



Fact Sheet

Ethernet (W-ETN)

WHAT IS IT?

TelstraClear Wholesale Ethernet (W-ETN) is a flexible, high speed, layer 2 networking solution that links customer LAN's across two or more sites within a city in point to point or point to multipoint configurations. It enables you to design, build and manage high speed data networks based on Ethernet technology in the backbone/core, access network or both.

WHAT DOES IT DO?

W-ETN gives your customers an access service to your networks, provides backbone networks between your sites, and connects your customers' sites. Your customers gain access to scalable bandwidths and are able to run bandwidth hungry corporate applications such as enterprise resource planning, customer relationship management and host back-up, disaster recovery, multimedia and IP Telephony.

Our Ethernet services utilize a gigabit Ethernet-switched metropolitan area network, with points of presence in the cities of Auckland, Hamilton, Tauranga, Palmerston North, Wellington, Christchurch and Dunedin.

HOW DOES IT WORK ?

The W-ETN service is hosted from Extreme Networks Ethernet switches and is delivered at a customers site either as a direct Cat5 cable extension from a switch port (for host switches co-located at customer sites) or indirectly via single-mode fibre optic cable and a fibre optic media converter (for host switches located at TCL POP's). TCL host switches are connected via 1000Mbit/s backbone uplinks to the W-ETN network. A port on the host TCL switch is allocated to the customer and activated to the requested configuration. When the customer's data is sent to this port, the data is placed into a unique TCL Wholesale VLAN (Virtual Local Area Network), which securely passes it through the W-ETN network. When the data reaches the destination port it is removed from the TCL Wholesale VLAN and delivered to the receiving port where it is presented to the end customer.





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WHO IS IT FOR?

W-ETN is all types of customers that want to offer fully managed, point to point and multipoint Layer 2 Ethernet services to their customers.

Specifically, it can be used for:

- Access services to Service Provider Networks
- Stand-alone services between Service Provider sites
- Services between third party sites
- Backbone connections
- Backup or Storage Area Networks (SAN) networking
- Disaster Recovery

WHAT ARE THE BENEFITS?

TelstraClear Wholesale is a proven supplier of managed, end to end Ethernet solutions with a high level of technical expertise in the Ethernet area. These solutions are provided on a highly robust platform with extensive reach to businesses in CBD and suburbs and, being highly scalable, you can expand your network without having to invest in additional network infrastructure.

You usually don't have to invest in additional equipment to connect to W-ETN and the interfaces are straightforward. TelstraClear manages and maintains the network for you, leaving you free to focus on your customers.

With our VLAN management, you can offer your customers a secure solution, allowing them to focus on their core business processes knowing that their critical business data transmission requirements are safe and secure.



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SERVICE FEATURES

W-ETN supports a wide range of routeable network protocols including TCP/IP, IPX/SPX, DECnet, Appletalk and VINES. You can also use to transport non-routeable protocols such as NETBIOS, NetBEUI and LAT.

State of the art switches deployed in TCL POP's and customer buildings provide you with ready to use W-ETN service delivery points. We offer three types of Ethernet service configuration – Point to Point, Multipoint and Aggregated:

POINT TO POINT ETHERNET

Our standard Wholesale Ethernet service provides a point to point connection between two sites (one TelstraClear VLAN, two sites). This service places both the A end and B end in a dedicated Ethernet segment, with the two sites transmitting unicast traffic to one another only via a native Ethernet connection. When using a point to point network, it is recommended that both sites operate at the same access rates.

TelstraClear Wholesale Ethernet (W-ETN)

