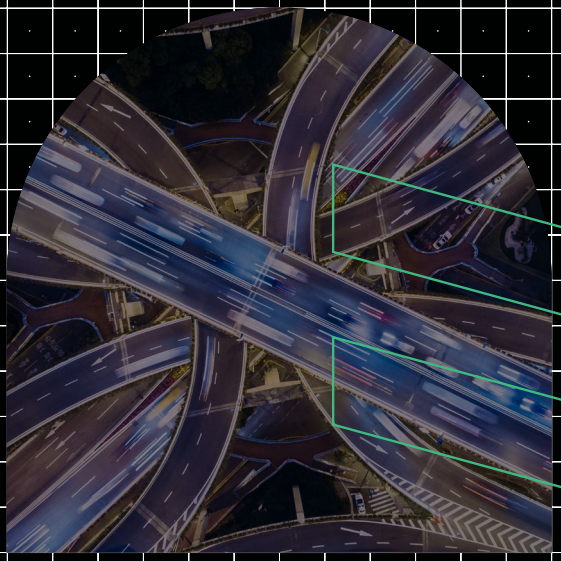
Whitepaper

Get ahead of the curve

See a better way with Managed Software-Defined WAN (SD-WAN)



Our workplace is continually evolving. Today, organisations not only have to respond to the needs and demands of its employees, but also to those of a fiercely competitive business environment.

Our branch office wide-area network (WAN) connectivity and commercial model is changing. The way that people work, how customers expect to be treated, and the need for easier, faster and secured access to data and information is becoming more imperative than ever before.

Rethinking your network architecture could allow you to get where you need to go.

Evolution of network

Understanding how networks have evolved over the decades will not only assist in knowing how we could work in our current situations and solve existing challenges, but also in evaluating the best options to ensure we are not caught under the wave of digital transformation.

Legacy network infrastructure, designed for the efficient delivery of client computing and transition of data and information over the Internet has evolved significantly to address the shifts and demands of today's digital era.

Before the first personal computer network was ever introduced, mainframe workloads ensured that users could access tabulated data on site. When the need for connecting multiple computers and terminals in different locations over longer distances emerged, it became clear that the old methods had to be discarded. Circuit-switching was replaced by packet-switching methodologies, operating systems with communications protocols, and later on IP network technology with software and hardware were introduced.

The increased use of computers, as a result of their accessibility and affordability further spurred the development of networking technologies including the Internet and private networks.

With the widespread of Internet use, a robust multi-service network for the new-generation cloud-native applications is required.

You can't work without a network

Growth objectives of organisations, big and small, often include the expansion of the business footprint in new markets and territories. This also means the possibility of setting up more branch offices to service clients and customers in those markets and territories.

Along with this is the rise in use of software as a service – SaaS – applications, allowing users to connect and benefit from cloud-based applications through the Internet. Examples of these could include customer relationship management (CRM) system or enterprise resource planning (ERP) system.

The advent of Internet of Things – IoT – where data is being collected from devices, services and systems requires new ways of making computing power available at the entry point of the core network. This trend of 'hyper-connectivity' is set to create new business models and thinking.

While what it all points to is largely ensuring connectivity to resources such as shared data, information and cloud-native applications, network connectivity has started to take into account the interests of end-users such as increasing their productivity, the usability of technology and the experience of using it to achieve their objectives, for example, using cloud-based communications solutions such as Skype for Business to collaborate internally and with clients, as well as contact centres to deliver responsive customer service to clients.

It is obvious that the common denominator here is the reliance on a robust and reliable network.

Making sense of SD-WAN

Traditionally, organisations relied on the Wide Area Network (WAN). WAN is used to connect sites over a wide geographical distance. This could be a connection between a head office and branches, or from an office to co-location facilities or cloud services. With the rise of software as a service applications (SaaS), network connectivity has evolved from sites and data centres to ensuring direct access over the Internet.

Software-defined WAN (SD-WAN) is a software-enabled approach used to deploy and manage WAN connectivity, allowing connections between different nodes and using the benefits of the cloud. It puts a secure, virtualised overlay on top of the WAN, allowing central control, so that deployment, configuration and changes can be made through the cloud from one place rather than the sometimes-complex WAN arrangements. SD-WAN facilitates the use of popular SaaS programs, also located on the cloud.

WAN can use expensive and proprietary hardware; SD-WAN, based on the cloud, is freed from this and can be less expensive. Rather than using expensive routing hardware, SD-WAN leverages the cloud's power to reduce an organisation's footprint and save resources.

