

## Definition

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Enet Metro and National Ethernet products enable you to capture the growing market demand for converged services, delivering high quality Ethernet to your End-Users. Enet offers extensive Ethernet coverage across Ireland using our on-net and extended reach partners' networks. With extended reach, a typical off-net tail solution installs both a Third-Party NTU and an Enet device at the A-End site.

Enet Ethernet Third-Party Demarcation is a new product available for off-net tail solutions. Carrier feedback has highlighted that in some cases, Enet hardware at the A-End site is not required. As with standard orders, Enet's last mile provider will install their NTU at the site to which the Carrier can then plug into an agreed port. Eliminating the on-site Enet device reduces usage of rack space, power and removes an additional point of failure.

This service is available over our extended reach partners' fibre and PON networks. It is supported with comprehensive SLAs covering all aspects of your Ethernet service, with targets for fault updates, Time-To-Repair and network performance.

## Product Description

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The main features include:

- **Last Mile provider:** Extended Reach partners
  - Fibre Symmetric 10Mb-1Gb
  - Fibre PON Symmetric 100Mb, 200Mb, 500Mb and 1Gb (using SIRO Lightburst)
- **Class of Service** options (0% or 100% CIR for Fibre) and (0% CIR for PON ; Traffic based CoS)
- The **SLA** is dependent on the product purchased and is a reactive SLA led by the Carrier
- Available as both a **Metro and National service**
- A-End Demarcation is the applicable port on the Third-Party Provider's NTU

### Product types

#### Ethernet: Third-Party Demarcation

This is an off-net product using a third-party provider's last mile Fibre or Fibre-over-PON network. Demarcation is at the port on the third-party provider's NTU at the End-User site. Enet manages to the last device on the Enet network edge at the Colo and can manage the Access element of the service with the third-party's assistance.

Please note that Enet also has Managed Ethernet product variants available such as:

- **On-Net and off-Net Managed Ethernet** solutions available as either a Metro, National or international solution
- **Metro Ethernet Point to Point fibre** (Metro only)

In both these case Enet will install our standard demarcation device (NTU) at the End-User site enable Enet pro-active end-to-end fault management. Details are available from your account manager.

They key **Solution Type available is our E-Access EPL service:**

- **Enet Ethernet Access EPL (Point to Interconnect service)**  
Enet deliver a service terminated on an agreed E-NNI with a dedicated S-VLAN handoff at the e-NNI.

	Technical Specification
<b>Protocols and Standards</b>	<ul style="list-style-type: none"> <li>✓ IEEE 802.1D MAC bridges — including .1p Priority</li> <li>✓ IEEE 802.3ad LACP</li> <li>✓ IEEE 802.1Q VLAN</li> </ul>
<b>Flexibility</b>	✓ Bandwidth can be upgraded as required
<b>Customer Support</b>	✓ 24x7x365 Network Operations Centre support
<b>Handoff</b>	✓ To Carrier on MAN using Layer 2 aggregated IEEE 802.1ad interconnection
<b>MTU</b>	✓ 2000 bytes as standard (higher available on request)
<b>MAC Addresses</b>	✓ Default of 100
For services delivered as <b>Third-Party Demarcation</b> , the following details apply	
<b>Presentation (on the 3<sup>rd</sup> party NTU)</b>	<ul style="list-style-type: none"> <li>✓ Electrical RJ45 1000Mbps or Optical (LC default, SC) – <b>Fibre</b></li> <li>✓ Electrical RJ45 1000Mbps or Optical LC - <b>PON</b></li> </ul>
<b>Demarcation Point</b>	✓ On Third-Party demarcation, the provider’s NTU at the End-User site
<b>Power</b>	✓ Single AC. A limited set of alternative are available depending on the Third Party provider.
<b>Solution Type</b>	<ul style="list-style-type: none"> <li>✓ E-Access or e-Line for Fibre</li> <li>✓ E-Access only for PON</li> </ul>

The bandwidth options available on the **Ethernet - Third Party Demarcation** offering are as follows:

Bandwidth	Bandwidth Type	Access Media
10Mb to 1Gb*	Symmetrical	Fibre (Extended Reach Partners)
100Mb, 200Mb, 500Mb, 1Gb	Symmetrical	Fibre over PON

