

business **nbn**[™]

Leveraging the nbn[™] network for SD-WAN



The software-defined wide-area network, better known as SD-WAN, has been on the minds of more and more IT professionals and business leaders as they look for ways to improve their network performance and security while reducing cost and complexity.

Uptake of SD-WAN is on the rise in Australia, and the technology is providing organisations with a more flexible and scalable alternative to traditional WAN implementation. Rather than independent management of discrete network elements, SD-WAN centralises management and enables automation to replace human intervention.

SD-WAN has the potential to help businesses stay agile and resilient to meet future challenges through benefits such as:

- Network flexibility and agility
- Operational efficiency in network management
- Simplified use of multiple services per site and resilience models
- Increased visibility and control over network set-up and performance



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SD-WAN provides a lot more flexibility for how organisations manage the performance of their business applications across the network infrastructure.

David Wells,
Executive Manager –
Pre-Sales Solutions,
business nbn™

However, businesses need to first leverage their network and ensure it is set up in a way that enables them to fully realise the technology’s potential.

Businesses should consider network features designed specifically to enable SD-WAN solutions, such as those available on wholesale plans powered by business nbn™ and available through a range of service providers.

With increased access to business nbn™ solutions and a fibre-based connection now available to the majority of businesses across Australia, improved network performance facilitated by SD-WAN is more accessible than ever before.

Here’s a look at some of the key considerations for adopting SD-WAN, as well as how SD-WAN, when paired with the nbn™ network, can help organisations deliver on their digital transformation strategies.

Networking for the future

Wide-area networks (WAN) have long been used in enterprises to connect and support multiple business locations, but previous network architectures and technologies have struggled to keep pace with the adoption of cloud-based services, Software-as-a-Service (SaaS) applications and 'bring your own device' (BYOD) policies.

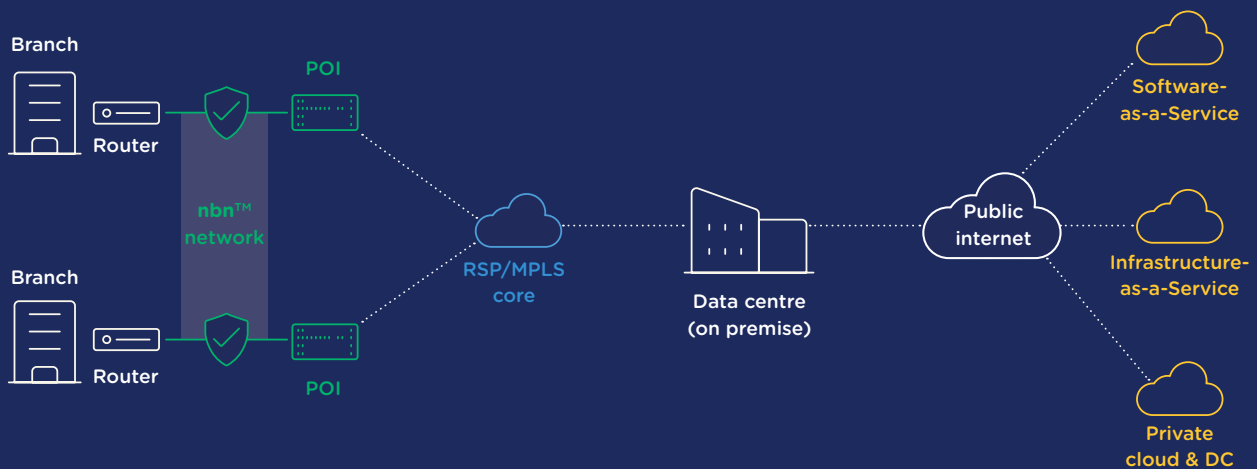
SD-WAN has emerged as an enabler of digital transformation efforts that has the potential to be more responsive, flexible and cost-effective for enterprises that have been accustomed to manual network management.

Traditional networks rely on point-to-point connections that are inherently inflexible, as they require manual configuration or management, making it difficult for businesses to adapt to changing traffic patterns or stay agile to respond to shifting business priorities.

