

MetroEthernet Options

Customise your service features for optimum performance



With VectorFibre MetroEthernet you can choose between a range of options for bandwidth, service availability, service configuration and tagging. By selecting the service levels and characteristics that best suit your application environment, you can achieve optimal performance and get the best value for money from your network services.

How it works

MetroEthernet supports a wide range of service options. Choose from the following –

1. **Service Availability** – five options for service availability depending on criticality of the service.
2. **Service configuration** – choose between EPL, EVPL, EP-LAN or EVP-LAN.
3. **Bandwidth** – different levels with Committed Information Rate.
4. **Service Frame Format** – tagged (single tag, double tag) or untagged frames to manage your data traffic.

Your MetroEthernet service will be delivered with your specific combination of service features.



This service is internationally certified for performance and reliability by the Metro Ethernet Forum.

Business benefits

Optimum performance

Customising your service ensures your particular business requirements can be met in the most efficient manner.

Flexibility

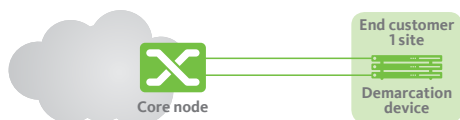
You get services that closely match your requirements with multiple configuration and service options to choose from. So you can manage your costs and performance effectively.

Ease and simplicity

Clear and easy to understand options ensure you get a connectivity solution that meets your requirements.

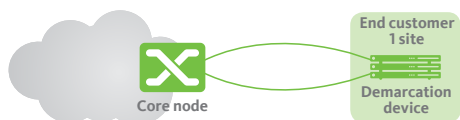
Service availability options

You have the flexibility to choose different levels of service availability according to the criticality of your service. The higher availability options provide added redundancy within the VectorFibre network so that your services are still running even if unlikely events, such as a disruption to fibre or equipment fault should occur.



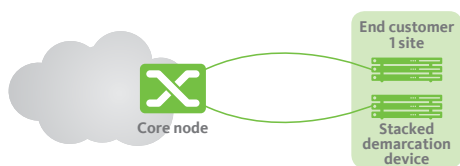
Option 1

The service is delivered over a single building entry with two fibres (or fibre pairs) in the same cable via a single building entry terminating on a single demarcation device. This option protects the service against a fibre fault on an individual fibre (or fibre pair). The service is provided from a single core network node.



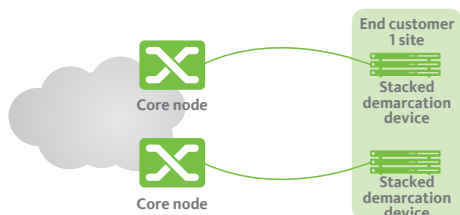
Option 2

The service is delivered on two diverse fibre (or fibre pairs) using two building entries with cable and duct diversity terminating on a single demarcation device. This option protects the service against a fibre faults or cable fault. The service is provided from a single core network node.



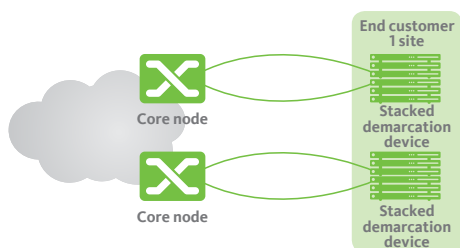
Option 3

The service is delivered on two diverse fibres (or fibre pairs) using two building entries with cable and duct diversity terminating on two independent demarcation devices. This option includes two UNIs and may enable you to share bandwidth between the UNIs. This option protects the service against a failure of the demarcation device, or a fibre fault or cable fault. This option includes two UNIs.



Option 4

The service is delivered on two diverse fibres (or fibre pairs) each connected to independent core nodes providing station diversity using two building entries with cable and duct diversity terminating on two independent demarcation devices. This option includes two UNIs. This option protects the service against a fibre or cable fault, fault of the demarcation device or a fault of a core network node. In this case, the failover of the service is controlled entirely by you.



Option 5

The service is delivered on two diverse fibres (or fibre pairs) each connected to independent core nodes providing station diversity using two building entries with cable and duct diversity terminating on two independent demarcation devices. In addition, the service between each core node and the end customer site is delivered on two diverse fibre (or fibre pairs). This option includes two UNIs. This option reduces the risk of multiple fault events causing a service outage.

Availability Options/ Components	Standard	Option 1	Option 2	Option 3	Option 4	Option 5
Core Protection**	Yes	Yes	Yes	Yes	Yes	Yes
Fibre Diversity	No	Yes	Yes	Yes	Yes	Yes
Geographic Diversity	No	No	Yes	Yes	Yes	Yes
Station Diversity	No	No	No	No	Yes	Yes
Failover Type	No	1:1	1:1	1:1	1:1	1:1
Demarcation Device*	No	1	1	2 (Stacked demarcation device)	2	2
Switch-over		Automatic	Automatic	Automatic	Customer triggered switch-over	Customer triggered switch-over

*Power supply for demarcation devices is customer responsibility unless alternative option is agreed.

**All availability options are subject to availability.

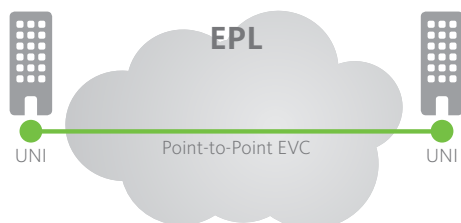
**Auckland metro area only.

Notes

- **Core protection** – redundant equipment and links in the VectorFibre core network
- **Fibre diversity** – the additional link is provided on a separate fibre within the same cable.
- **Geographic diversity** – the additional link is carried over a duct that is geographically diverse.
- **Station diversity** – the additional link is connected through to a different core network node.

Service configuration options

You can choose between three different network configurations.

