

# Macquarie Telecom SD-WAN in 7 Minutes.

It's about time.

# Hello, SD-WAN.

Take branch office  
networking as you know it.

Subtract slow rollouts,  
inflexible private links  
and complex upgrades.

Add app-level visibility,  
rapid deployment  
and high-performance.

Allow for 10 minutes  
to get operational.

SD-WAN. It's about time.



## Never miss a beat.

It's about time your business stopped relying on just one network connection.

SD-WAN rethinks the way networks work, by using multiple links to make sure your connection stays live and runs fast. It lets you decide which apps should take priority over the network, too, so an influx of mid-morning Facebook streaming won't take bandwidth away from crucial business applications like video conferencing. And it even uses clever forward error correction to make sure your calls and streaming are glitch-free.

For your business, it means saying goodbye to video conference jitters and slow SaaS, and hello to communications and mission critical applications that never miss a beat.



## Deploy, not delay.

It's about time you could grow your business without needing technical network consultants and waiting for big telcos.

We'll have your new sites connected to the network in days, not months, and anyone can do the installation. Suddenly, on-site technicians are a thing of the past. It's about twenty times faster than the industry standard deployment, and there's only seconds of downtime in the transition. We can even deliver the power of your business network to remote or temporary sites that traditional tech can't touch.

When everything else in business is complex, there's finally an option to make networking simple.



## Take back control.

It's about time you could actually see what's happening on your network.

SD-WAN introduces a dashboard that puts you in control of your network. You can see which links are up or down, and how they are performing. You can even see which applications are using the most bandwidth – and restrict or prioritise them in realtime. And you don't need an IT degree to do any of it.

We keep your data safe too, by encrypting it at a packet level, so that it's completely secure from origin to destination.

The IT guys call it networking at Layer 7 instead of Layer 2. We call it taking back control of your network.



## #1 for SD-WAN.

It's about time you could count on a telco to make networks work.

We realise that a network change is as scary as it is exciting, so it's worth knowing that while SD-WAN's technology is advanced, you won't be experimenting blindly with the unknown.

Macquarie Telecom is the #1 supplier of SD-WAN networks in Australia, and it's only with us that you'll get the combination of network choice and diversity and the industry's highest Net Promoter Score.

So lead your category without the risk. Choose #1 for SD-WAN.

# Traditional networks = challenges. Macquarie Telecom SD-WAN = solutions.

Our SaaS applications need a fast, reliable network that can keep up.

Business app prioritisation and link bonding

=

**speed and consistency.**

Calls and video conferences with dropouts won't work for us.

Exceptional low latency and error correction

=

**stability and freedom from dropouts.**

When we need a new site rolled out, we can't wait.

Self-installation, remote configuration

=

**no delays, no on-site technicians.**

Our network has problem sites. We just need them to perform.

Seamless integration and network project expertise

=

**a hybrid network for true flexibility.**

We need visibility and control. All in one place.

Single screen for app reporting and network control.

=

**granular control and simple management.**

On top of all this, we need uncompromising security.

Packet-level data encryption

=

**safe data, total compliance.**

# Macquarie Telecom SD-WAN in a nutshell.

## An intelligent network .....

SD-WAN intelligently binds two or more data services together: ADSL and Ethernet, for example. The SD-WAN box then treats the amalgamated services as a single data pipe, and splits data packets intelligently over these services to maximise speed. It chooses which service to send each packet through by measuring realtime performance - intelligently compensating for packet loss, latency, jitter and capacity – and picking the best link for each packet of data. It then assembles the packets at the other end.

The SD-WAN box is smart enough to prioritise data packets according to their application. So a voice call or video conference, which needs super low latency, will take priority over email or an OS update. The result is communication that's clear and consistent, that doesn't get in the way of being productive.



## .....that's quick to deploy..

Internet links like ADSL and EFM (Ethernet First Mile) are available at most sites. By using these instead of traditional private leased lines, SD-WAN makes site rollouts fast and simple.

Where traditional MPLS-based line installations could take a couple of months from request to go-live, an SD-WAN site can be connected to an ADSL line and be operational in less than a week.

