

## **BENEFITS OF SD-WAN: SD-WAN BENEFITS OVER A TRADITIONAL ENVIRONMENT**

Discover the key benefits of SD-WAN. SD-WAN brings benefits over a traditional environment incl. cost savings, traffic prioritisation & more flexibility.

Yesmean Luk, Senior Consultant

Software-defined wide area networks (SD-WAN) manages networking hardware using a cloud based, software-based controller, which allows for remote control and configuration of the equipment. SD-WAN brings with it several benefits over a traditional environment. This includes the possibility of businesses replacing in part, or full, their MPLS connections with less expensive internet connectivity. Here, we explore the core benefits of SD-WAN and explain some of the nuance surrounding these.

## SD-WAN can reduce costs

From an enterprise customer's point of view, when they buy Wide Area Networking (WAN), what they are buying is a secure connectivity between their different sites. To enable that with WAN technology, they need a secure line to be installed. To achieve this, enterprises have to pay their service provider a lot of money to come to their site and install a secure MPLS line. Not only is this expensive, it must be done for every new site and when you start to connect various components together. On top of this you need to add the equipment that will sit on your site. With SD-WAN, you can achieve the same outcome but run it over the public internet instead.

Ensuring the setup is secure is dealt with by the software itself. The result is that an existing broadband connection can be used to provide the same level of service, so as long as you've got a phone line, you can deliver reliability without the need for the hardware.

There's also the benefit that the equipment that is used for this, Customer Premise Equipment (CPE), is virtualized equipment. Everything that runs on it is purely software. It can be configured and changed from afar without the need to pay for an engineer to physically come out and deal with the box or install new hardware.

On top of this is the other functionality that depends on the service. Because it's software-defined, you can manage and configure it all through a web portal, which ultimately means less time spent by businesses sitting on a phone requesting changes.

## SD-WAN increases flexibility and responsiveness

If you're using virtualized equipment, you can change the configuration from afar and can potentially add whatever you like to that piece of equipment. For example, if you've bought SD-WAN you may also be interested in buying a managed printer server solution.

In theory, this is possible because it's just software. That software could run on the same box that you already have in the corner of your room or in your office. All you need to do is either bring up the service or go on the web portal.

This was not possible before. If you wanted new software, it would necessitate new hardware. With SD-WAN, there's the potential for it to become a generic box where any enterprise managed service can be loaded onto it in much the same way as with an app. The result is considerably enhanced flexibility.

While the potential for this type of solution is exciting, the current lack of innovative new apps to go on it is an issue. The existing offerings include firewalls to keep it secure or a print server. In the future we could see much more interesting applications being offered.