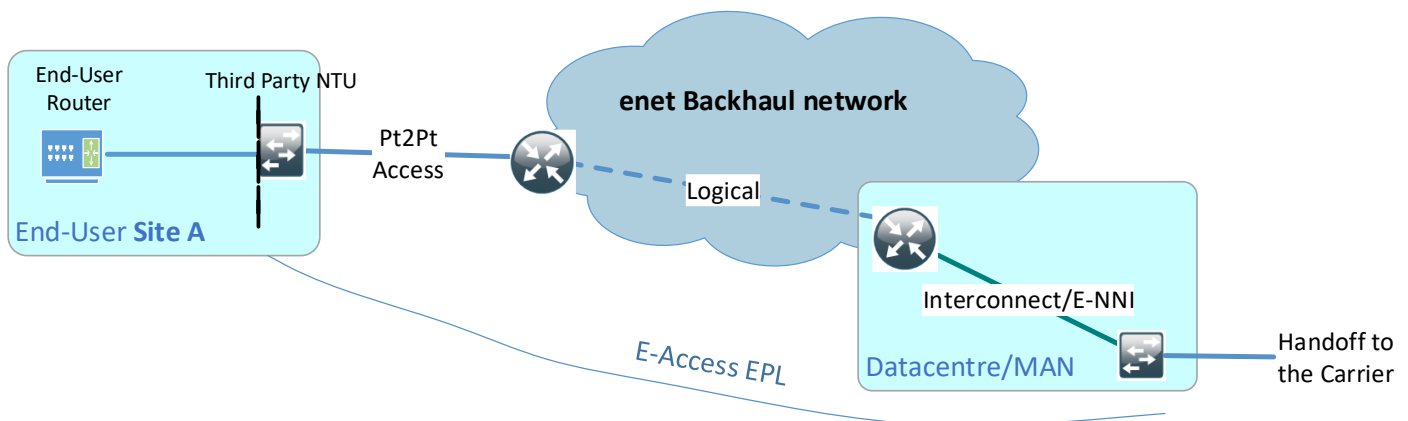
Pricing for Ethernet Third Party Demarcation using our last mile **Fibre** providers is available via the Enet Connect ESQT platform. Pricing for our **fibre PON** last mile variant is available on request from [quoterequests@enet.ie](mailto:quoterequests@enet.ie).

There is a specific **SLA** for this product which takes into account the removal of the Enet CPE at the end user site. Please refer to the Enet SLA document for full details.

\*Higher bandwidths are available on request

## Service Delivery

The schematic below represents a national **fibre** Ethernet point-to-interconnect solution (E-Access EPL) using our **Ethernet Third Party Demarcation** offering.



- Enet orders connectivity from an Enet approved last mile provider, from the A-end to an E-NNI between Enet & Third-Party provider
- The Carrier connects to the port on the Third-Party provider's NTU (e.g. Radwin, Huawei etc)
- There is no Enet NTU/CPE on-site
- The Enet handover pack will inform the Carrier of the correct port to connect to on the NTU

## Enet Responsibilities

Enet is responsible for:

- Provisioning an Ethernet solution from the End-User's premises to the Interconnect
- The operation and maintenance of the Ethernet service
- Assigning the VLAN identifiers on the Layer 2 aggregated interconnect corresponding to the desired Ethernet bandwidth
- Managing the relationship with the Third-Party provider

## Carrier Responsibilities

The Carrier is responsible for:

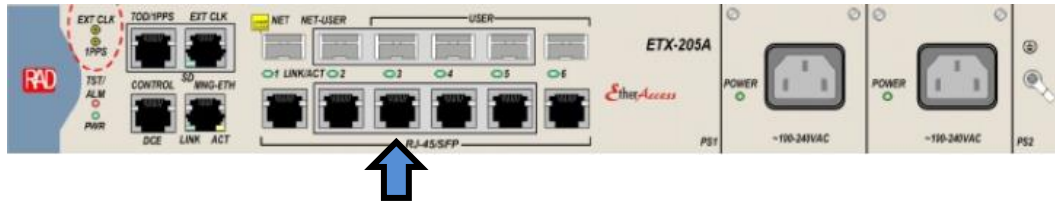
- Allocating adequate rack space and power for installation of the Third Party NTU
- Shaping the traffic in line with the purchased traffic profile
- The operation and maintenance of the services purchased by the End-User
- Owning the relationship with the End-User
- Acting as the point-of-contact for any End-User enquiries
- Connecting to the correct port on the Third Party Provider's NTU as outlined in the examples below
- Reporting all faults on services to the Enet NOC



A Carrier connects their equipment to the correct port as show below, based on what was requested on the order.

**Sample 1) Using open eir in the last mile:**

Demarcation Device: Connect to Port #3. This is a combo port supporting both **RJ45** and **Optical** presentation, based on the order.



**Sample 2) using SIRO in the last mile:**

Demarcation Device: Connect to GE2 (**electrical**) or GE2 (**optical SFP**)

- GE2 (electrical) – see diagram above
- GE2 (optical SFP) – see diagram above



**Glossary**

- NTU Network Terminating Unit
- MTU Maximum Transmission Unit
- S-VLAN Service-Virtual Local Area Network
- EPL Ethernet Private Line
- CoS Class of Service
- EVPL Ethernet Virtual Private Line

**Further Information**

**Quotations**

A quotation for service can be submitted via an email to the [quoterequests@enet.ie](mailto:quoterequests@enet.ie) or a Carrier can self-serve using the **Enet Connect** Quotation and Ordering Platform. Details are available from your account manager.

**Ordering and Provisioning**

The **Ethernet Order Form** is available at <https://www.enet.ie/forms-downloads.html>. Once filled out, email to the Enet Sales Support Team at [salesupportteam@enet.ie](mailto:salesupportteam@enet.ie). The Sales team will provide Service eligibility checks for the service. Note that excess charges may apply.

Access to the **Enet Connect** platform, for Quotations and Ordering, can be made available to a Carrier via a request to their account manager.

**Further Product Information**

A more details and complete product description is available from your account manager highlighting key product features and restrictions if applicable.

**Further General information**

Contact your Enet Account Manager or contact us at: Telephone: + 353 (0)61 274000 or Webpage: [www.enet.ie](http://www.enet.ie)