BT wholesale

Wholesale Broadband Connect Fibre To The Premises

Product Description

Issue 19, July 2019

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Contents

1. Purpose of this Document

This document provides a general description of the Wholesale Broadband Connect (WBC) Fibre to the Premises (FTTP) product. It is not intended as a detailed technical document.

Detailed technical information regarding this service can be found in SIN509 which is stored at www.sinet.bt.com. This is the best point of reference for CPs wanting to understand the technical configurations that they need to follow to interface with the product.

2. Pre-requisites for Taking WBC FTTP Services

Before placing WBC FTTP End User access orders, a CP must be a WBC customer, with the entire associated WBC infrastructure in place. Please refer to the WBC Handbook for more detail.

https://www.btwholesale.com/products-and-services/data/broadband/wholesale-broadband-connect.html

2.1 Wholesale Broadband Connect (WBC)

WBC comprises three main components:

- An End User Access (EUA);
- An Aggregation Point (AP) with a logical Aggregation Point Set (APS);
- An Extension Path (EP);

Each EP will also require access to a Multi Service Interconnect Link (MSIL) which will provide connectivity to your network. For further details about the AP, EP and MSIL components please see the WBC Operational Handbook.

https://www.btwholesale.com/products-and-services/data/broadband/wholesale-broadband-connect.html#handbook-and-technical-documents

2.2 The End User Access (EUA)

The EUA is the connection between the end user and the AP. The End User's traffic is transferred to and from the AP through the EUA. Connection from there to the WBC Customer's network is via an AP.

2.3 Reseller Model

A 'Reseller' model will be available as part of the WBC FTTP Service. For information on the Reseller model please refer to the WBC Operational Handbook. Please note that a Reseller ID is **mandatory** on all WBC FTTP orders.

3. WBC FTTP Product Overview

The WBC FTTP product consumes Openreach's Generic Ethernet Access over FTTP (GEA FTTP) product, part of Openreach's Ultrafast Fibre Access (UFFA).

Unlike the FTTC (Fibre to the Cabinet) product, FTTP uses a fibre connection for the entire route between the Exchange and the premises being served, whereas FTTC provides service by means of fibre as far as a cabinet and then copper for the last leg from the cabinet to the premises.

FTTP has an Optical Network Termination (ONT) installed to terminate the fibre path within your end customer's premises.

In addition, WBC FTTP On-Demand (FoD) is available for premises served by an enabled WBC FTTC cabinet. FTTP on Demand has the same FTTP network design as FTTP, however the network is built reactively in response to the FoD customer order.

WBC FTTP is a premium product designed to meet the needs of both the consumer and the business market. WBC FTTP offers an active wholesale network connection from the AP to the End User premise with Ethernet presentation at the End User Access's Network Interfaces. CPs will be able to provide their broadband services over this active network connection. The WBC FTTP service is delivered on a single Service Virtual Local Area Network (SVLAN) and is presented to the CP via the AP.

3.1   WBC FTTP Access Infrastructure

The diagram below shows a typical representation of the access infrastructure for WBC FTTP deployment.
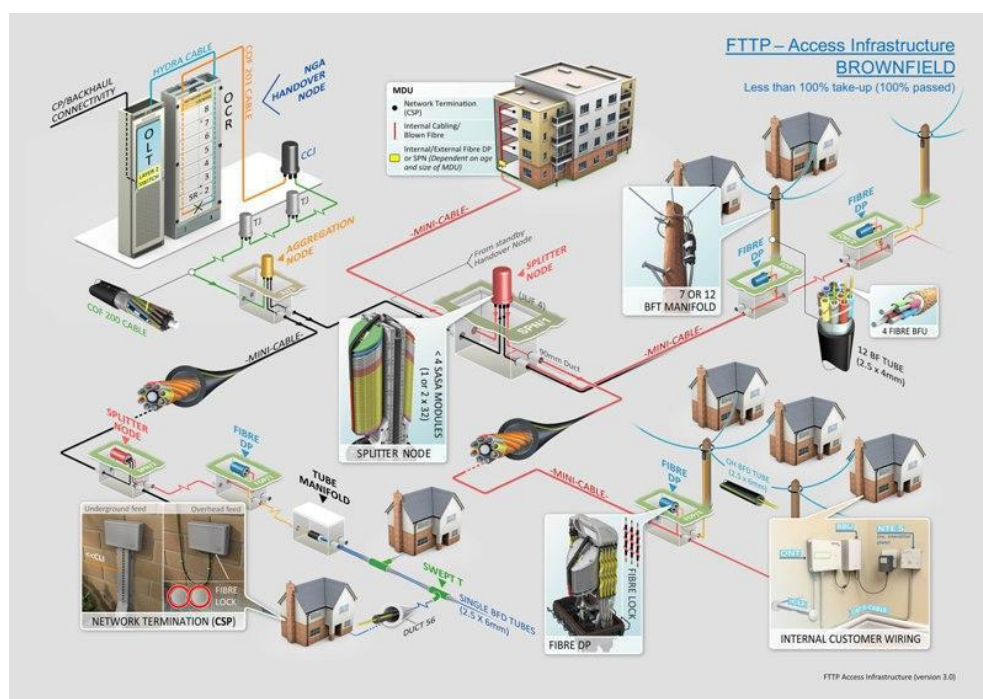
3.2 WBC FTTP Architecture