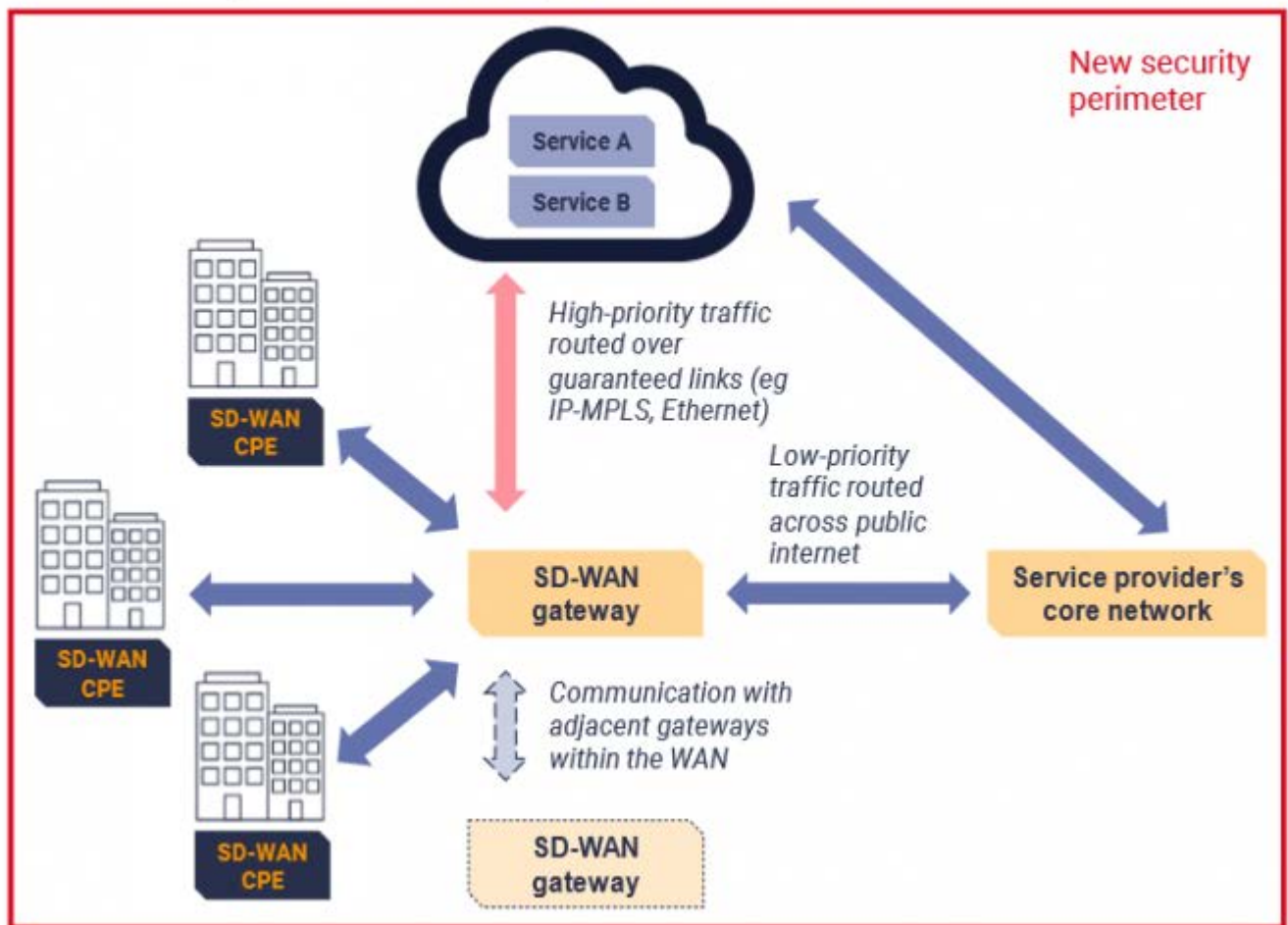
## SD-WAN helps to improve prioritization of traffic

### **BENEFITS OF SD-WAN: SD-WAN BENEFITS OVER A TRADITIONAL ENVIRONMENT**

SD-WAN can be used for better prioritization of different apps and the traffic they send back and forth. Because this is software-defined, it's possible to have software policies that analyse bits of traffic that are going through and determine what is and is not important.

The software could send business critical traffic through the MPLS line, while a simple WhatsApp message could be sent through the public internet. It's less important that a WhatsApp message gets there within a millisecond, therefore sending via the public internet is advantageous as it is cheaper but still just as effective for the business. While this doesn't necessarily mean that the performance is better with SD-WAN, it does mean that you can assure the performance of the things that matter.

**Figure 7: SD-WAN prioritisation of traffic**



Source: STL P

One possible downside is that the equipment used to run network functions is fine-tuned and engineered specifically for its purpose, and as such it performs very well. If it is to be emulated using software on a generic computer, it will never work quite as well as something that has been designed for a dedicated purpose.

This has slowed the adoption of SD-WAN because while the potential is significant, businesses still require it to operate at the same level as before. At some point there will be a middle ground where performance is close enough to what we have now, but with the additional possibilities that SD-WAN offers.

**BENEFITS OF SD-WAN: SD-WAN BENEFITS OVER A TRADITIONAL ENVIRONMENT**

## SD-WAN is also a flexible security solution

Traditional WAN solutions have always been bought alongside a secure MPLS line. With SD-WAN, this is not necessary. This doesn't mean that it's not secure, but it does mean that extra considerations must be taken to ensure security, because traffic will be travelling over the same network infrastructure as all the other traffic in the world (that is going over).

That's not necessarily a problem because you can set up encryption and VPNs to provide security. Because this an area that enterprise customers are justifiably concerned about, vendors pay close attention to delivering a secure solution and typically bundle SD-WAN solutions in with added security features.

### So what?

The key take-away is that SD-WAN is both cheaper and more flexible. At the same time, it has the potential to deliver the same benefits as those that are offered by traditional environments. In short, it is in many ways a no-brainer upgrade from solutions that enterprises already know well and are paying lots of money for.

**Yesmean Luk is a senior consultant at STL partners. She leads STL's telco cloud practice and has consulting experience in topics ranging from NFV/SDN implementation to IoT.**

Get in touch with the author to learn more

[yesmean.luk@stlpartners.com](mailto:yesmean.luk@stlpartners.com)

Or visit STL Partners' Telco Cloud Hub

<https://stlpartners.com/telcocloud/>