Point to Point Ethernet

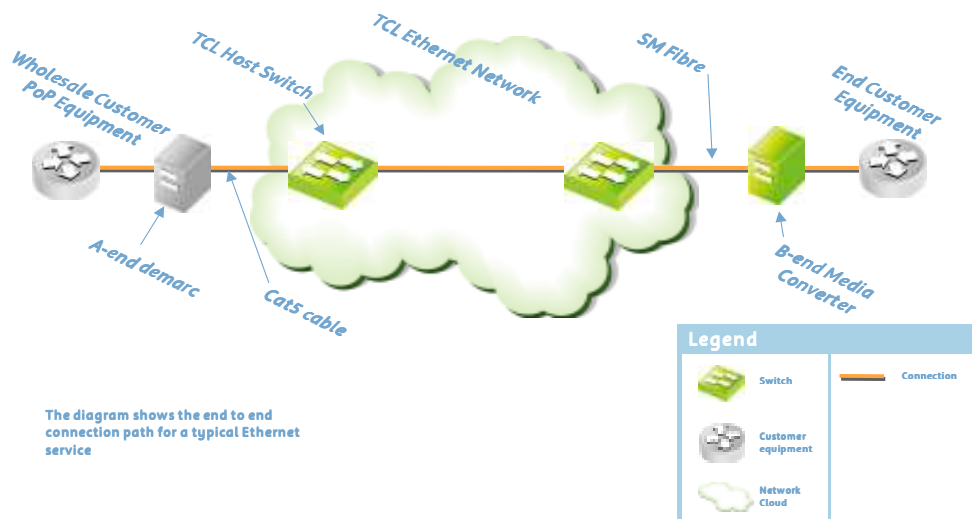


Figure 1 – W-ETN Point to Point Ethernet



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MULTIPOINT ETHERNET

This allows connection of more than two sites to the same TelstraClear VLAN service. If three sites are connected to the same TelstraClear VLAN unicast traffic can be directed from any of the three sites to any other. Using the multipoint network allows a number of your sites to be connected over a single LAN segment. The multipoint network allows direct Layer 2 and any to any connectivity between the sites for greater throughput and site aggregation. Multipoint Ethernet ensures that traffic between remote sites meets your desired traffic scenarios (see figure 2)

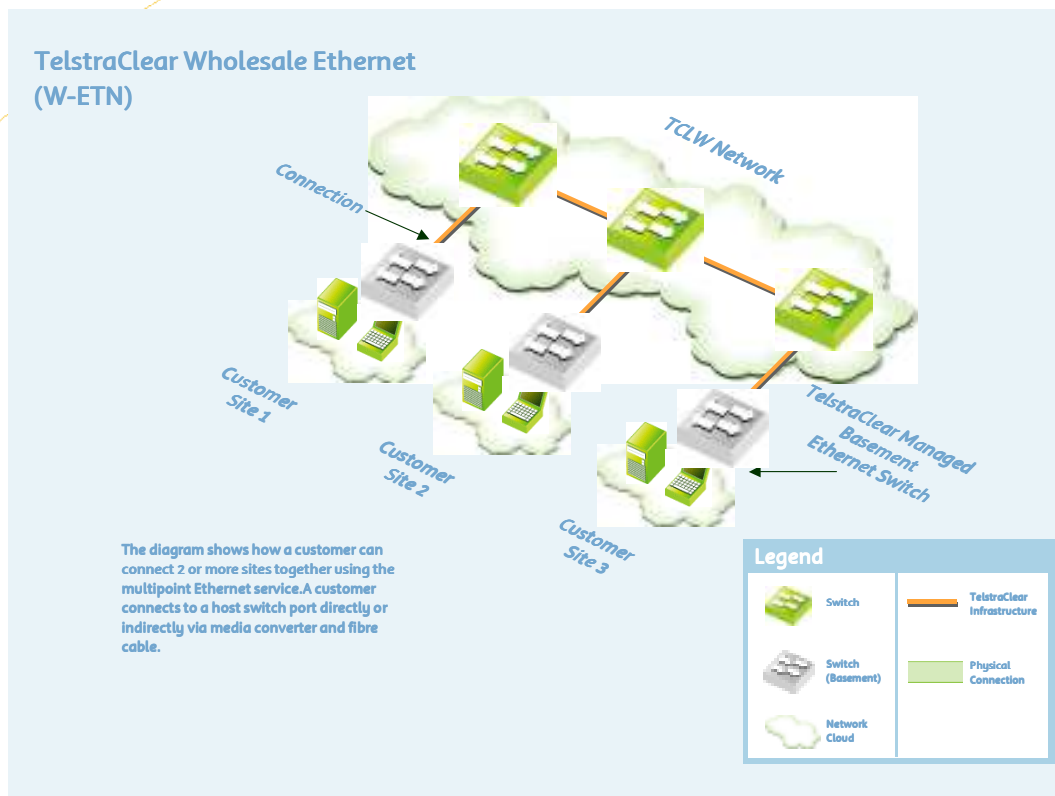


Figure 2 – W-ETN Point to MultiPoint Ethernet



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AGGREGATED ETHERNET (IEE 802.1Q VLAN TAGGING STANDARD)

Our aggregated Ethernet service allows multiple point to point or multipoint services to be delivered via different TelstraClear Wholesale VLAN's to a single W-ETN port at your POP site. This aggregation port will be configured as an Ethernet trunk 802.1q port. This feature will then present each TelstraClear Wholesale VLAN to your CPE. (NB – VLAN numbering on aggregate ports must always be from TelstraClear assigned number ranges) . Tagged (Aggregation) ports must be 100M or 1000Mbit/s.