For immediate deployment at new sites that don't already have a land-based link, we can use 4G to get your site up and running almost immediately. If you have a site that will never have a land-based link (like a pop-up shop or construction site), we've got you covered there too: SD-WAN can run permanently over 4G.



## without on-site technicians .....

SD-WAN amalgamates a number of traditionally separate hardware items into a single box. The functionality of routers, firewalls and switches is built into the Macquarie Telecom Edge device that sits at each of your sites.

In traditional WANs, these appliances are often supplied and supported by different vendors, which makes setup, maintenance and troubleshooting a cumbersome process.

The Edge box can be installed by someone with no technical expertise. It's remotely configurable, so there's no need for technicians to attend your site for an installation or upgrade. Device configuration and policy changes are all performed remotely too, using the Macquarie Telecom Orchestrator. We'll introduce that next.

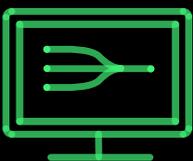


## .....and which can be controlled from a single screen..

SD-WAN provides control over your entire network from a single screen.

We call our control portal the Orchestrator. It lets you activate new sites or reconfigure existing ones, monitor network performance in realtime, and troubleshoot. If the network isn't performing at its best, you can view traffic in real time and break it down by application, site or user.

Whether the network is being dragged down by a large software update rollout or a spike in personal YouTube streaming, the cause can be identified on the spot, and rectified.



## to deliver supreme application performance

SD-WAN is designed for a multi-app world. You can prioritise network traffic so business-critical apps have bandwidth to fly, while personal apps like YouTube streaming are kept at bay.

The Orchestrator provides granular control over how you prioritise your applications. Over 3,000 apps are already classified and can be instantly prioritised. You can easily customise app traffic according to your specific business needs, too.

This means that business-critical video conferencing and remote desktop sharing can take priority over Facebook browsing or YouTube streaming. It also means you can make realtime traffic flow adjustments instantly for your whole network, the moment they become necessary.

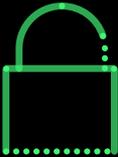


## that's compliant with security standards

SD-WAN is secure from end-to-end.

Standard IPsec encryption is provided, no matter what type of connecting links it steers the data across.

This means that security standards like PCI 3.0, which protect financial transaction data travelling to and from retail sites, are assured at all points along the SD-WAN network. By including compliance as part of your network functionality, you'll have more flexibility and control over your payment processing systems.



## and gives you class-leading uptime

Multipath technology does more than deliver fast data and transfer performance. It also delivers redundancy through the use of more than one link.

When the single link in a traditional private network goes down, business is put on hold until the network is restored. SD-WAN is different. By using more than one link, across different technologies, downtime is virtually unheard of. The Edge can instantly change data traffic routing when a link falls down, so your staff can keep doing business.

You also have the option of using more than one carrier to provide your links. We call this carrier diversity, and it prevents a carrier-wide outage from bringing your business to a standstill.



## at no extra cost over traditional networks.

SD-WAN is no more expensive than traditional MPLS-based WANs.

It's more flexible, it's quicker to deploy, and it confines on-site technicians and complex network management to the past.

It's built for a modern environment where applications and data live in the cloud, and unlike traditional networks, its architecture doesn't get in the way of high performance.



## Multi-Path does magic with multiple links. Here's how.

1

A standard network has a single link.  
Sometimes it's fast, sometimes it's slow. And sometimes it's down.



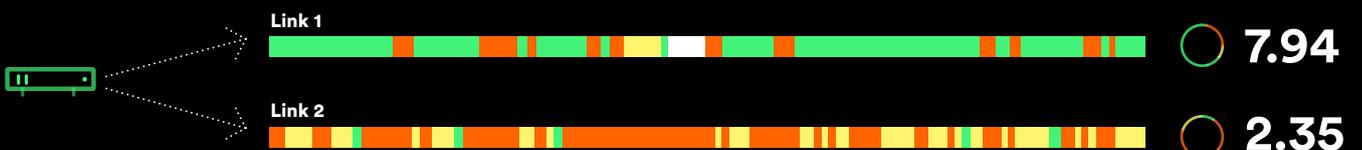
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SD-WAN uses more than one link.  
Some traditional networks do this too, but they use the second link as a backup.  
It sits on standby, waiting to be used when the main link is down.



