

# Etherwave CE VPN

Layer 2 Ethernet delivering high speed, Quality of Service enabled and symmetrical connectivity for enterprise, government, carriers and service providers. Carrier Ethernet (CE) is the fastest growing Layer 2 network technology for the delivery of Next Generation Networks.



anything  
anywhere  
everytime

vertel™  
Converging Wireless Networks

# What is Etherwave CE VPN?

Etherwave CE VPN is compliant with Metro Ethernet Forum standards and is delivered over carrier grade microwave access and a fibre optic IP MPLS core. The service is delivered in point to point, multipoint and point to multipoint configurations.

Our Etherwave CE VPN service is based on E-Line, E-LAN and E-Tree configurations. The service delivers flexible, symmetrical and Quality of Service (QoS) enabled connectivity with clear Service Level Agreement (SLA) backed performance throughout most populated areas in Australia.

Quality of Service  
based Layer 2  
Ethernet

Etherwave CE VPN is delivered over carrier grade microwave and radio access technologies (Etherwave Link) using ACMA licensed spectrum. Each link is designed to an availability of 99.995% and is proactively monitored to clear performance targets.

Carrier grade wireless  
access technologies

Our Etherwave CE VPN network utilises an MPLS core and is capable of carrying legacy TDM, Ethernet and IP based traffic over the same physical infrastructure. Etherwave CE VPN is available in remotely managed and configured bandwidths of 5Mbps to 1Gbps

Service flexibility and  
bandwidth scalability

As a fully managed service, we set, meet and report against SLA that meet and exceed those offered by incumbent fibre providers. We proactively manage end to end network performance through network monitoring, a 24 x 7 x 365 Service Desk and on call technical staff.

Clear Service Level  
Agreements

We take end to end responsibility and ownership of the network design, commissioning, ongoing maintenance and management of the Etherwave CE VPN service. We can design the service to include diversity in the access or backhaul network in instances where higher availability is required.

Fully managed service  
offering

We own and manage all elements of the access and core network switching / routing infrastructure. This ensures quality of service and allows our engineers the flexibility to rapidly respond to your changing requirements.

Independently owned  
and managed network  
infrastructure



# Why use Etherwave CE VPN?

Our Etherwave CE VPN services are ideally suited to provide point to point, multipoint and point to multipoint delivery of packet based video, voice and data applications to enterprise, government and service providers located in areas underserved by fibre optic infrastructure.

## Alternative to fibre optic connectivity

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We own and operate more than 150 sites and have access to a portfolio of over 3,000 partner sites throughout Australia. This combined with access to partner backhaul networks enables rapid delivery of our Etherwave CE VPN service to areas underserved by fibre infrastructure.

## Low establishment fees and flexible terms

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Unlike fibre based infrastructure, our Etherwave CE VPN service can be delivered without excessive upfront commissioning fees and or long term service contracts.

## Future proof your networking architecture

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Carrier Ethernet is the globally accepted Layer 2 networking technology for handling existing legacy TDM and emerging IP packet based applications over a single Quality of Service and Class of Service based service. Etherwave CE VPN provides you with simple transition path to an all IP architecture.

## Consolidate and reduce costs

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Many organisations still utilise a number of different connectivity technologies such as ISDN, Frame Relay, X.163 and DDS for interoffice connectivity. The use and management of multiple services results in higher overall costs and poor bandwidth utilisation. Etherwave CE VPN optimises organisation's connectivity spend by consolidating legacy and next generation services across a single Ethernet connection.

## High availability with innovative redundancy options

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Our confidence in service quality is underwritten with well defined SLA and monthly rebates for non performance. For true diversity and higher network availability, we offer full redundant path and media diversity options.

## Simplicity of use and full network control

Ethernet is the most cost effective and simple to manage network service for connecting two or more locations. Etherwave CE VPN gives your IT department complete control over the management and configuration of the network bandwidth.