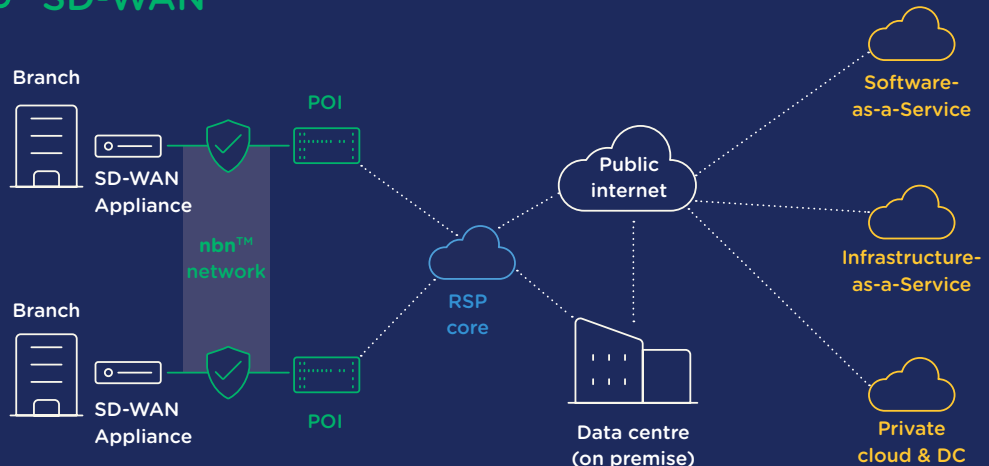
Modern enterprises are often looking to unlock digital agility and interoperability between users, applications and devices.

SD-WAN turns the traditional head office, branch and data centre network structure on its head. Rather than routing traffic through dedicated and inflexible circuits (such as MPLS) to access locally hosted applications, SD-WAN uses multiple connection types to access applications and connect branches and users wherever they are located.

Traditional Network



SD-WAN

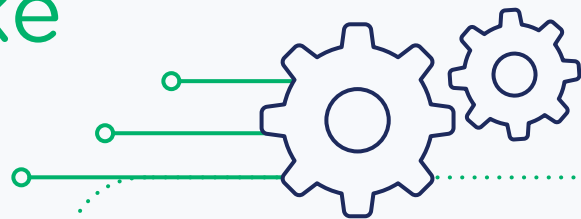


Drivers of SD-WAN uptake

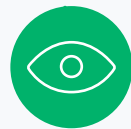
SD-WAN has quickly gained traction in Australia, with research conducted by GlobalData in mid-2020 finding that nearly 60% of Australian enterprises with more than 200 employees have deployed the technology, and a further one-third are planning to implement SD-WAN by the end of 2021.¹

One of the major factors cited in the research as driving this uptake was the migration of last-mile access to the **nbn**[™] network to provide a reliable foundation for software-defined networks (SDN), such as SD-WAN, on a high-speed connection.

More widespread access to a business-grade, fibre-based connection via the **nbn**[™] network has helped create a level playing field for vendors to build fit-for-purpose solutions using SD-WAN and high-speed data plans.



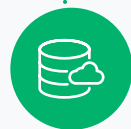
Three key drivers for SD-WAN uptake:



Visibility to see exactly how the network is performing and being used.



Ability to define and ensure standard configurations across the network. These could be rules for security enforcement or data traffic prioritisation, set as policies.



Ability to move away from the centralised data centre model to a cloud-based or as-a-service model

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nbn has provided many organisations across Australia options to adopt an open access wholesale network where they can pick and choose their carrier and the solution that fits their strategic objectives.

David Wells,
Executive Manager – Pre-Sales Solutions,
business **nbn**[™]

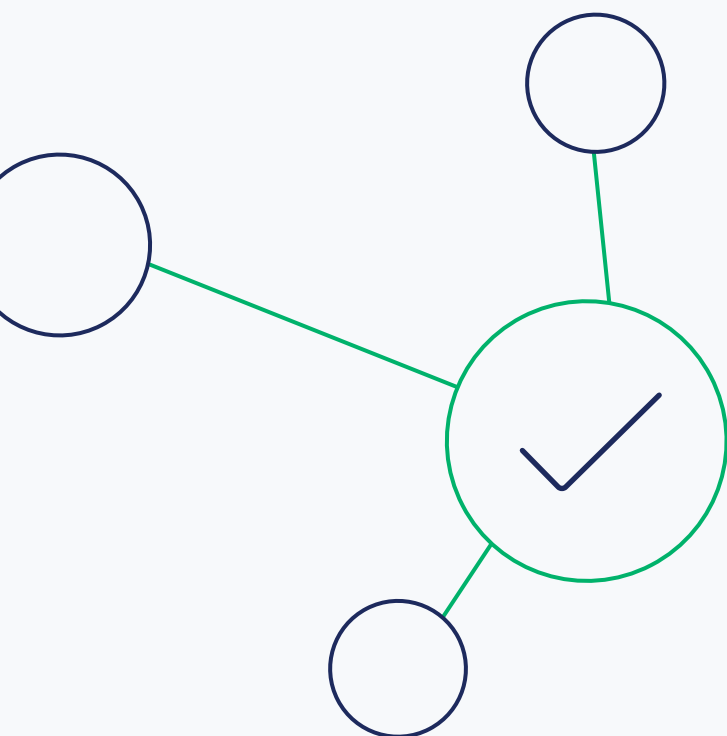
The benefits of SD-WAN for business

SD-WAN has the potential to improve application performance and create more efficient access to cloud-based services for productivity gains.

