

WHOLESALE REFERENCE OFFER

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1. Introduction

Wessex Internet is a Fibre-to-the-premises service provider with an extensive fibre-optic network covering properties in Dorset, Wiltshire, Hampshire, and Somerset. Wessex Internet's service provides fibre optic Ethernet connectivity to properties with speeds between 100Mbps and 10Gbps.

The purpose of this document is to set out the wholesale services offered by Wessex Internet to retail Internet service providers (Retail ISPs). It covers the range of wholesale services available from Wessex Internet, as well as the processes for service ordering and service management.

2. Wholesale Relationship Management

The Retail ISP will be allocated a relationship manager as part of the agreed contract. The relationship manager will act as the main point of contact regarding all commercial aspects of the wholesale agreement between the two parties. As part of the wholesale agreement, the relationship manager will also put into place monthly or quarterly service review meetings intended to review the ongoing delivery of services and performance against targets and SLA's.

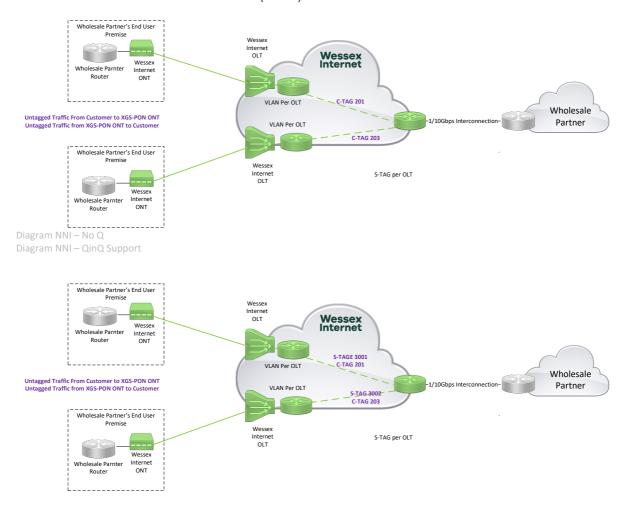
All other actions such as raising service orders or trouble tickets will be done via the Wessex Internet wholesale Portal. The detail of the services to be delivered will be documented in a Master Service Agreement (MSA) between the two parties. The MSA will include full Terms & Conditions, details of the services to be delivered, Service Level Agreements (SLA's), and associated processes on which delivery of the services is built.

3. Wholesale Service Connection Charge

A Charge of £250 per month applies for access to the Wessex Internet wholesale service.

The service charge includes a 10Gbps NNI Port as detailed within section **4 Network Interconnect (NNI)**. The service charge does not include the cost of any cabling required between the RSP network and the WI network.

4. Network Interconnect (NNI)

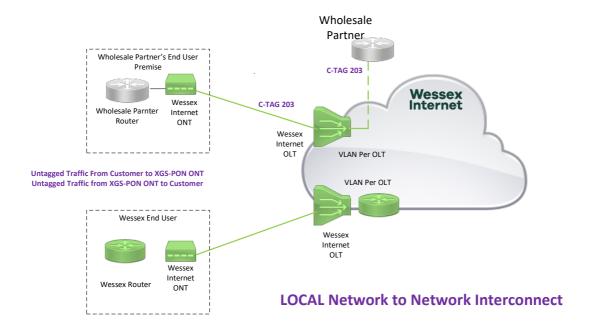


802.1AD Interconnection – Supports QinQ

In order to provide services on the Wessex Internet network, a network interconnect must be configured between the retail provider's network and Wessex Internet's core network.

The minimum port requirement for network-to-network interconnection (NNI) is 10Gbps. NNI connections that provide access to all of the defined intervention areas are currently available at Telehouse North (THN) and Harbour Exchange (HEX LD8).

Local Network to Network Interconnections, that limit access to a particular OLT delivery area is available across each intervention area.



Interconnects at 100 Gbps to be priced on request.