The network architecture for WBC FTTP is shown below.

WBC FTTC / P Network Architecture

GEA inserts Intermediate Agent (IA) value into PPP header. IA is a unique identifier for the EU and should be provided by the CP with the EUA order. Also adds S-Tag so BRAS can manage contention downstream. CP needs to specify SVLAN with each EU order.

BRAS supports parameterised QoS. BRAS shapes BE traffic into the SVLAN using differential weights to give min 12Mbps for Standard and 16Mbps for Elevated.

20 Point of Service Interconnects (PoSI)

FTTC

EOI Point

GEA

EES

Openreach EBD

EEA

21C MPLS

IEA

BRAS

BEA

CP Network

FTTP

GEA OHP Node (~850?)

Metro Node (106)

Core Node (20)

Multi Service Interconnect links (MSIL)

BTW – WBC SVLAN for FTTx

BTW – WBC

- **The BTW-WBC network above is the same as currently used to consume FTTC**

- **FTTP End Users will be delivered into the same WBC SVLAN that is currently used for FTTC.**

3.3 Point of Handover

WBC takes the service from each Point of Handover (POH) and backhauls it to the nearest WBC Aggregation Point of which there are 20.

3.4 Product Bandwidth Rates

The WBC FTTP product offers the following standard bandwidths:

Product	Downstream Peak (Mbit/s)	Upstream Peak (Mbit/s)	Minimum downstream throughput Options	Fault Threshold Rate
WBC FTTP 40/2	40	2	Standard or Elevated	N/A
WBC FTTP 40/10	40	10	Standard or Elevated	N/A
WBC FTTP 55/10	55	10	Standard	N/A
WBC FTTP 80/20	80	20	Standard or Elevated	N/A
WBC FTTP 220/20	220	20	Standard or Elevated	N/A
WBC FTTP330/30	330	30	Standard or Elevated	N/A

The WBC FTTP product offers the following ultrafast bandwidths:

Product	Downstream Peak (Mbit/s)	Upstream Peak (Mbit/s)	Minimum downstream throughput Options	Fault Threshold Rate
WBC FTTP 160/30	160	30	Standard or Elevated	N/A
WBC FTTP 330/50	330	50	Standard or Elevated	N/A
WBC FTTP 500/165*	500	165	Standard	N/A
WBC FTTP 1000/220*	1000	220	Standard	N/A

*Note that 500Mbps and 1000Mbps speeds are not available in all areas. If available, these speeds will be indicated on the Broadband Availability Checker.

All bandwidths shown are measured at the Ethernet layer.

3.5 Fault Threshold Rate (FTR)

WBC FTTP is not rate adaptive, and the line rate will achieve the stated value at an Ethernet level (i.e. 40Mbit/s, 55Mbit/s, 80Mbit/s, 160Mbit/s, 220Mbit/s, 330Mbit/s, 500Mbit/s or 1000Mbit/s downstream) if there is an active service. There is no stabilisation period. Therefore, there is no Fault Threshold Rate associated with this product. Dynamic Line Management (DLM) is also not applicable to WBC FTTP.

3.6 Product Withdrawals

The following FTTP products were previously available but are no longer supported.

> 40/15
>
> 100/15
>
> 100/30

110/15

330/20

3.7 Downstream Throughput Rates

Throughput refers to the ability to pass data through the network (including the BRAS) at a given rate, which depends on not only the line speed but also the available bandwidth between the end user and the source of the data through the BT Wholesale and CP networks (and often the internet).

