



Wholesale

Internet Protocol Virtual Private Networking (W-IPVPN)

power to you

Wholesale W-IPVPN

Wholesale's W-IPVPN is a carrier grade Internet Protocol Virtual Private Networking (IPVPN) solution enabling carriers and service providers to resell connections between customer LANs for voice, video and data New Zealand wide.

Technical overview

W-IPVPN offers high speed Layer 3 Wide Area Network (WAN) connectivity between 2 or more customer sites within New Zealand and at selected locations in Australia. Using W-IPVPN, carriers and service providers are able to interconnect multiple customer sites and build value add applications over bandwidths from 64K to 1Gbps.

W-IPVPN uses RFC2547 BGP/MPLS to create VPNs. Multiprotocol Label Switching (MPLS) is used to forward packets over Wholesale's IP Backbone. Border Gateway Protocol (BGP) is used to distribute routes over a Juniper and Cienna backbone.

Juniper Provider Edge (PE) and Large Enterprise Provide Edge (LEPE) routers provide the interface between the customer's access and Wholesale's MPLS core. A unique Virtual Router Functionality (VRF) is configured for each customer VPN on each of the PE or LEPE routers which are then logically connected across the MPLS backbone to provide secure any to any connectivity within the customer VPN.

A range of Layer1, Layer2 and multiplexing methods can be used for access circuits which include ethernet, frame relay or ATM transmitted directly over fibre, copper, or wireless or multiplexed.

A range of attachment circuit options are available both ONNET and OFFNET using a variety of data link layer protocols and last mile physical media. Examples include ethernet, frame relay or ATM transmitted directly (or multiplexed using xDSL/TDM) onto fibre, copper, or wireless media.

W-IP VPN supports six Classes of Service (CoS) that determine prioritisation of traffic for forwarding through the Network. Two CoS options are able to be configured as follows:

- (a) Static CoS applies single "Data transfer" CoS prioritisation to all IP packets received
- (b) Dynamic CoS applies CoS prioritisations to individual IP packets received based on markings applied by the end user.

Wholesale W-IPVPN service features and benefits

| Features | Benefits |
|--|---|
| Highly meshed MPLS enabled IP backbone | Supports flexible network design with any to any connectivity. Easy to create and convenient for service migration. |
| Multiple access technologies for maximum reach | Extends carrier and service provider coverage without heavy CAPEX investment. |
| Support for multiple Classes of Service | Supports a diverse range of application |

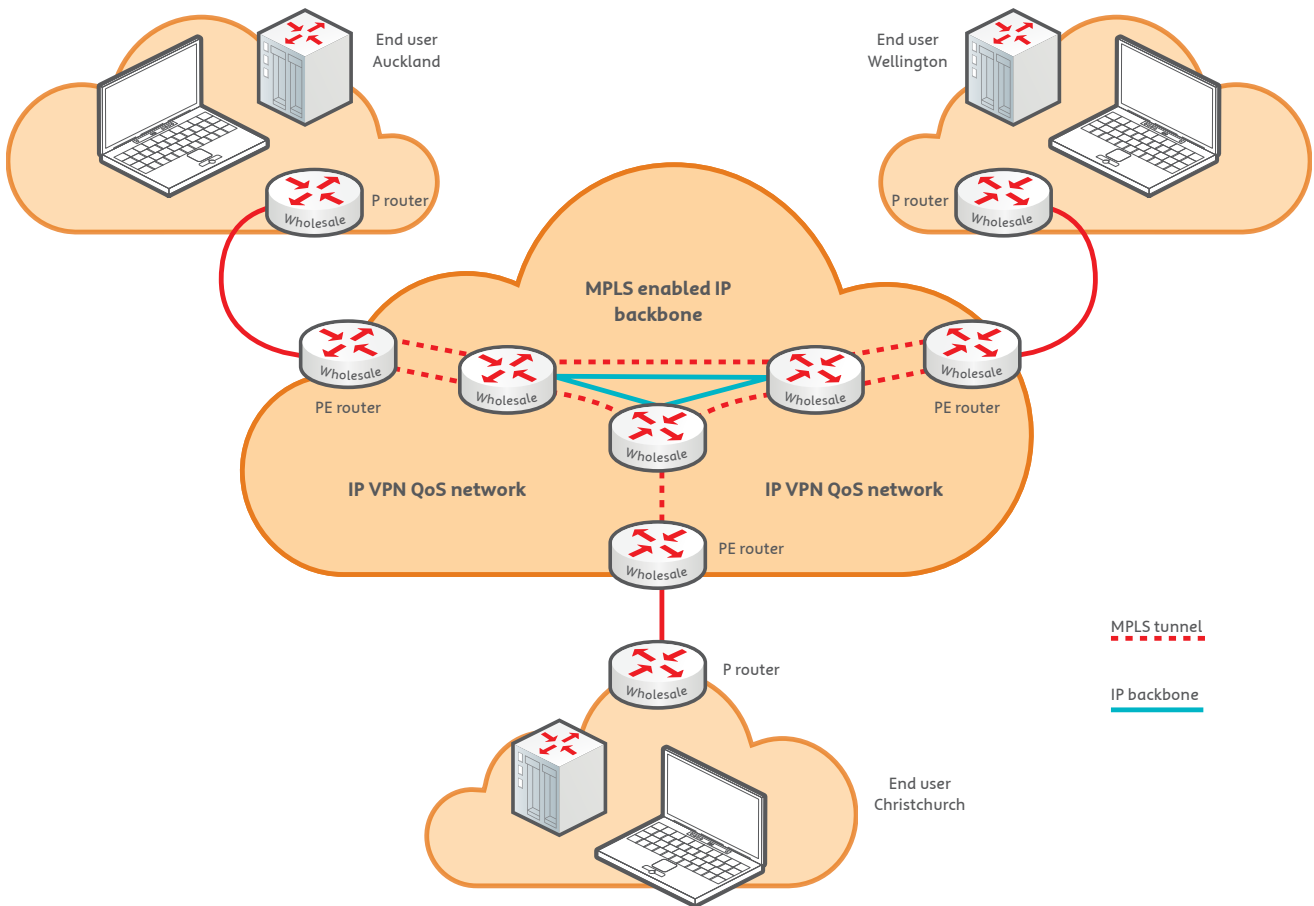


Figure 1
Wholesale
Internet Protocol Virtual Private
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Associated products

Retailers looking to build their portfolio with IPVPN may also wish to add **Wholesale Ethernet, Frame Relay** or **HSNS** to build end to end services between customer sites.

To order Wholesale IP-VPN or for further information please contact your Wholesale Account Manager.

