



orro

The great network transition:

Why Australian businesses are making
the switch to SD-WAN

2022

White Paper

Contents

Summary	3
State of SD-WAN in Australia	4
The WAN glossary	6
SD-WAN benefits	7
Technical considerations	9
The case for carrier independence	10
What to look for on your search for the right SD-WAN	11
SD-WAN Success Stories	13
Why partner with Orro	17
Get in touch	18

Summary

Times have changed, and so should enterprise networks of the past era. Old-school wide area networks (WANs) — which were limited to offices, retail branches, and data centres — were not designed to meet today's bandwidth demands. As the use of cloud-based applications and connected devices exploded, so did the volume of traffic accessing them. For businesses with legacy WANs, this meant slower connections, frequent outages, greater vulnerability to threats, complex network management, high carriage costs — just bad experiences for everyone.

Then along came Software-Defined Wide Area Networks (SD-WANs), with the powerful ability to address the weaknesses in traditional WAN architectures by putting an overlay on top of them. The results? Full visibility into networks, a central place to manage networks, bandwidth that can be scaled up and down, reliable connections, stronger security, and much more. Discover the latest SD-WAN trends in Australia, what to consider when you're exploring your options, and how you can get the most from your transformation.

State of SD-WAN in Australia

A software-defined upgrade: The need for better WAN

For organisations to communicate essential data between locations and enhance sales, a reliable Wide Area Network (WAN) has become necessary.

Right now, there is a paradigm shift taking place from legacy hard-wired WAN technologies to smarter, modern software defined networks (or SD-WANs).

In many ways, this shift mirrors the generational change that happened in the mobile phone sector in the early 2010s, from feature phones to smartphones.

As with those old '90s brick handsets, legacy networks bring with them a host of major limitations. For example, both technologies (legacy networks and feature phones) were often limited by the features that were shipped by the hardware vendor.

In the case of legacy networks, this means the hardware capabilities of the physical routers, switches, and cables they are built from. This older networking gear was often created with the assumption that all important enterprise data and applications would live in a central data centre.

As a result, they were designed to be used in a hub and spoke topology, with Multi-Protocol Label Switching (MPLS).

As businesses, governments, and large institutions have increasingly adopted cloud-based applications, MPLS and its topology makes less and less sense. This paradigm limited the ability of enterprises to run network-level software and applications from the cloud to configure, secure and manage their network.

As with your old flip phones, legacy networks are often tied to a telecommunications provider — with all the costs and inflexibility that lock-in entails. Traditionally, wireless access networks used leased telecommunications circuits from a single carrier.

3 out of 5

Australian enterprises with over 200 employees had already adopted SD-WAN in 2020 (GlobalData, 2020)

29.6%

CAGR predicted in the Australian SD-WAN infrastructure market from 2021 to 2024 (IDC, 2020)

But this meant there was little or no flexibility to prioritise applications or route traffic through different telecommunications carriers as the need arises.

This tie-in to a particular carrier might have made sense in a world where mobile network bandwidth was limited, and only a handful of carriers offered enterprise-grade fibre backhaul.

But with the advent of wholesale telecommunications competition through the NBN, and fast 5G mobile broadband, this carrier tie-in now means legacy networks are not cost effective and are prone to carrier outages.

The old model made sense in the world where most knowledge workers worked in the office from nine-to-five. But that's no longer the case. Today's networks need to accommodate and secure modern workplaces with remote staff, hybrid work patterns, the "gig economy", and remote branches.

In short, legacy WANs simply weren't designed for the needs of modern businesses and network bandwidth demands.

Just as software-defined, cloud application-enabled smartphones took over from feature phones, SD-WANs are now replacing legacy networks.

The upgrade to SD-WANs brings a host of benefits. These start with a single pane of glass to view and manage what happens across your network. This improved network visibility and application control brings with it improved security.

You also gain secure connectivity to endpoints – be they a remote branch or a work-from home employee's country ranch. There's direct internet access to cloud based services. Traffic is prioritised and intelligently routed, including across multiple carriers, to avoid outages.