WBC FTTP customers can select either Standard or Elevated downstream throughput options for End-User Access orders.

The Elevated end user's traffic is given preferential weighting in the BRAS which gives a higher throughput under congestion of the shared VLAN between the BRAS and the handover point. BT Wholesale dimensions the WBC network according to the demand seen in the network in the busy periods, defined by the busiest 3 hours of the day.

The network dimensioning rules are designed to ensure that customers receive a given IP throughput based on the product they have purchased, regardless of the activity of other users within this shared part of the network.

The throughput SLA is set at the levels below to allow for times of network congestion and time of day peaks in demand. In reality services typically operate closer to the purchased speed for the majority of the day. In the event a service drops below these levels, a fault will be accepted.

The minimum downstream throughput rates for standard WBC FTTP are shown in the following table.

WBC FTTP End User Downstream throughput rates		
Product	Service Variant	Minimum 'Best Efforts' Downstream Throughput (Mbit/s)
40/2	Standard	20
40/2	Elevated	30
40/10	Standard	20
40/10	Elevated	30
55/10	Standard	27.5
80/20	Standard	40
80/20	Elevated	60
220/20	Standard	40
220/20	Elevated	70
330/30	Standard	40
330/30	Elevated	70

The minimum downstream throughput rates for ultrafast WBC FTTP are shown in the following table.

WBC FTTP End User Downstream throughput rates

Product	Service Variant	Minimum 'Best Efforts' Downstream Throughput (Mbit/s)
160/30	Standard	95
160/30	Elevated	110
330/50	Standard	195
330/50	Elevated	225
500/165	Standard	225
1000/220	Standard	225

There is currently no SLA on upstream throughput on the WBC FTTP product.

4. Availability of Service

4.1 BT Wholesale Availability Checking

There are several tools you can use to check availability of BT Wholesale FTTP:

1. Public Broadband Availability Checker (BBAC)

https://www.dslchecker.bt.com/adsl/adslchecker.welcome. A simple web based form which gives an indication of where our broadband services are available for a given phone number, postal address, Network Address key (NAD key) or postcode. For FTTP we advise using the address check on BBAC. Input the postcode in address checker and you will get a list of properties returned to select from. This checker is best used by end users due to the limited information provided.

We recommend CPs use the availability checkers below which return more detailed information.

2. CP Login Version of the Broadband Availability Checker (formally Tags on the Line (ToTL))

Primary information source for CPs via web based version that returns extra availability information. Accessed from 'My Apps' on the BTW portal at https://www.btwholesale.com. If you do not have access, click on 'B' under 'App A-Z', and select 'Broadband Availability Checker' to request access.

3. B2B XML-based Checker

Machine to machine interface which returns extra information about the line. Refer to https://www.btwholesale.com/help-and-support/broadband/development-releases-and-b2b.html#introduction-to-b2b-and-xml-api-gateways for how to apply for access.

The full Broadband Availability Checker User Guide can be found at https://www.btwholesale.com/help-and-support/broadband/development-releases-and-b2b.html#broadband-development-release-documnetation

4.2 BBAC Availability Checking

Before attempting to check availability for FTTP, it is vital to ensure you have the correct address information. FTTP is best checked using the Address Checker or using a National Address Database (NAD) key, rather than a telephone number because it is key to correctly identify the exact premise and increasingly with new sites that do not have copper services, there is no number to check against. The full address will be needed in order to avoid installation at the wrong address, particularly if there are sub premises in a block of flats or multiple units in an office block for example.

4.3 Availability Results

If available, FTTP will show as "Enabled", which means the premise build is fully complete and ready for service. WBC FTTP availability may also show as "Planned" or "Waiting List" on the checker. This gives the CP the opportunity to place an order when the network build is not yet complete or there is capacity build in progress.

4.4 Premise Results

There are three flags which are displayed for FTTP availability under the Fibre Line Characteristics section on BBAC. These tell you not just about availability for new FTTP services but also about what's at the premise already.