TelstraClear Wholesale Aggregated Ethernet

The diagram shows how a customer can offer Ethernet connectivity to its end users using the TCL Wholesale Ethernet network. The end users connect via a native Ethernet with their TCL VLAN's extended to a common port at the customer PoP site. (Does not support Q in Q)

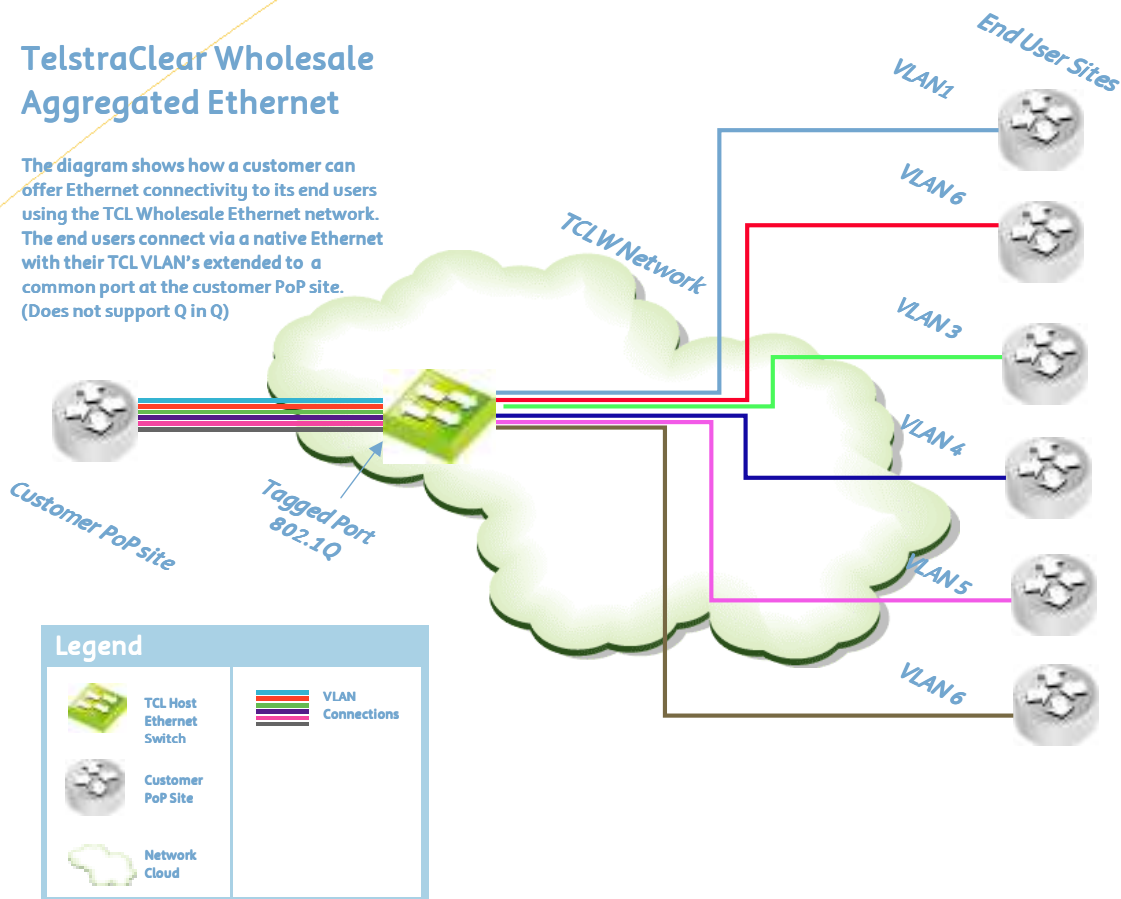


Figure 3 – Aggregated W-ETN using 802.1Q



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CUSTOMER INTERFACE

W-ETN interface speeds are 10/100/1000 Mbit/s and conform to IEEE standards. The service delivery point for the W-ETN interface is typically an RJ45 modular jack on either a mounted block or jack strip or a Media converter . Table 1 shows the W-ETN options that are available.

802 Standard	Description	Speed
802.3	10BT RJ45 Full-Duplex Interface. No auto-negotiate.	10Mbit/s
802.3u	100BT RJ45 Full-Duplex Interface. No auto-negotiate.	100Mbit/s
802.3z	100Base-LX/LH over 1310nm single mode optical fibres, SC interface	1000Mbit/s
802.3ab	1000Base-TX over category 5e/6 UTP	1000Mbit/s

Table 1 – Available Interfaces for W-ETN



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Selected additional subscribed access speeds are available and are achieved by access port rate limiting features. The rate policing function at the network edge allows you to select access rates (Metro Bandwidth) that is less than the nominal interface speed. For example, you might choose a Metro Bandwidth of 5 Mbit/s from a 10Mbit/s interface.

Metro Bandwidth Speed	Physical Line Speed
200k 500k 1M 2M 5M 10M	10Mbit/s
2M 5M 10M 20M 50M 100M	100Mbit/s
20M 50M 100M 200M 500M 100M	1000Mbit/s

Table 2 – W-ETN Access and Metro Bandwidth Combinations





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HOW DO I ORDER IT?

Ethernet services can be ordered through your TelstraClear Wholesale Account Manager. We offer flexible straightforward terms and conditions as part of your CRA (Customer Relationship Agreement) with us.

FOR FURTHER INFORMATION

Contact your TelstraClear Wholesale Account Manager.