Given the powerful benefits SD-WANs bring, it should come as little surprise that more and more Australian enterprises are making the transition.

The WAN Glossary

01 WAN

A wide area network, or WAN, connects computers and network devices across geographically dispersed locations.

02 SDN

Software-defined networking, or SDN, is an architectural model that allows a network to be centrally controlled using software applications or APIs.

03 MPLS

Multiprotocol Label Switching, or MPLS, is a data forwarding technology that routes data from one node to the next based on labels, instead of network addresses.

04 SD-WAN

A software-defined wide area network, or SD-WAN, uses SDN to identify the optimal way to route traffic to remote locations. It can use multiple internet circuits per location, as well as MPLS circuits.

05 WAN EDGE

WAN edge infrastructure connects distributed enterprise locations — such as branch offices and retail stores — to enable remote access to resources in the datacentre or the cloud.

06 HYBRID WAN

A hybrid WAN uses multiple connection types (e.g. MPLS circuits, carrier Ethernet, internet) to deliver data to remote locations.

07 WAN ACCELERATION

Also known as WAN optimisation, WAN acceleration is a selection of techniques — such as data compression, latency reduction, traffic shaping, and data deduplication — designed to maximise the speed of applications and content delivery over a network.

SD-WAN benefits

The six promises of SD-WAN

In today's world, having a secure, flexible, reliable, cloud-enabled network to connect remote work locations and work-from-home staff is critical for organisations. That's as true for fast-growing SMEs as it is for large ASX-200 companies, multi-campus universities, and major government agencies.

01

Network visibility

You can't manage what you can't see — and you can't secure a network against a threat you don't know about.

SD-WANs give you a bird's eye view of your entire network, in real time, in one place.

Bandwidth-heavy applications can mean that users can experience productivity-draining packet loss and congestion, while even short outages can be very costly.

Full visibility means you can quickly pinpoint issues, swing into action, and plan your application prioritisation in an informed way.

02

Centralised management

SD-WANs don't just give you full visibility from a single dashboard — they give you full central control too.

That massively simplifies your network management. Your network administrators have a single, central control panel to push out policies from. It also dramatically speeds up processes, such as bringing new branches online.

03

Security

Many SD-WAN solutions come standard with data plane encryption and control plane security.

Full network visibility, plus centralised management, adds to greater security.

With full network visibility you can detect potential threats and attacks faster. The sooner you know about a cybersecurity issue, the sooner you can respond. And a central point of control means you can respond much quicker.

On top of that, SD-WANs support sophisticated, cloud-based security applications that protect your network, and your data. That includes application-based firewalls, intrusion prevention, URL filtering, and other unified threat management capabilities.

No more backhauling cloud traffic data to a central data centre for inspection. Cloud-based network security apps mean branches can directly connect to cloud-based apps through secure, direct internet access.

SD-WAN benefits

The six promises of SD-WAN

04

Cloud connectivity

Legacy WAN architectures were designed on the assumption that all the applications your organisation relies on are hosted from a centralised data centre.

But in the digital age, when so much of your organisation's work relies on cloud-based apps, that's simply no longer true.

SD-WANs are more efficient because they can transport data from branches directly to the cloud, on the fastest possible route.

05

Better branch connectivity

SD-WANs don't rely on the hub-and-spoke model of legacy networks, which can hamper performance.

Instead, branches connect directly to the data centre or the cloud, which shortens transit time, eliminates bottlenecks and improves application performance.

SD-WANs further speed up your most important data by prioritising network traffic from different applications, and choosing the optimal connectivity options.

06

Application control

Not all applications and data are created equal.

With an SD-WAN, you get the best possible performance from the applications that matter the most. That's because your network administrators are empowered to prioritise the traffic from your mission-critical applications.

The traffic from less important applications can be deprioritised – including by being routed over a more affordable broadband connection rather than a private circuit. This can lead to big savings on your network costs.