FTTP CP Transfer or WLTO Available
- Y if there is an existing working service at the premise
- N if there are no existing working services

FTTP Existing ONT Available
- Y if there is an existing ONT with a spare port
- N if there are no spare ports available
- P if the site is a new site in planned status and you can place a pre-order

FTTP New ONT Available
- Y if you can order a new FTTP service
- N if a new service cannot be ordered
- P if build is not yet complete and you can place a pre-order
- W if there are capacity issues and you can place a waiters order

Service Information	
MarketExchange	B

Fibre Line Characteristics	
FTTP CP Transfer Or WLTOAvailable	N
FTTP Existing ONT Available	N
FTTP New ONT Available	Y
Premise Type:	Single Dwelling Unit Residential
Serving Network Notes:	UG Feed with no anticipated issues
TMA Marker:	N
TMA Notice or Permit:	Undetermined
Recommended Minimum Lead Time:	9 Working Days
FTTP Install Process:	2 Stage
L2SID:	BAAEDO

Informatory Messages	
Suggested Message:	Our records show the following FTTP network service information for these premises:- Single Dwelling Unit Residential UG Feed with no anticipated issues.
	FTTP is available and a new ONT may be ordered.

FTTP availability output screen

It is also vital that you check the information that our availability checker gives about the type of site it is that Openreach have determined from their network survey. The checker will tell you what install process is likely for a particular site (outlined further in the Lead 2 Cash section below), whether a TMA (Traffic Management Act/Permit) is required which may lengthen the delivery timescales and what the minimum lead time is likely to be. You can see the ONT details if one exists already and whether there are any spare ports or working services you can place orders against.

All of this information will provide useful guidance as to whether an install is likely to be simple or more complex and will allow CPs to set customer expectations accordingly.

4.5   Multi-Dwelling Units (MDU)

Where a premise is classed as MDU, Openreach must obtain permission from the building landlord before embarking on any build within the building. The status of the MDU build will be shown on BBAC as below.

Value	Meaning
Build Complete	Openreach have completed the FTTP infrastructure build within the MDU premises.
Build In Progress	Openreach are currently building the FTTP network serving the MDU premises. Availability of 'P' may be possible.
Build Not Started	Openreach have not yet started network build to serve the MDU premises. Availability of 'P' may be possible.
Build Planned	Openreach have planned the network build within the MDU premises. Availability of 'P' may be possible.
Landlord Permission Granted	Openreach have received permission to provide the FTTP infrastructure and will progress towards network build.
Landlord Refused Build	Openreach have been denied access to provide FTTP infrastructure within the MDU premises. Openreach will progress with external network build.
Other Network Solution Needed	Openreach have determined that the premises is not suited to FTTP infrastructure and an alternate solution will be needed.
Seeking Landlord Permission	Openreach have completed external network build and are seeking wayleave permission to build within the premises.
Network Built to curtilage	Openreach have completed external network build but have 'stubbed' the network outside of the MDU due to a refusal of wayleave permission to build within the premises. If permission is provided in the future Openreach can build the internal infrastructure and connect to the external network.

4.6   Serving Network Notes

Serving Network Notes indicate Openreach findings when surveying the premise and will determine the likey install process.

Value	Usual Install Journey
SNN	Order Journey
UG proven Clear	1-Stage
UG premises served by 2.5 inch plastic duct 56	1-Stage
UG pre built fibre to the CSP	1-Stage
OH D pole Hoist required	1-Stage or 2-Stage
OH Feed crosses busy road requiring two engineers	1-Stage or 2-Stage
OH Feed with Line of sight problems Others	1-Stage or 2-Stage

OH Feed with Line of sight problems Trees	1-Stage or 2-Stage
OH Feed with no anticipated issues	1-Stage or 2-Stage
OH Pole overloaded	2-Stage
OH Pole with drop wire issues	2-Stage
OH Supply but not yet evaluated	2-Stage
Other - Wayleaves outstanding	2-Stage
OH Potential Wayleave issues	2-Stage KCI2 Assure
UG Congested duct	2-Stage KCI2 Assure
UG Feed Not Evaluated	2-Stage KCI2 Assure
UG Linked duct	2-Stage KCI2 Assure
UG navigable with camera	2-Stage KCI2 Assure
UG Part proven	2-Stage KCI2 Assure
UG partial Direct In Ground	2-Stage KCI2 Assure
UG Potential Wayleave Issues	2-Stage KCI2 Assure
UG premises served by 1 inch plastic duct 100	2-Stage KCI2 Assure
UG pre built to the curtilage	2-Stage KCI2 Assure

4.7 Future Availability Checking

An availability check on the Openreach public website at https://www.openreach.com/ will return information about whether a premise is 'in scope' for FTTP build. Where a premise is 'not in scope' an Expression of Interest form is available where end customers can register their interest in ultrafast fibre and receive regular updates on Openreach fibre build. Openreach will also use the data captured from the Expression of Interest to feed into their future build planning.