With built-in flexibility, scalability and centralised network and security management, the case for SD-WAN is exceptionally strong.

The right data in the right place at the right time

With traditional WAN, the standard process is to tag certain types of data to certain activities and applications. Set as a 'policy', this can be difficult and time-consuming to change. With SD-WAN, centralised management of data classification, based on its importance to the organisation, is simpler and faster.



The three classes of data²

Information-based data:
The lowest priority data that is non-critical. Higher levels of latency and down-time may not be noticed when using these applications.

Real-time data:
Important operational data that relies on an even flow of data upstream and downstream to run properly. This may include sensors, actuators, robotics or standard video conferencing. Symmetrical data speeds or prioritised data options can help avoid issues in application performance.

Mission-critical data:
The highest priority data that, if delayed, could trigger a potential catastrophe. Depending on the volume of data and nature of applications, data is often prioritised to ensure these functions operate with fewer chances for interruptions, drop-outs or performance outcomes that could increase risks.



Increased ROI

With a comprehensive network strategy in place, organisations can augment – or even replace – legacy network infrastructure such as MPLS connections. This has the potential to help reduce CAPEX investments and can migrate network costs to an OPEX model. Further, expanding the network to new branches or remote locations can be done easily and at a lower price point.

Scalability

Traditional WAN implementation is based on rules and policies set at a moment in time and configured at the hardware level. This makes changes very time-consuming and difficult. SDN, including SD-WAN, can manage rules and policies centrally, and can help facilitate rapid changes when and where they are required to meet operational needs.

Central management of policy also ensures immediate visibility of any network element that is “out of policy”, leading to significant improvement in network integrity and posture over traditional WAN networks.

SD-WAN can be overlaid on an existing network, allowing for the rapid addition of new business locations with no impact on existing network infrastructure. Over time, full migration to SD-WAN allows for the decommissioning of older infrastructure to modernise the entire network.



Centralised network security

While digital transformation and increased connectivity provide many documented benefits, accompanying them is increased risk. SD-WAN solutions often include built-in security features such as basic firewall and VPN functions.

Enhanced security features can be integrated as well, including next-generation firewall (NGFW), intrusion prevention system (IPS), sandboxing (isolation of critical applications) and encryption.