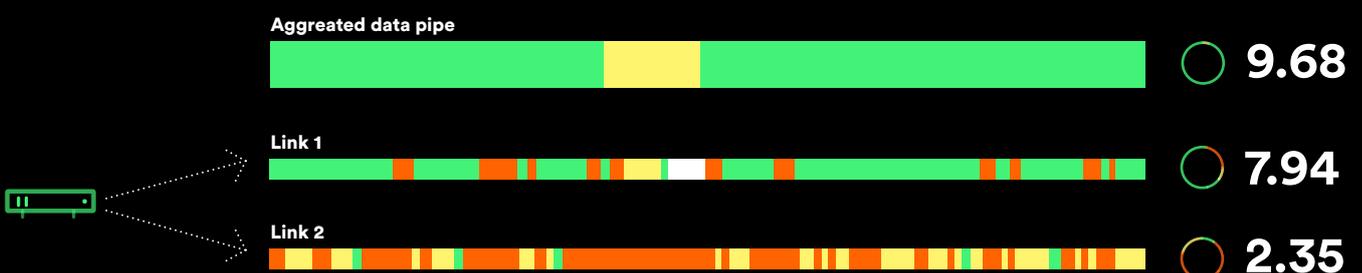
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SD-WAN uses all the links, all of the time.  
The Edge device sends each data packet over whichever link is faster at each given second.  
At the other end, the data packets are glued back together instantly.



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The result?  
A fast aggregated data pipe, with consistent performance for SaaS,  
applications and streaming.



# Multi-Carrier.



## Carrier diversity: because not all SD-WANs are equal.

**When you choose Macquarie Telecom for SD-WAN, you're choosing true carrier diversity. And that means near-zero downtime.**

Other SD-WAN companies may provide multiple links, but they're limited to a single carrier. So when there's a carrier-wide outage, your whole network goes down.

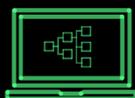
We do things differently, by offering multi-carrier SD-WAN. That means your first link might be ADSL with one carrier, your second could be fibre from another, and it can all be backed up by 4G from a third.

Macquarie Telecom SD-WAN brings all these links together to make a single, powerful data pipe. When one carrier has an outage (and let's be honest, it can happen to any of them), the other links seamlessly keep your business up and running.



# The SD-WAN platform.

The heart of Macquarie Telecom SD-WAN is our Edge device - a powerful box that makes new sites easy to set up and configure. Then there's the Orchestrator - the mind of SD-WAN that makes controlling and watching your network dead simple. And behind SD-WAN's high performance for applications, you'll find Macquarie Telecom's network of gateways.



## Macquarie Telecom Orchestrator.

The Orchestrator lets you take back control. On a simple screen, you can see which apps are using the most bandwidth at any site – and prioritise them. So the mid-morning YouTube crowd will no longer bring crucial video conferences, voice calls or realtime applications to a standstill.

The Orchestrator is a window on your whole network. You can see the performance of any site in real time, or zoom in on individual links to monitor or troubleshoot them.

On top of all that, the Orchestrator makes deploying and updating your sites and policies a breeze. With only a few clicks, you can instantly push settings down to a site – or to several at once.



## Macquarie Telecom Edge.

Rolling out a new site on your network is dead easy with Macquarie Telecom SD-WAN. Take the Edge box out of its packaging, plug it in, and then configure it remotely from the Orchestrator with a couple of clicks.

It's a world away from sending technicians out to your new site to manually program complex pieces of hardware.

At smaller branch offices, the Edge can take the place of a number of pieces of gear. It's your firewall, your Wi-Fi access point, and it can take the place of a switch too. Say goodbye to managing lots of separate pieces of equipment and multiple vendors for service.



## Macquarie Telecom Gateways.

We run a network of multi-tenant gateways right around Australia, which support the full range of SD-WAN features.

Macquarie Telecom Gateways provide a scalable and distributed infrastructure, with the advantages of a hosted network and service flexibility.

