Wholesale Business Broadband

Reliable, scalable and affordable broadband service throughout Ireland

Definition

The Enet ***Wholesale Business Broadband*** product provides Retail Service Providers (RSPs) with the opportunity to significantly develop their SME and Retail market by providing internet connectivity from the End-User premises throughout Ireland.

With this product an RSP can offer a range of broadband speeds using multiple Access Providers networks to ensure maximum geographic penetration.

Wholesale Business Broadband is a Layer 3 service provided through our Aggregation Platform (***Enet Connect***). Partnering with Enet permits an RSP access to our Broadband Aggregation Portfolio which provides:

- Access to the open eir FTTC networks (c.2 million locations) through a single integration point
- Reduced integration time and speed to market
- A common ordering and fault process irrespective of the FTTx access provider

This product provides a broadband internet connection with a Fixed IP address and Enet-provided CPE for self-installation. This is an end-to-end solution delivered using **FTTC** Access Media types/Last Mile (herein referred to as **FTTx**). FTTH service are available as a White Label service with no Enet CPE; carrier must supply and correctly configure a CPE for the service termination (VLAN 10 and DHCP enabled).

With this fully integrated product, the RSP avoids the need to own and manage a fibre network and involvement in multiple supplier relationships for access, interconnect, network and internet ISP services. This eliminates the need for the RSP to have up-front network investment to access this infrastructure.

Service Description

Wholesale Business Broadband is a Layer 3 end-to-end internet solution and includes the following key elements:

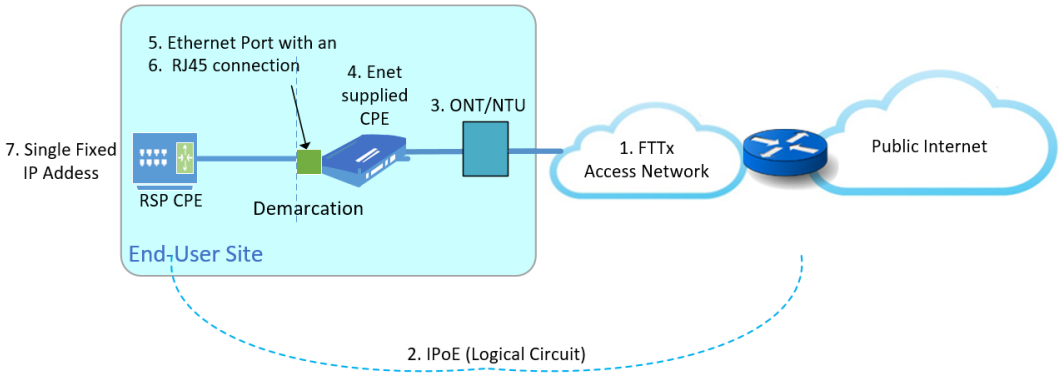
- FTTx Access: FTTC access for the last mile to the End-User premises
- Asymmetric Bandwidths: on FTTC “up to” 100Mb downstream
- End-user Traffic will utilise the Enet Backhaul Network
- Enet manages the provision and delivery of an internet service for the RSP
- Internet access supplied to Enet using our Tier 1 providers
- Single Fixed IP address
- Enet supplied CPE for self-install
- Internal Wiring options also available

An RSP can self-serve by using ***Enet Connect*** for

- Address Search Facility
- Eligibility requests queries all ASPs and return a suitable set of products
- Ordering
- Order Management and Tracking (with *.csv output)

- Fault Reporting, Handling and Diagnostics etc.

The Wholesale Business Broadband product is composed of the following key components:



1. FTTx Access Line
2. The logical connection is an IPoE session
3. ASP supplied NTU-Master Socket
4. Enet supplied CPE for self-install: (Bridge mode: FTTC only; no CPE for FTTH)
5. An Ethernet Port on the Enet supplied CPE
6. RJ-45 physical connection
7. A single Fixed IP address. See CPE configuration below for more details

The RSP is responsible for managing all aspects of the End-User delivery beyond the ONT/NTU-MasterSocket. This includes in-home equipment (CPE, RGW, modems) connection to and all cabling and equipment beyond the ONT / NTU-MasterSocket.

Summary

	FTTC
Bandwidth	"Up to 100mb" Rate Adaptive Asymmetrical products
Access Network Technology	VDSL2
Splitter	n/a: DSLAM
Maximum MTU	1500 (open eir)
ONT/NTU installation by Access Provider	Yes (NTU-Master Socket)
N:1 or 1:1 service?	N:1
Max. no. of MAC Addresses	1
Connectivity	Single Unicast as standard and mandatory with Unicast bandwidth, downstream and upstream
Class of Service 802.1p	Default is Best Efforts "0"
Logical Connection	IPoE
Managed Service	Yes (but with reactive fault handling)
IP Addressing	**One fixed IP** address dynamically allocated by default using DHCP***

Enet supplied CPE	Yes: Ownership transfers to the RSP on delivery
Self-Installed	Yes
Physical Interface	Ethernet Port
Connector type	RJ45
Physical Medium	G.993.2 (FTTC)
Demarcation point	Customer facing Ethernet port*
Configuration	Specific to service and CPE: VLAN 10 and DCHP Enabled**

This document is for illustrative purposes only, detailed specifications will be agreed at the time of purchase.