Other advantages include the flexibility to scale connectivity based on application demands then traditional network infrastructure. If you have periods of demand for higher connectivity, it can be easily accomplished through cloud software. You can fix problems quicker, cheaper and more simpler through the cloud than having technicians at the branch offices. You can shorten the time to deploy new branches, and shorten the time to implement new services and applications.

Is your current network doing the job?

Driven by the new digital economy and the enormous amount of data generated, organisations are rethinking their IT strategy and blueprint to make sure that it has the capability and agility to support its business needs today and tomorrow.

Questions that are asked often include:

- Is the current network holding the business back with its legacy networking approach?
- Is the business and technology environment truly cloud-ready?
- Is the business still highly dependent on proprietary hardware in its network setup?
- Is the organisation's network innovation cycle aligned to the business needs and speed-to-market?
- Is the current network able to deliver an exceptional user experience when using native cloud applications?

To succeed, organisations need the flexibility and agility to adopt and adapt. Without addressing the capability of the network to support business initiatives, operating models and the daily work of its employees, the ability to compete in the evolving business landscape can be limited.

Industry scenario: Aged care

Aged care providers are looking for new ways to support their work in better serving clients and empowering care staff, many of which rely on an agile and robust network.

- New applications to provide clients with better services and more autonomy and choice.
- More effective transmission and delivery of information between facilities.
- Empowering clients to communicate with families and communities through UCaaS to avoid social isolation.
- On-demand entertainment services in clients' rooms requiring high bandwidth.
- Using IoT for security and effective building maintenance.

Industry scenario: Retail

To keep up with the need to satisfy bandwidth-hungry applications to support customer demand and the pressure to deliver top-quality experience, retailers look to SD-WAN as the solution.

- Offering customers new payment options and methods (such as cashier-less checkout) to improve the user experience
- Completing sales and check inventories without interruption or delay
- Running an e-commerce site to offer customers more choice for purchases
- Deploying new retail locations more quickly
- Training staff at remote stores through videoconferencing

The danger of inertia

Organisations today need to access data and applications from multiple cloud environments. While there is no one-size-fits-all approach to how each organisation should think about SD-WAN and its relevance as well as putting a business case together, it is important to evaluate the benefits of SD-WAN and the danger of inertia, which could vary according to industry, location and the size of your business.

Rethinking your existing network architecture could be key for your organisation's success. Why can't legacy network infrastructure satisfy business requirements today and in the future?

	Legacy network infrastructure	SD-WAN
Agility	Your current network may have difficulty meeting the changing demands of cloud and hybrid networks. It may be sub-optimal and not easily scalable to your needs.	SD-WAN offers increased agility with dynamic routing so you can optimise application and data delivery. You can scale according to your needs, and manage and control changes to new apps with ease.
Deployment	Extending a network to multiple branches under a traditional, decentralised model is time-consuming and complicated.	Deploy new offices easily and quickly with central management through the cloud, including activation, configuration and ongoing management.
Visibility and complexity	A complex WAN can take specialists a significant amount of time to provision, manage and troubleshoot. Without the ability to monitor or correct issues centrally, organisations have to send staff on the road to fix issues at various branches, which is inefficient and costly.	Enhance your visibility, making management and remediation easier. You can consolidate monitoring across multiple WAN links with central management and eliminate the need for many single function devices at each branch. You can improve IT efficiency with automation and cloud management. It will no longer be necessary to do installations or repairs at each physical branch.
Footprint	Legacy network solutions may require more capital outlay and resources to maintain and upgrade hardware, as organisations adopt more cloud-based solutions, demanding more on-site remediation and installation at each site.	SD-WAN provides an option to deploy virtual appliances on the same hardware, reducing footprint, while allowing organisations to manage upgrades through a central location, cloud-enabled and software-defined, saving time and resources.
End-user experience	Traditional WAN is not agile enough for today's working environment and the adoption of cloud-based applications. This in turn impacts the performance of everyday applications such as Cloud PBX and Dynamics 365.	SD-WAN offers better performance by dynamically prioritising traffic and cloud-based unified communication solutions, translating into a better end-user experience for your staff and clients.

A lack of access to high-quality bandwidth and connectivity issues can lead to disappointing experiences and service for end users. For example, videoconferences and business meetings could be frustrating because of poor-quality VOIP solutions interfering with video collaboration. Managing products, vendor contracts, billing and other applications could be challenging because of large file transfers, such as project plans and client data, being painfully slow.

The myths

Many organisations have been told of the attractive benefits about adopting SD-WAN including enhanced agility, improved visibility and reliability, bandwidth and transport costs just to name a few. While this may be true in many cases, there are misconceptions about SD-WAN and if they are all created equal.

Each organisation will ultimately implement SD-WAN differently, shaped by their individual business needs.