Openreach also make available on a weekly basis premise level reports which list every premise made ready for service by Openreach for FTTP and in some instances also those premises which are 'planned' for FTTP. BT Wholesale makes these reports available to WBC FTTP-consuming CPs. Please see https://www.btwholesale.com/help-and-support/broadband/fttp-deployment-report.html to request access.

5. Lead to Cash

5.1 NAD Keys

WBC FTTP (including WBC FTTP On-Demand) can only be ordered against a Gold National Address Database key. A Gold key indicates that an address is or has been historically served by Openreach or has a pre-designed association to an Openreach network. The key takes the form of A00000000000.

5.2 Pre-Order and Waiters

Where network build is not yet complete or there is capacity build in progress and availability is shown as "Planned" or "Waiting List" CPs can still place an order for WBC FTTP. Orders will be accepted and KCIs returned giving a target date for completion where available. Where a completion date is not yet available, BT Wholesale will notify CPs as soon as one becomes available.

Note that CPs should not raise an appointment request for FTTP orders with status 'P' or 'W' – appointments can only be booked post KCI2 and then orders will follow the minimum lead times as stated below.

5.3 Brownfield Sites

Brownfield is used to describe sites where there is existing Openreach copper network infrastructure. The Optical Network Termination box (the ONT) will be provided on the day of the installation. Brownfield sites usually require a two stage installation to provide service – see details below.

5.4 Greenfield Sites

Greenfield is used to describe new sites/developments where no BT network has previously been deployed. These are usually fibre only with no provision of copper services and the FTTP line should be used to support both a Voice and Data capability.

The plan and build at new sites does vary depending on the developer and exactly when the premises is sold. However, in general, both the external CSP and the internal ONT are installed in advance and so Greenfield sites do not require an engineer visit to enable service.

5.5 1-Stage Install Process

1-stage provisioning usually applies to Greenfield sites where the ONT has been pre-installed. Ocasionally, Brownfield sites can be provisioned as 1-stage where connectivity already exists to the outside of the premise so only requires a short engineer visit for internal ONT installation.

5.6   2-Stage Install Process

The provisioning of the service for Brownfield sites is generally conducted in two stages. The first stage is performed externally by an engineer who provides the fibre infrastructure up to and including the Customer Splicing Point (CSP). This is normally fixed to the outside of the premises. The second stage is an internal appointment performed by an engineer who will connect the fibre from the CSP outside, and install the ONT inside the customer's premises, and other activities as appropriate, depending on the installation option selected (see below sections on SVR installation options).

The first stage is normally conducted at CDD-7 (7 working days prior to the internal appointment) to allow any issues such as blocked ducts, to be resolved in time for the internal appointment to proceed as planned.

The CP and EU must agree whether the EU can provide access for the first external stage without being present (EU Access Granted) or whether they need or want to be present (EU Presence Required). This should be indicated on the provisioning order. EU presence is always required for the second internal appointment.   "EU Presence Required on another date" can be selected (where CDD-7 is not suitable), and an alternative preferred date should be entered.

5.7   2-Stage KCI2 Assure Install Process

In some 2-stage installs where Openreach have identified that additional network build may be required, an engineer will assess and complete (where possible) the external work ahead of sharing a committed date and sending KCI2.

If the external task completes without issue, CPs will receive notification and KCI2 with the CDD and internal appointment details as per a standard 2-stage install. If issues are identified requiring external works or digs, a KCI-Delay will be sent and either KCI2 and the CDD will be adjusted to include the time needed to carry out the additional work or you will get notification that the job has been sent for further survey.

It is recommended that CPs do not book an appointment with their end users for such orders upfront and should wait for the confirmation in KCI2.

5.8   Installation Options

Alongside the standard BAU legacy installation of FTTP, there are now additional types of installation option on FTTP, known as Site Visit Reasons (SVRs). SVRs will eventually become the only installation option in future used to determine the type of installation required.