29.8%

Estimated SD-WAN
infrastructure revenue growth
in 2022 (Cisco, 2020)

\$7.1B

Forecasted SD-WAN
infrastructure annual revenue by
2025 (Cisco, 2020)

70%

Application outages caused by
network issues
(Cisco, 2020)

Technical considerations — Carrier independence. What to look for on your search for the right SD-WAN

Carrier agnostic, connectivity independent

Traditionally, enterprises have tended to lease telecommunications circuits from a single carrier for their WANs. These carrier circuits were the core of old-fashioned legacy MPLS WAN networks.

This made sense a couple of decades ago, when there were only one or – at best – two big carriers that had backhaul fibre and final mile networks that could reliably connect data centres with remote branches. With the completion of the NBN, increased wholesale

backhaul competition, the emergence of fast 4G and 5G mobile connectivity, and improved satellite services, this is no longer the case.

What SD-WAN brings to the table is the option of disaggregating your network from the underlying transport.

That means you no longer have to be reliant on just one carrier, or one connectivity option for your entire network.

You now have the option of having a network that uses multiple underlying carriers or method of connectivity for its underlying transport.

Complete carrier independence



“ One of the most significant benefits that SD-WAN provides businesses is the ability to use a ‘Pick Your Carrier’ (or ‘PYC’) approach to selecting a service provider that meets their needs. This allows them to move away from carrier lock-in and flexibly use any carrier and any carriage technology where and when required. PYC doesn’t only benefit customers, but carriers as well. In many cases, the providers will be able to offer new or additional services to reach more customers. ”

Michael van Rooyen, Chief Technology Officer, Networks at Orro

At a glance: The case for carrier independence

01 **Connectivity independence**

Use any method of connectivity you want to connect your branches (you can use more than one).

03 **Higher availability**

Broader connectivity options mean you can quickly switch the underlying transport when there's an outage.

05 **Intelligent routing**

You can prioritise certain kinds of traffic. For example, your VoIP could get routed through your fastest connection, while emails get a lower-priority connection.

02 **Carrier agnosticism**

You have total control over who and how you connect back to headquarters.

04 **Intelligent path selection**

Business-critical applications are always routed through the optimal channels.

What to look for on your search for the right SD-WAN

Deep domain expertise

Whether it's internal staff or external partners, when it comes to SD-WAN management experience matters.

The right solution and architecture for one solution — for instance, retail — might not be the best option for another — such as an organisation managing critical infrastructure.

But for an MSP, the lessons from one type of deployment can carry vital lessons for those in another industry. The more experience they have, the more tools and know-how at their disposal.

So, it's vital that your MSP has a proven track record with a wide array of deployments, across a number of different sectors and industry verticals.

You need a partner that offers you dedicated expert teams with deep knowledge and experience in key areas such as networking, cloud services, and cybersecurity.

You also need a full-lifecycle MSP that not only helps you set up your network, but also to train and upskill your staff, and who can play an active ongoing role in monitoring, managing, and optimising your network as well.

Most importantly, your partner should have the capability to seamlessly manage complex environments – delivering full visibility and transparency across the entire network.

Sound security solutions

When it comes to security, not all MSPs are equipped with expertise in this area. Some vendors just focus on the SD-WAN platform itself, but either handle the security aspect of it, or treat it as an add-on.

Other vendors are very focused on security first, and then build the SD-WAN on top of that.

“ Even when legacy networks fail an organisation, the idea of embarking on a transformation journey can feel too daunting. This is especially true for SMEs who don't have a network operations team in house.

That's why the safest bet is to find an experienced partner with a team of the best minds on standby to help you upgrade, manage, and optimise your network — not just over the short term, but for the long haul as your needs, goals, and priorities evolve.

Our experience has shown that the best results come when MSPs and customers work collaboratively throughout the journey. ”

Cameron Quilty,
CRO, Orro

A great MSP will take the time to build a deep understanding of your business and what problems you're looking to solve.

They will design an architecture that meets your needs, perhaps from multiple vendors, giving you an SD-WAN that meets your internal business use cases with a ground-up architecture solution to make sure it's secure.