What matters most, is the SD-WAN architecture and what it offers organisation such as dynamic optimisation enabling performance, virtual network function, centralised policy based GUI, cloud orchestrator and virtual software to deliver the application performance and end user experience organisations seek that other SD-WAN architecture may not be able to truly provide.

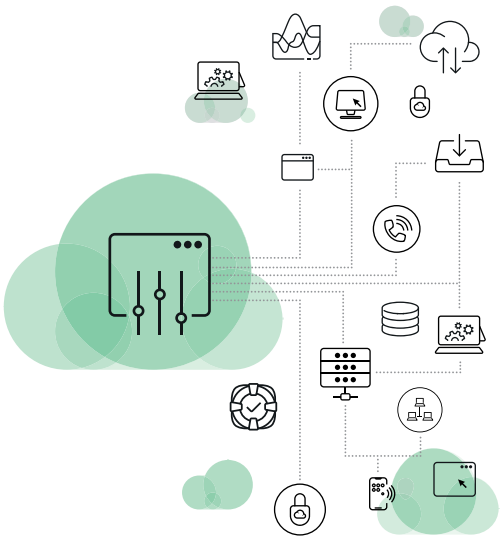
Myth 1:

By adopting SD-WAN, does it mean that all existing WAN connections are to be replaced?

It is important to remember that SD-WAN is not the end solution for any organisation to eliminate WAN or any other form of connectivity. Rather, it is overlaying technology that will enhance performance of the WAN and connectivity.

To support mission-critical functions and applications, organisations must be able to avoid situations where downturns and outages could ruin business operations and reputations.

VeloCloud SD-WAN's dynamic multipath optimisation, link steering and remediation, Smart QoS and applications performance monitoring are examples of some of the features that will significantly improve WAN's performance.



Myth 2:

Deploying SD-WAN allows organisations to achieve guaranteed cost saving advantages

The cost saving benefits vary per organisation based on the network architecture and requirements deemed by the organisation. Depending on the geographical locations of branch offices, the prices of MPLS, broadband and other form of connectivity could either be high or low.

The decision on the "connectivity mix" will also have to take into consideration the level of importance of the applications or business functions it needs to support, as well as the IT infrastructure setup.

Ultimately, IT teams will have to decide on the components of a hybrid WAN that will suit the organisation in order to have a full understanding of the total cost of ownership.

Myth 3:

SD-WAN and WAN optimisation are the same form of technology

The truth is that while SD-WAN and WAN optimisation both work towards the same goal to enhance WAN connectivity, they are different in their approaches.

With a policy-based SD-WAN, organisations are able to design and construct the network according to its specific needs and using SD-WAN to get the most utility out of it.

WAN optimisation works on linked bandwidth, using different techniques to increase data transfer efficiencies and reduce latency, jitter and packet loss across the network. It has a heavier reliance on the MPLS that is being used.

Next steps with Nexon

As a cloud and managed service provider that has a strong background and expertise in networking, Nexon has been an advocate of networking especially in today's hyper-connected world. Nexon has partnered with innovative technology specialists, such as VeloCloud to extend its WAN capabilities with software-defined technology.

With over 17 years of experience providing network services, we understand the needs of the market, why businesses need to adapt, and how to do it. Thus, we bring together best-in-class cloud solutions and technical expertise to deliver high-performance platforms tailored for our clients.

Nexon also partners with leading technology and security providers – such as Palo Alto Networks and Fortinet – for SD-WAN to be part of Nexon's secured cloud platform, an end-to-end solution, bringing benefits to clients such as assured application performance, business policy automation, and an on-ramp to the cloud.

Security is now a bigger issue than before, as the borders of an organisation can no longer be contained by a traditional firewall. Managed security services are a particularly important feature of the integrated cloud platform, which can be used to manage today's risks.

Nexon's highly skilled IT engineers will look after every aspect of your network and infrastructure, with 24/7 monitoring and support to keep your systems and applications running smoothly. Having in place a robust, technology foundation means your company can focus on new products, processes and services to win in the marketplace.

Let us work with you to identify the right network solution.

About Nexon

Founded in 2000, Nexon Asia Pacific (Nexon) is a cloud and managed service provider delivering cutting-edge solutions, helping businesses to run more efficiently, create better user experiences and explore bigger opportunities.

Nexon's depth of expertise spans across a range of technology specialities and industries, bringing these skills together to create business solutions, simplifying the process – and the technology – for its clients.

For more information, visit **nexon.com.au**.

To find out how SD-WAN can simplify your network and improve performance, call us at **1300 800 000**, email us at **enquiry@nexon.com.au**, or visit **nexon.com.au**

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