The Wholesale partner (RSP) is to provide the fibre between the Wessex Internet rack and their rack. WI will indicate where the Tele-hotel staff are to present the NNI fibre connection.

5. Wessex Internet Wholesale Active Products

The Active products (Bit Stream) service provide an Ethernet connection to a customer property at speeds ranging from 100Mbps to 1000Mbps although multi gigabit enterprise products may be available POA. All products are delivered between a customer property and an NNI. The retail service provider may offer any layer 3 service capable of running over Ethernet. The Ethernet MTU supported on all active services is 1500-1532.

a. Wholesale Residential Broadband

Product Name	Description	DL Mbps	UL Mbps	Standard Install	Monthly Charge	Contract Length	SLA
Bandwidth 100	100Mbps Download, 35Mbps Upload	100	35	£50	£26	12 Months	Standard
Bandwidth 350	350Mbps Download, 100Mbps Upload	350	100	£50	£35	12 Months	Standard
Bandwidth 1000	1000Mbps Download, 500Mbps Upload	1000	500	£50	£49	12 Months	Standard

b. Wholesale Business Broadband

Business broadband services are intended for the provision of basic services to non-residential properties, and home businesses

Product Name	Description	DL Mbps	UL Mbps	Standard Install	Monthly Charge	Contract Length	SLA
Wholesale Business 100	100Mbps Download, 50Mbps Upload Business Broadband	100	50	£50	£35	12 Months	Next Working Day
Wholesale Business 350	350Mbps Download, 175Mbps Upload Business Broadband	350	175	£50	£65	12 Months	Next Working Day
Wholesale Business 900	900Mbps Download, 450Mbps Upload Business Broadband	900	450	£50	£130	12 Months	Next Working Day

c. Wholesale Enterprise Products

Enterprise Ethernet products are designed to offer premium connectivity services to business customers. They benefit from symmetric speeds and dedicated, uncontended backhaul bandwidth.

Product Name	Description	DL Mbps	UL Mbps	Standard Install	Monthly Charge	Contract Length	SLA
100Mbps Ethernet	Dedicated symmetric 100Mbps Ethernet Service	100	100	£50	£199	24 Months	Premium
Gigabit Ethernet	Dedicated symmetric 1Gbps Ethernet Service	1000	1000	£50	£550	24 Months	Premium

6. Wessex Internet Passive Services

Passive services allow retail service providers access to Wessex Internet's eligible physical network infrastructure, including dark fibre and cabinet access.

- a. Passive Network Access (Eligible Cabinets Only*)
- Passive products are planned for up to 3 retail service providers and are subject to availability for further retailers.
- Repair and service work during contract term chargeable at callout rates set out in 9b.

ID	Product Name	Description	Install Charge	Monthly Charge	Term	SLA
	Dark Fibre Access: Single Fibre	Single fibre drop-link from Eligible WI cabinet* to eligible customer premises	£200**	£70 pcm	12 Months	Next Day
	Long Term Dark Fibre Access" Cabinet to Cabinet Link	Single fibre from one eligible Cabinet* to another eligible Cabinet	£200***	£40+ £0.15/m pa	Std 20 Years	Premium

^{*} Eligible cabinets are sites constructed as part of a BDUK funded contract, access to other cabinets may be agreed upon request at WI's full discretion and subject to fibre availability.

b. Cabinet Access (Eligible Cabinets Only*)

^{**} Includes splicing required for go live and Customer Premise termination.

^{***} Handoff within adjacent handoff chamber to cabinet

Cabinet access services allow retail service providers to install equipment into Wessex Internet's network cabinets.