	FTTH
Bandwidth	Asymmetrical 1Gb, 500Mb, 150Mb products
Access Network Technology	GPON
Splitter	Splitter: 1:32 (1:64 open eir IFN)
Maximum MTU	1950 (Siro & open eir)
ONT/NTU installation by Access Provider	Yes (ONT)
N:1 or 1:1 service?	N:1
Max. no. of MAC Addresses	1
Connectivity	Single Unicast as standard and mandatory with Unicast bandwidth, downstream and upstream
Class of Service 802.1p	Default is Best Efforts "0"
Logical Connection	IPoE
Managed Service	Yes (but with reactive fault handling)
IP Addressing	**One fixed IP** address dynamically allocated by default using DHCP***
Connector type on ONT	RJ-45

*Any internal wiring, beyond the one-metre cable included with the Enet supplied CPE, does not form part of the service and once installed is owned and managed by the RSP / End-User.

** Customers connect to the correct port on the Enet supplied CPE. Please see CPE configuration table for correct details.

*** This is Fixed IP dynamically allocated using DHCP. It is **not** a Static IP and the IP address/subnet/Gateway is not hard coded on the RSP's CPE.

Enet Supplied CPE configuration (FTTC)

See below for a list of key CPE configuration items:

Config name	Config v1 – "Bridge" Mode
CPE Model	Fritz 7530 (FTTC)
1) CPE Mode	Bridge Mode
2) Wi-fi	Wi-fi off
3) LAN port to use	Port 4 only
4) VLAN	VLAN 10
5) DHCP	DHCP Enabled
6) IP Addresses	Public Fixed IP applied to Carrier own CPE
7) Presentation	RJ-45
8) FTTx Type	FTTC *For FTTH no Enet CPE. The Carrier should apply the setting 4) and 5) to their own CPE.*

Service Delivery

Eligibility test

The RSP must run an *eligibility test* to determine:

- what products the End-User can avail of (FTTC) or FTTH (with no Enet supplied CPE)
- which ASPs can provide the FTTx service

An RSP can move straight from a valid *eligibility result* to an order. The delivery process commences once an order has been placed.

The *eligibility test result* indicates the work required on the order. A line may be active, in-situ (inactive) or require a

new connection. The *eligibility test result* is dependent on what the underlying ASP has previously delivered at that location:

- SIRO in-situ or Transfer connections typically have the required end-user premises' build work completed and can be electronically enabled.
- ***open eir*** is more complex. Users should refer to the Process Manual, particularly the Acceptance notification detail confirming the appointment type.
- Other orders may require an end-user appointment by the ASP.

Appointment
The Aggregation Platform will indicate to the RSP if an end-user appointment is required. An ASP technician may need to visit the RSP's end-user premises to make an FTTx connection both to and inside the premises. The end-user will need to be in attendance for this.

Service Types
FTTC: the access service is from the NTU-Master socket at the End-User premises via a copper pair to the cabinet DSLAM. Services are aggregated here before connecting via fibre to the Colo.

Bandwidths

- All Bandwidths are Asymmetric
- Copper **FTTC**: Rate Adaptive with line attaining the highest stable profile possible
  - Profiles range from 4Mb to 100Mb - Full list available on request
  - FTTC bandwidth attained can change (improve or deteriorate) in life
- The choice of FTTH or FTTC is subject to availability

Internal wiring
At an additional cost, the RSP can order a data port extension from the ASP provider (open eir) at order entry or in some cases via the Enet order support team. This is at an additional cost. This or any internal wiring, beyond the one meter cable included with the Enet supplied CPE, does not form part of the service and once installed is owned and managed by the RSP / End-User. The Carrier is responsible for internal wiring especially in Shopping centres etc and Enet can, on request, assist the Carrier in this regard.

CPE
Where Enet have supplied the CPE for the service the RSP should validate the actual "Serial number" and "CWMP" number, on the CPE at the End User site, compare to the data on the ***Enet Connect*** Platform to ensure they are aligned. This should be completed prior to order completion and placing a fault. If during fault isolation it is discovered there is a mismatch in the data the fault will be put on hold ("Waiting for Customer") while the RSP supplies Enet with the correct details including the CWMP number (See section 3 of the process manual).

