly reduced OpEx.

Example partnerships with telco operators:

- In November 2020, Lumen Technologies has announced a partnership with VMware and the addition of the VMware VeloCloud SD-WAN platform to Lumen's multi-vendor managed SD-WAN portfolio.
- BT has also introduced a managed services version of VMware's SD-WAN platform, and at the time of the announcement, it is the first offering in a new BT portfolio of "cloud-optimised managed network services" aimed at multinational customers.

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