The many flavors of SD-WAN

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Insight and Innovation

Choosing SD-WAN is a no-brainer for many enterprises. It provides them with greater flexibility and control, and the agility to succeed in today's fast-paced world. But given the large number of SD-WAN vendors and service providers flooding the market, which flavor of SD-WAN to purchase is a much tougher decision.

Wide-area network (WAN) connectivity is critical to modern enterprises, connecting them to the world, integrating daily operations in remote sites or branch locations, and handling traffic from e-commerce. But seamless and cost-effective connectivity – fast, secure and robust – is becoming ever more difficult to achieve, as data demand inexorably evolves and grows.

This is why software-defined wide-area networking (SD-WAN) is being held up as a panacea for enterprise connectivity. SD-WAN technologies function like overlay networks for existing WANs, allowing organizations to intelligently direct and manage their traffic flows from a central location. This can allow network engineers to ensure seamless connectivity, while also slashing costs by better utilizing the organization's network or even replacing some of its expensive existing infrastructure with cheaper broadband links.

For these reasons, over 50 providers of SD-WAN services have emerged in recent years. Such a buoyant market has inevitably led to fierce competition between these rivals. But what USPs will help these companies differentiate themselves?

Known name

The most obvious differentiator is reputation. Supplying such a business-critical service, for many enterprises it is important to know and trust their SD-WAN provider. From BT, Cisco and Citrix to Oracle, NTT and Virgin, a lot of familiar names have entered the SD-WAN fray in the past couple of years. Many have partnered with or acquired businesses that provide SD-WAN technologies in order to enter the market rapidly. For example, BT leverages the power of its network with SD-WAN hardware from Cisco Meraki. Similarly, Virgin is partnering with Versa Networks to offer SD-WAN as a service, while Oracle simply acquired Talari Networks wholesale in 2018.

Beyond providing SD-WAN to their business customers, the aim of this strategy for these incumbent network solution providers is to integrate SD-WAN into their existing cloud services to deliver multi-cloud networking. For this purpose, SD-WAN offers the capability to virtualize a network securely, creating software-based secure tunnels across clouds and data. This can help enterprise customers adopt hybrid cloud to increase flexibility and reduce cost, while optimizing their existing IT investments and expertise.

Some SD-WAN vendors, like Nuage Networks, have recognized the pain points for SD-WAN service providers in achieving these ambitions. They have taken the opportunity to offer a more holistic option to these SD-WAN service providers so that they can manage multiple clients from a single platform. These platforms are not only capable of supporting multiple tenants, but are also easy to white-label and provide simple ways to connect existing multiprotocol label switching (MPLS) networks with new SD-WAN networks.

Features and functionality

The reason these high-level SD-WAN vendors and their associated SD-WAN service providers have not pushed out their rivals boils down to the variety of features and functionality different solutions provide enterprise customers.

For example, one of the key differentiators for businesses is security, particularly when it comes to direct internet access. Though almost all SD-WAN companies offer security solutions, often through partnerships with security specialists, the likes of Fortinet, Barracuda and Cisco Meraki are already well-known for delivering firewalls for complex networks. Their SD-WAN offerings combine a complete set of SD-WAN capabilities with advanced, multi-layered security technologies in a single unit.

Other competitors in this space position themselves as experts in network optimization, essentially ensuring optimal user experiences by guaranteeing applications perform optimally on local machines. WAN optimization vendors like Silver Peak, Citrix and Riverbed claim their technology provides enhanced application detection, thereby improving accuracy to allow informed routing or security decisions and hence boosting quality of service (QoS) for remote users.

With a similar benefit to end users, another group of SD-WAN providers are pitching their products as cost-effective alternatives to end-to-end MPLS. They sidestep the public internet and offer improved end-to-end QoS via controlled private networks. Some of these providers focus on offering improved on-ramps that provide direct access to public cloud infrastructure, like Amazon Web Services or Microsoft Azure, and popular SaaS services, such as DropBox, Office365 and SalesForce. Others have built an SD-WAN-driven parallel private business internet. For example, the global SD-WAN's of Aryaka and Cato Networks have tens of points of presence across six continents, delivering superior network transport with built-in cloud and SaaS connectivity.

Solutions tailored to business needs

That new entrants continue to plunge into the SD-WAN market shows that there is room for more vendors and service providers of all different sizes whose technologies meet customer requirements. As a result, it is looking increasingly likely that no single SD-WAN vendor or service provider will dominate the market. Instead, growth will be driven by a large number of players offering different flavors of SD-WAN that have services and functionality tailored to different business needs. The only drawback of this increasingly diverse and growing landscape is that it is ever harder for customers to decide which solution is fit for their specific purpose.