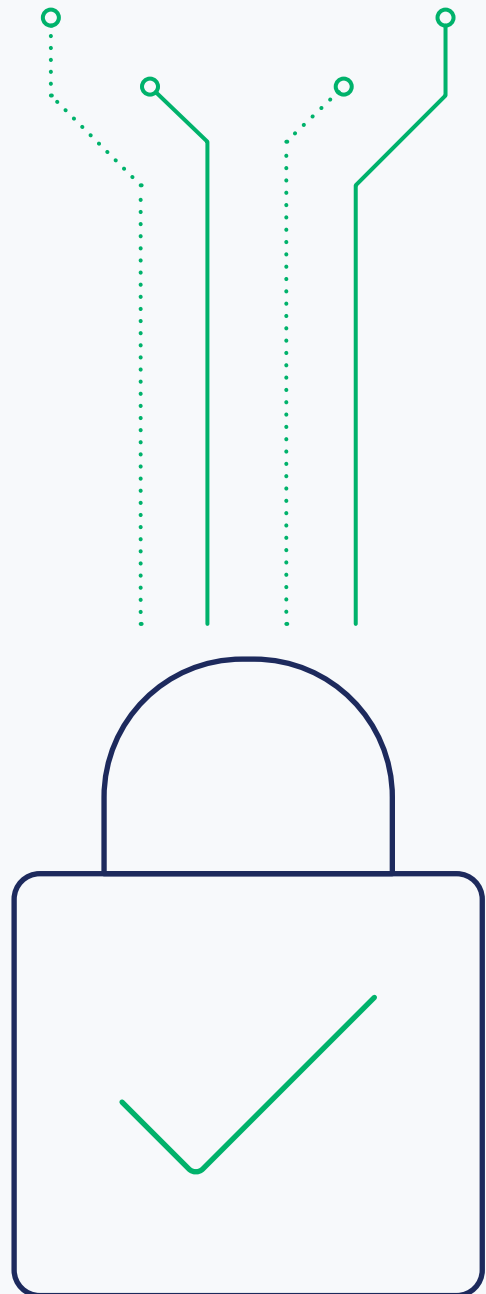
Network flexibility

Unlike static, point-to-point connections in traditional WAN implementations, SD-WAN brings greater flexibility to the enterprise network. The network layer is essentially replaced by centralised management that allows traffic to be routed and optimised based on data priorities set by the business. Increased agility, scalability and flexibility is the result.

Better visibility and control

With visibility across the WAN, IT teams can align application priority and performance to key business outcomes, and change them as and when required. Combined with network features such as a committed information rate, SD-WAN can enable assignation of data priorities across the entire network mapped back to network prioritisation.

This visibility of application behaviour across the network provides the organisation with the potential to improve user experience and reduce dissatisfaction with network performance.



business nbn™ and SD-WAN: better together

SD-WAN helps optimise network performance, and business nbn™ wholesale plans can provide the infrastructure capabilities that the software can leverage to help support digital transformation needs.

With SD-WAN, organisations can begin to worry less about the ‘pipes’ – instead the focus can be placed on the type of service best suited to their needs in terms of quality and cost, and business nbn™ wholesale products and services can help provide a network backbone designed to support this shift.



SD-WAN can help replace, or work in concert with, current network implementations, meaning organisations can avoid having to make an ‘either/or’ decision about their existing network technology and the adoption of SD-WAN.

business nbn™ wholesale options such as prioritised data over the nbn™ network, symmetrical upload and download speeds, and enhanced service level agreements between nbn and service providers for dedicated business nbn™ plans, combined with more flexible network management in SD-WAN, can help organisations focus less on network performance and more on business performance.*

*business nbn™ is not available on the nbn™ fixed wireless network. Not all providers offer plans based on the full range of wholesale business nbn™ products, product features and services. Availability of wholesale business nbn™ products, product features and services depends on an end customer’s access technology and area. Ask your preferred provider if they offer plans based on these wholesale business nbn™ products, product features and services in your area.

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The nbn™ network enables broad flexibility for businesses to transform to SD-WAN solutions, with the capability to run over traditional MPLS systems in a hybrid mode to reduce disruptions.

David Wells,
Executive Manager –
Pre-Sales Solutions,
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SD-WAN and long-term network strategy

Many Australian businesses have moved to adopt SD-WAN, with more planning to do so in the near future.¹ SD-WAN is more responsive and flexible than a traditional WAN, and provides cost savings and simpler network management for organisations looking to accelerate their digital transformation journeys.

The initial volume build of the **nbn**[™] network rollout across Australia, with increased accessibility to a business-grade and fibre-based connection now available to more Australian businesses, has added momentum as well.*

As a first step, businesses need to consider how their network plan supports the adoption of SD-WAN and complements their long-term network strategy. This in turn can help businesses make an informed choice when it comes to choosing an SD-WAN model that will meet their needs now and in the future.

***nbn**'s initial volume build completion commitment was that all standard installation premises in Australia would be able to connect to the **nbn**[™] access network as at 30 June 2020. This excludes premises in future new developments which would be an ongoing activity for the Company beyond 30 June 2020. It also excludes a small proportion of premises defined as 'complex connections' - which includes properties that are difficult to access, culturally significant areas and heritage sites - where connection depends on factors outside **nbn**'s control such as permission from traditional owners, and where network construction to allow such premises to connect will be an ongoing activity of **nbn** beyond the build completion date.

Some key considerations to help assess the business case in an organisation include:

- Types of network traffic and data
- Traffic volume and bandwidth demands
- Number of branch locations
- Remote connections
- Current and future applications
- Use of cloud-based services
- Security requirements

As digital transformation continues to drive the modern enterprise, adoption of SD-WAN is more a case of when, not if. **nbn** is laying the digital backbone to help support the future success and meet the evolving needs of Australian businesses looking to adopt transformational technologies such as SD-WAN.



Find out more
about business
nbn™ fibre



Sources

1. [SD-WAN is gaining momentum in Australia, but do enterprises have a long-term strategy?](#), GlobalData (August 2020)
2. [Three data types companies need to prioritize](#), Control Engineering (April 2019)