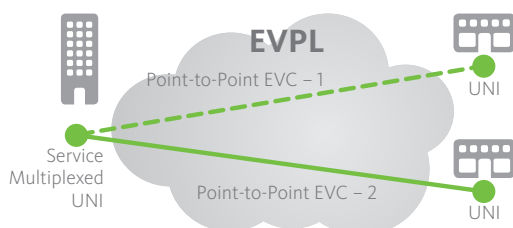


Ethernet Private Line (EPL)

What it does Provides point-to-point connectivity with transparent Ethernet frame forwarding and committed rate bandwidth.

Ideal for Linking local networks at two sites. Frame-loss and jitter sensitive applications such as Video and Voice. Low-latency applications such as financial services. Continuous high-speed connection to a remote server, application host or corporate data centre. Real-time data mirroring with remote back-up service.

Benefits 100% Committed Information Rate (CIR) connection, meaning the bandwidth you specify is reserved exclusively for your own use. Fully transparent connectivity.

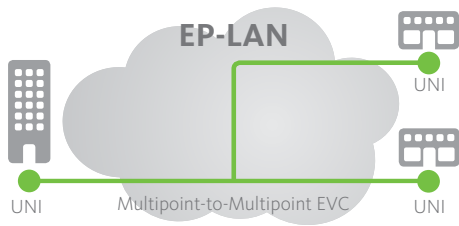


Ethernet Virtual Private Line (EVPL)

What it does Provides point-to-point connectivity with the ability to aggregate multiple services onto a single UNI.

Ideal for High-speed customer connections for ISPs and other service providers. Giving key suppliers and customers secure access to your network. Distribution of centrally stored data or applications to remote sites. Remote backup across multiple, mirrored servers for security and rapid disaster recovery.

Benefits Connect to multiple customers via a single UNI to minimise cost and management complexity.

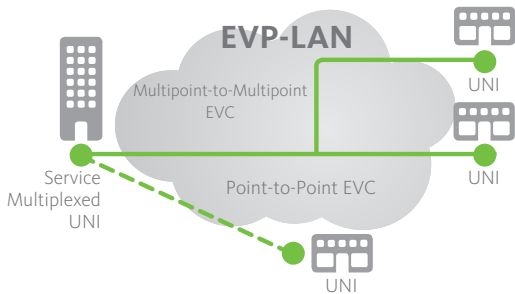


Ethernet Private - LAN (EP-LAN)

What it does Enables interconnection between multiple sites so all sites appear on the same Local Area Network (LAN) and have equivalent performance and access to resources with transparent Ethernet frame forwarding.

Ideal for Creating a wide area network for organisations that require high performance and transparency, including intra-company voice and data communications.

Benefits Sites can be quickly and easily added to an EP-LAN, without reconfiguring existing sites. Fully transparent connectivity. Seamlessly share data, applications or services across the enterprise or with business partners.



Ethernet Virtual Private - LAN (EVP-LAN)

What it does Enables interconnection between multiple sites with the ability to aggregate services onto one or more UNIs.

Ideal for Creating a wide area network for organisations that often work together, including intra-company voice and data communications.

Benefits Sites can be quickly and easily added to an Ethernet LAN, without the need to reconfigure existing sites, to minimising cost and management complexity by aggregating services on to one or more UNIs.

Service frame format options

You can choose to use tagged or untagged Ethernet frames at any UNI. By default, MetroEthernet services are configured to support untagged frames. Choosing tagged frames allows you to divide your traffic, secure data streams over the same Ethernet Virtual Connection (EVC). MetroEthernet services support both single tag (IEEE 802.1Q) and double tag (IEEE 802.1AD).

Tagged service frames are recommended for:

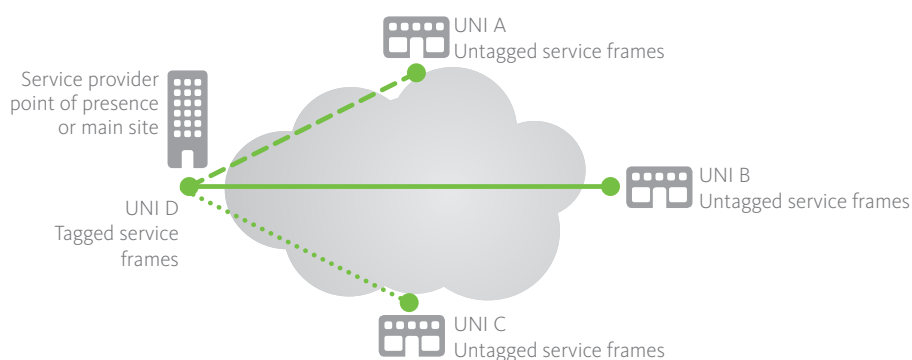
- Service providers aggregating services from different end-customers onto a single UNI.
- Using a single EVC to carry traffic such as backhaul traffic, where you need to identify the origin of the traffic.
- Creating a virtual network infrastructure for providing services at higher layers

Untagged service frames are recommended for:

- When you want to keep the configuration simple, e.g. when you are connecting branches to a head office it enables you to use an untagged frame for the branches. This reduces the cost of equipment and management at the branches.

When the service frame format is tagged, the UNI can accept untagged or tagged frames. In addition, you can manage your own tags using double tag (IEEE 802.1AD). This provides flexibility for you to manage your own tags. Alternatively you can request for additional VLANs to be bundled to your EVC (subject to an additional charge).

You can specify the service frame format for each UNI. A typical scenario is depicted below with three UNIs where UNIs A, B, C are only capable of handling untagged Ethernet frames whereas UNI D can accept tagged frames.



To get the full benefit of MEF certified MetroEthernet Standard for your business call Vector Communications on **0800 826 436** or email contactus@vector.co.nz