

Problem-free SD-WAN migration in a connected world

Overcome implementation issues with our top tips for SD-WAN deployment

from NTT Communications



Software-defined networking (SDN) is at the forefront of today's networking evolution, allowing organisations to virtualize their network infrastructure to provide greater agility, business flexibility and cost savings. SDN in the wide area network (SD-WAN) has emerged as the optimum approach for organisations looking to take full advantage of the benefits offered by cloud and internet services.

Not plug-and-play

SD-WAN, however, is not a "plug-and-play" proposition. It needs a detailed understanding of your organisation's existing infrastructure and applications for success. But there is much to be gained, because a properly implemented SD-WAN gives organisations insight and control over applications, robust edge-to-edge security and improved end-user performance.

Modern IT infrastructure is wide-ranging and complex, which means that your SD-WAN project requires careful planning and integration. The solution needs to manage multiple network access types, such as DSL, Ethernet and wireless, and route many different types of traffic securely according to enterprise policies.

SD-WAN may sound like a simple concept, but you are in fact designing and building a complex network that needs to be carefully executed to fulfil expectations and provide optimum performance.



10 steps to a smooth SD-WAN transition

Every organisation wants to deploy SD-WAN with minimal disruption to their day-to-day business operations. To help you succeed, we've put together 10 steps for a frictionless SD-WAN implementation. They draw on NTT Communications' experience of deploying the technology for many different companies across multiple sectors.

1. Analyse your IT estate to get "SD-WAN ready"

You need to fully comprehend your IT estate and how it all works together. This includes business applications and associated priorities, traffic patterns and flows, cloud services in use, software-as-a-service models, and how and where to connect to all of these.

2. Combining multiple poor access types does not make a good network

Simply bonding together multiple connections does not make for a quality SD-WAN implementation. If they are poorly thought out and executed, you will be very disappointed. You need to take the quality and capability of the access lines into consideration to ensure that application performance expectations are met. For example, you might want to guarantee low-latency access for a voice over internet protocol (VoIP) application. In addition, a higher bandwidth access type will be required for video broadcasting. A service provider with the relevant experience will be able to help you right-size your network design.

3. Look at how SD-WAN will integrate into your current infrastructure

SD-WANs do not cover all of the network's functionality. You will need to consider how you can integrate SD-WAN into your wider infrastructure during the design process. This analysis should highlight application and protocol usage to better understand routing and bandwidth. Application performance improvements are achieved by prioritising the packets on your network and this can only be achieved with detailed application recognition and classification.

4. Ensure SD-WAN fits into your cloud strategy

Cloud connectivity is a critical issue. Ensure your SD-WAN will operate in your chosen clouds such as Microsoft Azure and Amazon Web Services. Some SD-WAN solutions will only provide the best path to public cloud providers using a central hub-style internet breakout rather than local internet breakout. This means that if local internet breakout is used then it may not form part of your SD-WAN overlay network. You should carefully consider this otherwise you may not realise the benefits that SD-WAN can deliver.

5. Map the connectivity flows of your applications

Mapping the connectivity flow is essential to setting up routing policies for deploying SD-WAN. Establish a detailed design to ensure that available application bandwidth is allocated both fairly and based on predetermined policies. Study your application usage and be clear on routing, bandwidth and performance requirements. This will tailor a robust platform that provides the users with the best possible application experience by enabling intelligent path control.

6. Use SD-WAN migration as an opportunity to update your security policies and business best practices

During the design and test phase, it is essential to test your application path steering changes against current and future corporate security and compliance policies. SD-WAN provides a platform for you to make more use of the public internet, but it also brings risks. Using the Internet could expose you to hacking or distributed denial of service (DDoS) attacks if the correct protection and practices are not put in place. For example, effectively deploying appropriate encryption and containment policies is an imperative step to ensure corporate data is secure.

7. Carefully plan your deployment and run a pilot

SD-WAN isn't simply about connecting points. A SD-WAN implementation is an intrinsic part of the business and requires greater design and planning than a traditional network. Run pilots to work out any "pain points", determine that the network design supports your required application priorities, and that you are utilising the correct network access types. This will help you accelerate an effective SD-WAN roll out across the organization.

8. Prioritise sites and applications for migration

Prioritise the sites and applications that will benefit most from early SD-WAN migration. Think about where applications are hosted and the key locations in your network. This will help you design your migration plan. Local hub sites such as data center locations can aggregate regional branches to provide secure regional internet breakout points or public cloud provider interconnection. Determine which of your key applications will most benefit from an SD-WAN design and which hub sites create the best access to these applications.

9. Continually test during deployment phase

The verification and validation process can be arduous. Extensive testing at all phases of deployment is essential to see how the network will perform under pressure. Tests should monitor the ability for remote branch traffic to leverage both public and private connectivity in an active-active connection mode. Other tests may include verifying that business-critical traffic is being steered across the best performing paths across your WAN, while least important traffic makes use of the most cost-effective route. Having a clear and concise monitoring system is essential to ensure your deployment objectives are met.

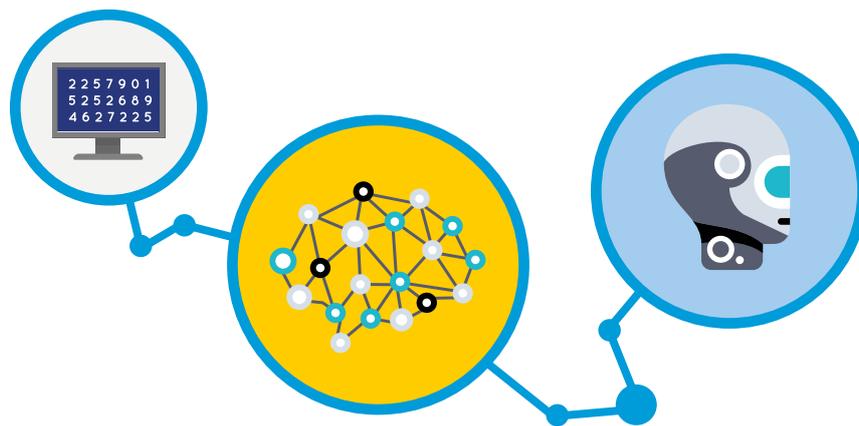
10. Ensure that you have efficient network monitoring

Use data collected from your SD-WAN monitoring systems to provide full visibility of your WAN and application performance. The rich data it provides allows you to tune application and network policies to ensure that your network aligns with the priorities of your business and its needs, both now and in the future.



SD-WAN solutions offer multiple benefits over traditional WAN architecture. Moving to SD-WAN has never been easier with NTT Communications.

Find out more on how NTT Communications ICT Solutions can become your trusted partner in helping you move to a smarter networking future at <https://www.nttict.com/sd-wan>



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