## User Applications

**Create Layer 2 VPN:** Innovative organisations are using Etherwave CE VPN to create Layer 2 Ethernet VPN. These VPN delivering Class and Quality of Service backed, point to point and multipoint LAN services within or across metro areas.

**Deliver network redundancy:** Etherwave CE VPN is the ideal solution for true network diversity as there is complete physical separation of the access and core infrastructure to that of your primary network provider.

**Deliver high speed Internet:** Our Etherwave CE VPN service provides a Quality of Service enabled transport and interconnect service for upstream Internet and emerging Cloud Computing applications.

**Transition to IP network:** Our VPN services handle both legacy and packet based applications over a single network connection. This allows for a simple and cost effective network transition to a next generation network and associated services.

**Extended network coverage:** Etherwave CE VPN is being used by Carriers and Service Providers to dramatically extend the coverage of their networks and services. They are replacing aging TDM connections with Ethernet.

**Next generation backhaul:** Etherwave CE VPN is set to play a critical role in the upgrading of TDM based backhaul networks for wireless (3G, LMR, SCADA) and wireline (DSLAM, Fibre) networks. The ability to handle legacy E1 and IP on the same infrastructure is a key benefit.

## Our Mission

To be the private wireless networks provider of choice for enterprise and government organisations that value service excellence, innovation and partnering.

Etherwave CE VPN						
	EP-Line	EVP-Line	EP-LAN	EVP-LAN	EP-Tree"	EVP-Tree"
<b>UNI Service Attribute</b>						
Physical Medium	IEEE 802.3-2005					
Interface Speed	10Mbps; 100Mbps, 1Gbps					
Mode	Full Duplex					
MAC Layer	IEEE 802.3-2005					
UNI MTU Size	1600; 2000; 9600^					
Service Multiplexing	No	Yes	No	Yes	No	Yes
Bundling	No	Yes	No	Yes	No	Yes
All to One Bundling	Yes	No	Yes	No	Yes	No
Maximum Number of EVCs	1	15*	1	15*	1	15*
<b>EVC Service Attribute</b>						
EVC Type	Point to Point	Point to Point	Multipoint to Multipoint	Multipoint to Multipoint	Rooted Multipoint	Rooted Multipoint
Maximum Number of UNIs	2	2	10*	10*	20*	20*
EVC MTU Size^	1600	1600	1600	1600	1600	1600
CE-VLAN ID preservation	Yes	Yes	Yes	Yes	Yes	Yes
CE-VLAN CoS preservation	Yes	Yes	Yes	Yes	Yes	Yes
Unicast Service Frame Delivery^	Unconditional	Unconditional	Unconditional	Unconditional	Unconditional	Unconditional
Multicast Service Frame Delivery^	Unconditional	Unconditional	Unconditional	Unconditional	Unconditional	Unconditional
Broadcast Service Frame Delivery^	Unconditional	Unconditional	Unconditional	Unconditional	Unconditional	Unconditional
Frame Loss	< 0.05%					
Frame Delay	< 10 ms metro; 50ms national (round trip)					
Frame Delay Variation	< 15ms for 'end to end' service					
QoS / CoS	Best Effort, Business, Priority, Real Time					
<b>Service Attributes and Support</b>						
Bandwidth	2Mbps-1000Mbps					
Coverage	Most populated areas in Australia					
Network Availability	Platinum 99.99%; Gold and Silver 99.95%					
Service Desk	Platinum 24 x 7 x 365; Gold and Silver Business Hours					
Response / Restore	Response 1 hour (Platinum,Gold, Silver); Restore 4 hours (Platinum), 8 hours (Gold, Silver)					

\* additional UNI and EVC on request

^ dependant on access service and service location

" final service specifications pending MEF ratification

anything  
anywhere  
everytime

PHONE 1300 VERTEL EMAIL [info@vertel.com.au](mailto:info@vertel.com.au) WEB [www.vertel.com.au](http://www.vertel.com.au)  
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