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WHITE PAPER

SD-WAN

WHAT ENTERPRISE IT LEADERS NEED TO KNOW

SD-WAN: Is It Worth Considering?

Enterprises around the globe share the universal challenge of providing high-performance networking connections as they increase their dependence on cloud-based applications and services, add new branch facilities, and accommodate bandwidth-intensive trends such as mobility and the Internet of Things (IoT). These developments are driving today's near-insatiable demand for bandwidth that is secure, affordable and capable of providing improved performance. Many IT leaders are adopting, or at least evaluating, the still-nascent technology of software-defined wide area networking (SD-WAN).

The combination of software-defined networking (SDN) and virtualization technologies promises reduced costs, better application performance, greater visibility into cloud-based applications and network performance, unprecedented flexibility, ease of use and more. It presents a compelling case as an attractive alternative to traditional hardware-centric networking architectures, specifically those based on more expensive multiprotocol label switching (MPLS) circuits.

SD-WAN
59%
expected CAGR

Yet, despite the potential of these frequently hyped benefits, SD-WAN is still in the early stages of adoption. In fact, based on 2016 research, Gartner predicts that enterprise spending on SD-WAN will grow tenfold by 2021 with a compound annual growth rate (CAGR) of 59 percent.[1]

While some businesses ranging from retail to banking to manufacturing are implementing a degree of SD-WAN, most large enterprises are still in the evaluation stage for a variety of valid reasons. It requires a new set of software skills for in-house staff who are trained in working with physical routers and switches; causes concern of abandoning investments in hardware-based network architectures; and potentially ushers in an overall cultural shift within IT departments.

Nevertheless, SD-WAN is worth some serious consideration for any modern enterprise IT department.

The Case for SD-WAN

SD-WAN allows enterprises to connect branches and move applications to the cloud over affordable broadband, all while providing users greater bandwidth. And, since it enables network configurations and traffic routing to be directed through centralized software controllers over the Internet, it reduces dependence on labor-intensive premise-based hardware, offering lower total cost of ownership (TCO).

"SD-WAN could be great," according to Cannon Group Vice President of Strategic Sourcing, Stan Burkin. "There are potential cost savings; it simplifies and consolidates IT solutions, and since it is by definition software-defined, users can download it into their on-site box rather than adding new equipment. But its fit and realization of benefits really depend on the network that is in use today and the requirements of each individual site."

If an MPLS network is utilized today, migrating to broadband or Internet and layering on SD-WAN will provide a similar experience at a lower price and with service level agreements (SLAs). Another major benefit of SD-WAN is visualization into performance of cloud-based applications and the network.

"If an enterprise is dependent on MPLS, SD-WAN can be very helpful," notes Burkin. "But before beginning the SD-WAN journey, **IT leaders need to ask: Does it make financial sense for my company? How much MPLS do we need to maintain for business critical traffic? Is my IT team ready for the sea change that SD-WAN will introduce to their world?**"

An important benefit of introducing SD-WAN is that it can be implemented gradually to fit a business' comfort level. Whether it is intended to be an MPLS augmentation or total replacement over time, it can be introduced gradually, with no need for an immediate rip and replace of a current infrastructure.

Because SD-WAN replaces physical routers and other customer premises equipment (CPE), an important consideration for the timing of implementation involves whether the enterprise owns or leases equipment and where it is in the depreciation or lease lifecycle. Redundancy is another component of the decision-making process. What level is needed, how is it provided and how will SD-WAN complement or augment that part of the enterprise strategy.

Here's the bottom line in determining whether SD-WAN is right for a specific enterprise:

It's a complicated decision, involving many fast-moving considerations.

For internal IT departments already at full capacity, adding an SD-WAN evaluation and determining the right sourcing, implementation and management strategy is, simply put, an unrealistic overload.

That's why it is critical to garner the right resources and conduct a thorough evaluation when determining whether, when and how SD-WAN is right for your business.

Navigating the Complicated SD-WAN Landscape

A trusted third-party advisor can provide great value in guiding IT decision makers through the SD-WAN journey, from strategy to sourcing, migration and ongoing management. In making a selection, it is important to consider a firm that has a team of consultants who know the vendors, their pricing and differentiators, exactly what questions to ask, and be ready to provide a proven roadmap of the entire adoption process.

"We see all of the vendors and their offerings, which vary widely. We bring in-depth vendor knowledge, and are able to create an apples-to-apples comparison of pricing and products —exactly what each one delivers," adds Burkin. "We also have the capacity to share what we are observing across the entire industry. For example, **all IT executives are intrigued by SD-WAN and its potential benefit to their network environments, but most have not determined exactly how it will deliver cost savings.** "We help bring the business case to light by showing what the savings could be and exactly how they will be realized."

> **"You can expect to realize 30 to 40% savings on the total cost of your network, while increasing your bandwidth … and it is deployed much faster than MPLS."**

Reinforcing the complexity of evaluating the vendors and their offerings, Mike Champion, founder and chief executive officer of Xcelocloud, has observed that **the SD-WAN market has become "a crowded space.** There are literally 30-plus providers; some you've heard of and some you've not. They are all making similar claims: 'We can save you 50 percent plus on your network costs, deploy it 10 times faster than MPLS, and we can give you anywhere from two to 10 times the bandwidth at the same time.' Some of those claims are true, and some are not.