What to look for on your search for the right SD-WAN

Architecture design consulting

Your network architecture needs to meet the needs of your organisation.

It might sound simple, but perhaps the most important factor in the success of your network transformation is finding a partner who takes the time to understand your business.

To build the right solution for your business, you need an MSP that will start by getting a deep understanding of your organisation and your real requirements. That means the current state of your infrastructure, the challenges you face, and where you want to go.

Based on this knowledge, they should sit down with your team and carefully map out an architecture, then find the vendors that can support your solution.

Licensing

Enterprise licensing can be challenging. There are many intricate differences in models that can have a big impact in terms of cost. It's not just the upfront cost you need to look at – there's the ongoing management and maintenance too.

To get you the best deal, your MSP needs to understand your organisation, and have the expertise to guide you to making an informed decision.

If you plan to manage your solution yourself, it can be tempting to choose a solution based on the current capabilities of your team, rather than the best fit for your organisation's needs.

A great MSP will bridge this ability gap by upskilling your team, training, and empowering them to manage the best solution for your needs.

“ At Orro, we meet with customers first and take a deep dive into their requirements. We look at the current state of their network, including the technical issues that are causing real-world problems, and we learn where they want to go. This allows us to create the right technical architecture. Once we agree on the architecture, we look at the vendors that would fit best. ”

Daniel Greengarten,
COO, Orro

Australia Post

The 200-year-old organisation has more than 4,100 sites nationwide, with over 70,000 endpoint devices. In remote and regional towns, **Australia Post** provides more than just a mailing service. It provides a central hub where residents can conduct banking, pay bills, and buy products. Any network downtime, particularly during natural disasters, can leave these communities stranded.

That's why Australia Post sought to improve broadband speed and reliability across its sites, with the help of Orro, a platform-enabled secure network and digital infrastructure provider.

Speed and reliability were also important because there was \$8 billion worth of revenue flowing due to an 80% increase in ecommerce traffic through lockdowns. Australia Post had to be prepared to process 52.4 million parcels in December 2021 alone.

Thanks to the nbn and SD-WAN, it became possible to run multi-fibre links to Australia Post's larger sites to provide redundancy, while relying on fibre and 4G wireless backup at the smaller sites.

The massive network overhaul, completed in 2021, has delivered impressive results.

- **80%** of tickets being proactively managed in the network space
- **70%** reduction in business impact hours (avoiding 44,000 hours)
- **43%** decrease in critical incidents
- **84%** security compliance met with only low risks that are being closed out
- **4x** faster connections than before the network transformation



SD-WAN Success Stories

Flight Centre

As a travel services provider, with stores, customer support, and sales operations across Australia, **Flight Centre**'s network system is mission critical for business. When a customer walks into any of their physical retail stores, real-time pricing and availability are fundamental – without it, their value and relevance to customers would dissipate.

Unfortunately, Flight Centre's ageing network infrastructure was weighing the business down due to rolling network outages and dropouts. With no backup or redundancy measures in place, stores would periodically be offline, having a negative impact on customer experience.

From 2016, Orro worked with the company to design and develop an SD-WAN and wireless solution across 1,100+ retail sites nationally. The solution included carrier provisioning and network management and offered Flight Centre far greater degrees of control and visibility, by consolidating all carrier and network vendors within one central management platform – One Touch Control (OTC).

With OTC's highly integrated network management approach, the business could receive real-time status of hardware health and proactive alerts on network performance including utilisation, latency, packet loss, and jitter across all network legs.

By partnering with Orro, Flight Centre has been able to maintain the high quality of customer service it's known for.

The results of the transformation speak for themselves:

- **21%** lower cost of operations
- **6x** faster connections than before the transformation
- **\$2.5M** reduction in telecommunications costs
- **52%** increase in NPS
- **64%** of staff report fewer outages and slowdowns

SD-WAN Success Stories

National Leisure & Hospitality Provider



Our customer, an Australian leader in the leisure and hospitality industry, owns 350 venues nationwide — including sports bars, bistros, restaurants, cafes, hotels, and nightclubs — with more than 15,000 employees. From dining and dancing to electronic gaming and wagering, the customer provides a wide range of experiences across its venues.