Enet Responsibilities

Enet is responsible for:

- Guiding and assisting RSPs during the Onboarding process (including the ***Enet Connect*** platform)
- Assisting RSP queries with our Order Support team
- Working with our ASP partners to ensure service provision from the End-User's premises
- Provision of an internet service including a single Fixed public IP Address
- Supplying the Enet CPE for FTTC; shipped for End-User self-installation
- Effective Service Assurance through our NOC and Support Team
- Fault resolution up to the Enet supplied CPE (excluding any internal wiring beyond the ASP NTU / ONT)
- 2nd line support for RSP fault issues
- The operation and maintenance of the services purchased by the End-User

RSP Responsibilities

The RSP is responsible for:

- Supporting effective Onboarding by providing relevant points of contact
- Completing the VPN set-up to ensure access to ***Enet Connect***
- Acting as the first point-of-contact for any End-User enquiries
- Owning the relationship with the End-User, including FTTx install appointment date(s)
- Performing eligibility requests via ***Enet Connect***
- Selection and management of the inflight order via ***Enet Connect***
- Arranging the installation or reconnection of devices beyond the NTU
- Shaping the traffic in line with the purchased traffic profile
- Ensuing power for the Enet supplied CPE
- Initial troubleshooting and logging service faults/incidents on ***Enet Connect***
- 1st line support using ***Enet Connect*** diagnostics
- Ordering internal wiring requests at initial order entry. Wiring is done by the ASP, not by Enet
- The correct labelling and recording of the location of the ONT or NTU-Master Socket during ASP installation
- The RSP must set the router to VLAN 10 and enable DHCP client on the WAN interface for FTTH orders
- Shopping centres may require additional internal cabling which is not included in the price and can be costed on a case by case basis.
- Connecting to the correct port on the Enet supplied CPE for FTTC. No other LAN ports should be used.

Glossary

ASP	Access Service Provider
DHCP	Dynamic Host Configuration Protocol
GPON	Gigabit Passive Optic Network
ISP	Internet Service Provider
IPAM	IP Address Management
MTU	Maximum Transmission Unit
MAC	Media Access Control
NTU	Network Terminating Unit
ONT	Optical Network Termination
OLT	Optical Line Terminal
RGW	Retail GateWay / Residential GateWay
S-VLAN	Service-Virtual Local Area Network
VDSL	Very fast Digital Subscriber Line

Device Information:

FTTC: Service terminates on an Enet supplied CPE (Fritzbox) which connects to the open eir installed ***copper NTU Master Socket*** as seen below. This Master socket has outputs for both a phone and Broadband (FTTC). This product uses the Broadband connection only. No power is required for this device.

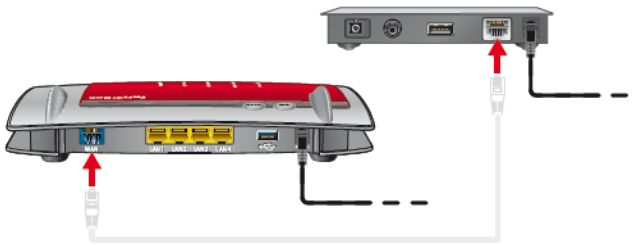
FTTC: Dual Interface Copper Pair NTU – Master Socket

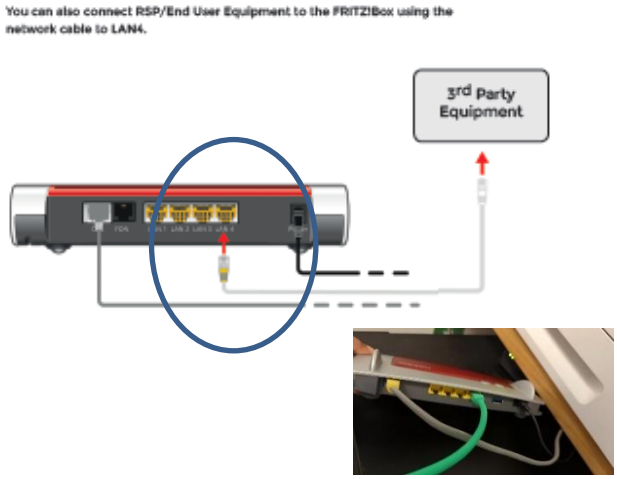
Business Broadband: Enet supplied CPE

Configuration #1: *Use of LAN Port 4 as part of Bridge Mode*

WAN **LAN – Port 4**

SIRO / open eir ONT or
open eir Master Socket

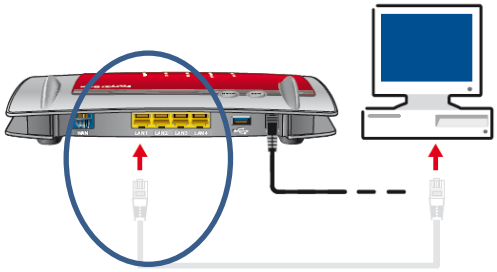




!!In development!!: Configuration #2: *Use of LAN Port 1 as part of NAT mode*

WAN **LAN – Port 1**

SIRO / open eir ONT or
open eir Master Socket



For FTTC; please ensure the Technician labels the services as seen below using the open eir 888x number.

Further Information

Contact your Enet Account Manager or contact us at:

Telephone: + 353 (0)61 274000
Webpage: www.Enet.ie