ID	Product Name	Description	Install Charge	Monthly Charge	Contract Length	SLA
CS	1U WI Cabinet rack- space	1U x 600mm of distribution cabinet space subject to availability†	£500/hr Onsite	£42††	5 Years	5 Working Days
CPWR	AC Cabinet Power per RSP†††	Unprotected access to 13A 240V Cabinet Power supply	£1000	£71	5 Years	5 Working Days
СВВ	48V DC Cabinet Battery Backup / Rectifier Per RSP +++	Rectified 48V DC power supply with min. 2Hr Runtime	£1000	£250	5 Years	5 Working Days
SC	RSP to WI fibre Splicing in chamber	Splice of customer presented Fibre to WI fibre within Chamber (per manhole Splice)	Subject to survey and WI quote	N/A	5 Years	5 Working Days
СВ	Chamber Breakthrough for RSP access to network	Breakthrough of Customer Fibre cable into WI Chamber	£168	N/A	5 Years	5 Working Days
CSA	Installation of Adjacent Cabinet (inc. 6U rack-space) Not including Power	Installation of an addition street cabinet adjacent to the existing WI Cabinet	£500 /hr Onsite	£240	5 Years	5 Working Days

[†] Where Cabinet Access is not available CSA product should be consumed

7. General Product Terms:

- Products must not be resold to customers on service level agreements which exceed those offered on the product to the wholesale partner.
- All prices are excluding VAT.
- Services are available within BDUK funded project areas. Other areas may be available subject to negotiation.
- All products require an NNI of at least 10Gbps to be installed.

8. SLAs and Service Targets

^{††} Min Charge of £250pcm per cabinet

^{†††} Subject to availability maximum required power consumption to be specified upon request

Both Passive and Active Products available within the intervention areas have documented SLA's that contain information regarding the 1st response, Ticket Priorities, and service performance targets.

- The Passive (Dark Fibre) SLA is available here: Wholesale Service Level Agreements v0.1 - Passive Services
- The Active (Bit Stream) SLA is available here: Wholesale Service Level Agreements v0.4 Active Services

9. Installation and Engineering Details

All orders for wholesale products must be placed and managed through the Wessex Internet Wholesale Portal. This portal allows RSPs to manage the complete lifecycle of a customer connection including individual tools for creation, modification, information, and discontinuation of a service. The portal also allows faults to be raised.

a. Order Management

The Wessex Internet Wholesale Portal provides the following tools, which are also available as HTTP API endpoints. Full portal and API documentation is available on request.

- **Service creation** Accepts a customer address, an NNI identifier and a product code. Creates a new order and assigns a service identifier.
- **Service modification** Accepts a service identifier and a new product code, allowing a service to be switched to a different product.
- Service discontinuation Accepts a service identifier and terminates the service.
- **Service information** Accepts a service identifier and returns the current order progress and service status.
- **Service test** Accepts a service identifier and verifies communication between Wessex Internet and the optical CPE.

b. Fault handling

Suspected faults with all services should be reported to Wessex Internet using the Wholesale Portal or by email. A response and resolution will be provided in accordance with the SLA of the affected services. Resolution of the following types of faults will result in a charge at a charge of £500/ hour onsite:

- Damage to fibre on customer property.
- Damage to CPE
- Other faults where the customer or Retails ISP has caused negligent damage to the wholesale network infrastructure.
- Engineer callout where no fault is found, or the fault is with the Retail ISP's equipment.

c. Standard Installation Specification

A standard installation provisions for the physical drop of the access cable from the Designated Customer Access Position (CAP) within the passive network to the customers property and the installation of the NTE within the property.

WI Standard Install Pricing allows for installation of up to 150m of cable between the WI connection CAP and the Customer premises with the following exclusions:

- The cut and hot re-lay of tarmac within the customers property curtilage.
- More than 3m of concrete or tarmac works.
- More than 4m of block paving to be lifted and reinstated.
- Unusual surface that will need specialist skills to cut or reinstate.

Any Installation not meeting the above specifications may incur additional charges. WI suggests RSP's confirm the likely install route with their customers prior to WI arriving onsite to allow WI to plan adequate time for the install and provide a quote prior to work commencing.