To deliver these experiences, the organisation used to run two separate networks — one for providing guest wireless internet access (including filtered internet access for children) and one for secure point-of-sale transactions. However, duplicate infrastructure caused unnecessary cost and complexity in managing the business' network infrastructure.

In 2018, the customer set out to find a way to bring those networks into one set of infrastructure, while segregating different types of traffic, so that internet access for venues (such as restaurants and hotels) that underage people might attend was separated from secure point-of-sale and gaming transactions.

By choosing Orro to lead its network transformation, the customer has been able to reap the benefits of SD-WAN, including lower overall network management costs while maintaining the traffic separation their business needs.

By choosing Orro to lead its network transformation, the customer has been able to reap the benefits of SD-WAN, including lower overall network management costs while maintaining the traffic separation their business needs.

In 2018, the organisation recorded results that speak volumes:

- **\$1.2M** reduction in telecommunications costs
- **\$1M+** in hardware purchase savings
- **\$800K+** decrease in maintenance costs per year
- **\$500K+** in monitoring services removed
- **25x** minimum increase in bandwidth across all sites
- **Zero** site outages due to dual carriage and 4G backup

The text "SD-WAN Success Stories" is written in a white, sans-serif font on a pink-to-orange gradient circular background.The text "Fenner Conveyers" is written in a large, white, sans-serif font on the same pink-to-orange gradient circular background.

Fenner Conveyors is a 150-year-old Australian specialist manufacturer and a world leader in reinforced polymer technology, manufacturing and servicing of industrial conveyor belt technologies for some of the nation's largest mining and resources projects.

As its ageing MPLS network was no longer serving the business well, the manufacturer turned to Orro in 2019 to lead its transition to SD-WAN. Fenner Conveyors needed a network that could support the needs of more than 800 employees across 36 sites, with tasks such as end-user computing, server, and database access. The network also had to be resilient and flexible enough to support the company's expansion, while avoiding potentially costly customer service disruptions.

With the help of Orro designed and deployed SD-WAN solution, Fenner Conveyors has been able to mesh 4G, broadband, and fibre technologies into one seamless network. Fenner Conveyors' network support team now has real-time visibility into the network and can proactively detect any ISP outages or disruptions to the system.

Today, one of the network's most important functions is assisting with the company's 24-hour site service, installation, maintenance, and diagnostics services. This is vital because any faults or damage to its conveyor belts are serious issues, with outages potentially costing companies hundreds of thousands of dollars.

With a transformed network in place, the manufacturer has been able to eliminate downtime and spend less team resources on network maintenance.

The stats say it all:

- **\$750K+** decrease in maintenance costs per year
- **800** hours reduction on time spent by engineers on maintenance
- **25x** minimum increase in bandwidth across all sites
- **5x** faster connections than before



Why partner with orro

No two businesses are the same. No two solutions can be either. With Orro, you get a partner that not only helps you architect, design and deploy network, cloud, and security solutions that meet your unique needs, but also manages them to ensure you're always getting the most out of them — creating a central point of monitoring and response.

Trusted by over 500 customers across Australia, Orro brings together specialist teams with deep expertise in networking, cloud, and security to support your business, no matter your size or what stage of the technology lifecycle you're at.

We don't just set and forget. Our experts are invested from the get-go and we're here for the long haul — helping you understand your capital and operational expenses, so you're in a better position to optimise infrastructure costs early, as well as helping you create the ideal environment for your apps, data, and workloads.

Our strong relationships with world-leading technology companies means you have access to the best solutions in the market and to expertise that can finetune those solutions to fulfil your organisation's unique needs. We retain the highest levels of certification across multiple top-tier partners.

[Learn more about Orro](#)

Ready to explore next steps?

Get in touch for a personalised assessment of your environment and insights on how to move forward:
sales.enquiries@orro.group