Our gateways deliver optimised access to cloud applications and data centres, as well as seamlessly connecting to private network backbones and legacy enterprise sites.



## Easy 4G backup.

4G backup offers an instant backup service if your other data links fail. Setting it up is as easy as plugging in our USB dongle. No complex configurations or caveats.

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## Voice support.

Thanks to our unique performance and resilience features, we support high-quality voice, with a MOS score SLG, which hasn't been possible before. This provides more flexibility when you migrate to (or continue to use) SIP/VoIP.

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## Full high availability.

Having up to four data services connected to the same SD-WAN appliance is no use if that appliance fails! Adding a second device as a warm spare removes that single point of failure - and can still provide full bandwidth during device failures, if you have an NBN link.



## Local internet breakout.

Why send all your traffic into the core of your WAN when it's heading to the Internet? Local Internet Breakout directs Internet-destined traffic to the shortest possible route. This means latency down, and performance up.

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## Network error mitigation.

The SD-WAN Edge device examines the condition of each data link constantly, and has a number of ways of extracting the most from them. This even includes using all of the available data services at once when sending high-priority packets such as voice, to ensure timely packet delivery in adverse situations. Jitter buffering and pre-emptive pack retransmission round out the mitigation feature set.

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## Self service.

When you choose Macquarie Telecom SD-WAN, you'll get read-only access to our web portal, giving you visibility of a wealth of network information. This can be upgraded to read/write access, allowing you to manage your own application priorities, firewall rules and routing policies.



## Application performance.

Traditionally, it's been complex to control the way your network prioritises applications. It's required complex QoS configurations, sometimes requiring tens or even hundreds of QoS policies that need to be individually managed. Macquarie Telecom SD-WAN uses application fingerprinting to see what traffic is traversing the WAN and a simple drag/drop process to define the relative priority of your apps. QoS policies can still be defined if necessary, for backwards compatibility.

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## Network bonding and resilience.

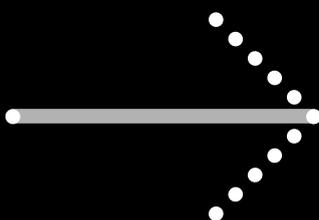
SD-WAN utilises all your available data services, all the time, to maximise your available bandwidth. If a data service fails, all you'll see is a temporary reduction in total bandwidth, not a complete site outage. SD-WAN means that an outage doesn't bring your business to a standstill.

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## Carrier diversity.

Macquarie Telecom provides data services from all the major carriers. When you choose SD-WAN with Carrier Diversity, your data services can be delivered by multiple carriers. This way, a carrier outage doesn't have to bring your whole network down with it.



## Up to 25/5



Our Small Retail bundle provides key features like app prioritisation and network error mitigation, at an accessible price. It can operate over 4G, which is ideal for sites that are temporary or difficult to access.

## Up to 50/10



The Small Site bundle is a cost-effective, resilient data service that adds voice calling and higher data speeds. It supports link bonding and optional carrier diversity for unmatched uptime. The Small Site bundle supports up to 20 concurrent voice calls using an ADSL link, or up to 35 concurrent calls over the NBN network.

## Up to 50/20



Our Medium Site bundle delivers higher levels of bandwidth, supporting a greater number of concurrent voice calls and higher data speeds.

## Up to 100/40



The Large Site bundle uses a pair of high bandwidth NBN fibre or Ethernet over copper services, to meet the bandwidth requirements of much larger sites. It can support up to 75 concurrent voice calls.

## Up to 200/80



Our Head Office bundle makes use of very high speed NBN links, or carrier grade Ethernet fibre services, to deliver up to 300 or 450 concurrent voice calls respectively. It also offers carrier diversity for further assurance against downtime.

## Up to 200/80 High Availability



The High Availability Head Office package takes away all single points of failure by incorporating a second Edge router as a hot standby that's ready to kick in instantly if the primary device fails. This package delivers full network and device redundancy for the ultimate uptime assurance.



**To find out more about what we can do for you,  
please call us on 1800 789 999 or visit  
[macquarietelecom.com](http://macquarietelecom.com).**