WI will confirm any additional costs with the onsite customer representative and invoice the RSP for the agreed charges. If charges are not agreed onsite WI reserves the right to charge a callout charge within the additional costs. Should WI not complete the work within one visit of its own accord, callout charges will not be due.

d. Install Extra and Engineering Pricing

Any installations which do not fall within the standard install pricing will require a site survey to produce an installation quote.

10. Active Product Network Configuration

WI delivers individual active fibre to every property. Either via its point-to-point Ethernet network, or alternatively via its XGSPON network.

All connectivity will be presented to RSP's over an Ethernet NNI. Please refer to the Wholesale NNI documentation.

11. Customer-premises equipment (CPE/NTE)

The active services provided by Wessex Internet are provided using Network Termination Equipment (NTEs) These devices are the demarcation between the End User and the Wessex Internet Network:

A helpful guide to the installation process is available and summarises the journey for customers of Wessex Internet's wholesale partners from the point when the service has been ordered and an Installation appointment has been booked, through to the activation of the service.

A. Point-to-point

The Network Termination Equipment is provided in the form of a Twist Port:

Point-to-point customer properties will be supplied and fitted with a wall mounted Ethernet media converter (Twist Port)

The media converter consists of a passive backplate and active front plate.

- Customer presentation will be 1000Base-T copper Ethernet.
- Dimensions: 110 mm x 110 mm x 46 mm
- The style and dimensions of the CPE are subject to change without notice.



Twist Port Active Media Converter

B. XGS-PON

The Network Termination Equipment is provided in the form of a XGS-PON Optical Network Terminal (ONT):

XGS-PON customer properties will be supplied and fitted with a wall mounted ONT:

Data Only ONT

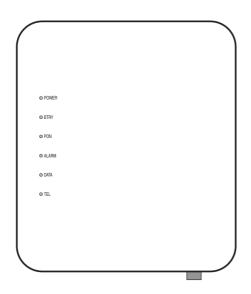
ONT	Specification
Model	XS-010G-Q
Туре	XGS-PON ONT
Optical Connection	Fibre G657.A1 Connector SC-UPC

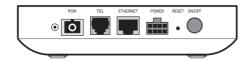
Customer Port	1 x Auto Sensing 1G/2.5Gbps RJ45 Electrical Connection
Power Supply	12v DC 1AMP



Voice & Data ONT

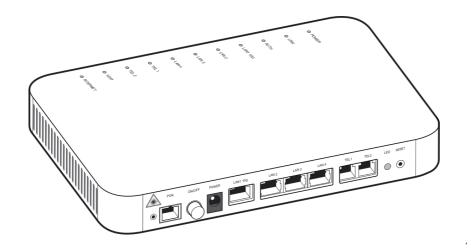
ONT	Specification
Model	XS-110G-A
Туре	XGS-PON ONT
Optical Connection	Fibre G657.A1 Connector SC-UPC
Customer Port	1 x Auto Sensing 1G/10Gbps RJ45 Electrical Connection 2 x RJ11 (Tel) Ports
Power Supply	12v DC 1 AMP





Voice & Data ONT

ONT	Specification			
Model	XS-240X			
Туре	XGS-PON ONT			
Optical Connection	Fibre G657.A1 Connector SC-UPC			
Customer Port	1 x Auto Sensing 1G/10Gbps RJ45 Electrical Connection 3 X Auto Sensing 1Gbps RJ45 Electrical Connection 2 x RJ11 (Tel) Ports			
Power Supply	12v DC 1.5 AMP			



C. Twist Port & ONT Power

The Bit Stream services provided over the Point-to-Point Network and the XGS-PON network require the devices to be AC powered. A suitably rated power outlet is to be provided within one meter of the desired location of either of the devices to be installed.

Suitable ventilation is to be provided where the device is to be installed.

Equipment detailed specifications are available to Wholesale Partners from the Wessex Internet Portal.