"We believe that, realistically, you can expect to realize 30 to 40 percent on the total cost of your network, while increasing your bandwidth (the amount varies), and it is deployed much faster than MPLS. And here's more good news: SD-WAN is a much better overall experience than what people have had with large carriers deploying MPLS networks over the last 10 years, which has been challenging to say the least."

Navigating the Complicated SD-WAN Landscape (continued)

From the smallest niche players with pure-play SD-WAN offerings to incumbent networking hardware vendors and the largest telecom providers, there is a great deal of information and business claims being communicated to the market. There are also significant differences in services provided, requiring decisions such as cost and licensing models (capex/opex); managed services; cloud gateways/points of presence; WAN optimization, and more. Evaluating it all requires a high level of industry expertise to sort through the many diverse providers and additional considerations such as:

- **Some providers offer their own solutions; others (specifically the large carriers) partner, which may or may not be transparent**
- **Every offering includes different technology options**
- **Price points can have wide swings**
- **Implementation strategies can range from a small, trial MPLS augmentation to a full replacement; connecting one specific facility or adding a new application with a dedicated SD-WAN connection**
- **The decision of whether to manage the selection and implementation internally, select a third party, or opt for a complete managed services approach**

Burkin further explains, **"Although the technology is still young, SD-WAN has great promise for the enterprise IT community.** At Cannon Group, we are seeing a high level of interest with just about every IT executive doing due diligence."

Gartner also predicts, "By 2020, more than 50 percent of WAN edge infrastructure refresh initiatives will be based on SD-WAN versus traditional routers (up from less than two percent today)."[2]

As enterprises begin developing their own individual business cases to evaluate SD-WAN, many are turning to outside advisors for help.

Four Steps to a Successful SD-WAN Migration

Changing network infrastructure can be a foundational disruption for any modern enterprise if it is not properly and professionally executed. The right third-party advisor knows the questions to ask and the processes to implement to guide any enterprise IT department through this important transition. Here are four critical steps to consider when embarking on an SD-WAN migration.

Step 1 — Strategy

The right strategy lays the essential foundation, and it starts with building the business case, answering questions such as:

What is driving my consideration? Cost reduction, increasing cloud and application dependence, greater broadband utilization, faster and more agile provisioning or perhaps, keeping up with the latest technology buzz.

Am I considering SD-WAN as an MPLS **augmentation or total replacement**, for redundancy, or perhaps to enable a specific new application?

What is the right timing, considering the status of current carrier/ISP contracts? For leased or owned CPE, where are we on the life cycle of contracts or depreciation schedules?

Is my staff ready to take on this process, or do we need third-party help?

Should my SD-WAN implementation be for **MPLS augmentation** or an **eventual replacement**?

Is it right just for specific branch offices or other facilities, or should we adopt enterprise-wide SD-WAN?

Step 2 — Selection and Sourcing

Crowded with a wide spectrum of vendors, the SD-WAN market merits knowledgeable and experienced professionals to help in-house IT teams analyze and evaluate not only the various solutions, but also the stability and reliability of the companies behind them. Creating a thorough apples-to-apples evaluation, negotiating a contract, managing an RFP or developing a procurement strategy is a service that the right trusted professionals can take off the already-stuffed plate of an internal staff.

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Step 3 — Implementation and Technology Migration

Dedicated third party project managers with the right technical knowledge and industry experience can relieve internal management and their staffs of the many critical, but time-consuming and sometimes tedious processes in this pivotal phase. From project management through installation and cutover, a trusted advisor knows exactly how to handle and ease the entire implementation and migration process.

Step 4 — Management

Once implementation is completed and new SD-WAN connections are up and running, there is ongoing management, maintenance and perhaps planning for expansion to additional sites.

"SD-WAN is one of the most buzz worthy trends we see in the networking market place today, and we are still early in its lifecycle, especially when you consider that the shift from frame relay to MPLS spanned some 10 to 12 years, which is typical for this type of technology migration," adds Xcelocloud's Champion.

Selecting the Right Trusted Partner

"SD-WAN is not straightforward," summarizes Burkin. "The key to its success is knowing what the vendors are offering, what's included or not, and the staying power of the companies themselves. They are changing constantly, both their solutions and pricing."

Clearly, the decision to adopt SD-WAN, and subsequently managing its sourcing, implementation and ongoing maintenance, is a complicated and resource-intensive process. Choosing the right third party resource, a trusted firm that brings the experience, knowledge, vendor neutrality and marketplace reputation can smooth the journey for any enterprise IT team.

[1] Gartner Forecast Analysis: Enterprise Network Equipment, Worldwide, 1Q17 Update, April 11, 2017

[2] Gartner High-Tech Tuesday Webinar: SD-WAN Forecast and Opportunity - How SD-WAN Will Disrupt the Router Market. 5 December 2016.

About Cannon Group

Cannon Group is a trusted expert in managing costs and migrating technologies in large, complex IT environments. As a private telecom management firm based in Blue Bell, Pa., Cannon Group has the experienced people, processes & tools to deliver value, efficiencies and results. Our portfolio of solutions includes Strategic Sourcing, Telecom Expense Management and Managed Mobility, as well as Project Management to oversee complex migrations.

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