5.9   Primary SVRs

A primary SVR will in future become mandatory on every order. There are three options:

No Site Visit	When no engineering visit is required to the end customer premises. Only applicable to sites where the ONT is already installed* or on orders to make

	changes to existing working services e.g. Change of Retailer or Working Line Take Overs.
Standard	An engineer visit to the end customer premises. Applies to new provide and product migration orders (e.g. from ADSL or FTTC to FTTP). Engineer activities include: • Upgrade to NTE5c • Connect ONT (no more that 5m from point of entry and within 1m of nearest 13a socket) • Connect CP router (next to the NTE or ONT for FTTP) • Connect 1 device (connectable devices include Set Top Boxes, PCs, Laptops and Smartphones, but does not include games consoles, WiFiextenders and WiFidisks, dongles or CP specific units. Devices not previously connected at the customer's premises will not be connected)
Premium	A new higher level of installation service. Applies to new provide and product migration orders (e.g. from ADSL or FTTC to FTTP). Engineer activites includes all the Standard SVR features along with additional activities to optimise connectivity within the end customer premise, including: • Enhancing the in home environment – reposition customer router • Carry out WIFI analysis • Add up to 2 data extension kits (max of 2 of either data extension kits, or 1 router move kit and 1 data extension kit) • Connect up to 2 more devices and demonstrate (connectable devices include Set Top Boxes, PCs, Laptops and Smartphones, but does not include games consoles, WiFiextenders, dongles or CP specific units. Devices not previously connected at the customer's premises will not be connected) • Add VRI reconnect voice extensions and prove (if a Voice Re-injection (VRI) cable has been delivered and the customer requests VRI, will fitan isolation faceplate (SSFP) and prove dial tone on up to 3 extensions. If no VRI cable has been delivered, or is of insufficient length to connect NTE and Hub/router the engineer will fit the isolation faceplate only and refer the customer to the CP)

*Orders at Greenfield sites are not restricted to No Site Visit, a Standard or Premium SVR may be ordered at these sites if desired.

5.10 Secondary SVRs

In addition, a secondary SVR may be ordered.

Prove IP Voice	May be requested alongside either Standard or Premium. Cannot be requested as a standalone SVR or with No Site Visit. If ordering Prove IP Voice, the CP must

| | also provide contact details in the Special Arrangement Notes field in the format DN to <Prove IP voice: xxxxx xxxxxx CP Contact: xxxxx xxxxxx>.

The engineer can carry out the following activities:

- Where the CP has provided DECT phones, attempt to setup and pair to the customer router
- If the IP phones are not available/not working, use the customer's existing phone plugged into the customer's router at the Analogue Telephony Adaptor (ATA)
- If no phone is available, use an engineers test phone plugged into the customer's router at the ATA socket
- Prove IP Voice by making an outbound call and incoming call (engineer is expected to wait up to 15 mins for activation)
- If the activity is unsuccessful the Openreach engineer will advise the customer, but close the activity as normal. It will then be up to the CP to ensure that the service is working. |
|---|---|

5.11 Amending SVRs

The choice of SVR is not amendable except for the special case where No Site Visit has been selected and the Openreach pre-provision "ONT health check" fails. In which case, amends from No Site Visit to either Standard or Premium SVR are exceptionally permitted.

5.12 Supported Order Journeys

New Provide	FTTP Provide with DN (Brownfield only) FTTP Provide with Address
Product Family Migration	20C to FTTP ADSL to FTTP (with or without a Change of BTW CP) FTTC to FTTP (with or without a change of BTW CP)
Orders against existing services	BTW FTTP to FTTP CP Migration BTW FTTP to FTTP Working Line Take Over (with or without a Change of BTW CP)
Modify	Modify FTTP
Cease	Cease FTTP

5.13 Minimum Lead Times

The minimum lead times for WBC FTTP are shown in the table below. Occasionally, the first available appointment slot may be longer than the minimum lead time, as it is driven by availability of engineering resource.

Order Type	Description	Minimum Lead Time (SLA)	ONT and Appointing Options
Provide	2-stage where no TMA* marker is provided on the availability checker for that line	9 working days (actual lead time is dependent on availability of appointments)	New ONT / appointment mandatory
Provide	2-stage where TMA marker exists and the TMA requires a Notice	10 working days (actual lead time is dependent on availability of appointments)	New ONT / appointment mandatory
Provide	2-stage where TMA marker exists and the TMA requires a Permit	14 working days (actual lead time is dependent on availability of appointments)	New ONT / appointment mandatory
Provide	1-stage (Brownfield sites) where the external work has already been completed, and only internal customer installation is required	3 working days	New ONT / appointment mandatory
Provide	1-stage (Greenfield sites) which require an appointment due to a fault identified by the pre-provision service test	3 working days	Existing ONT / appointment mandatory
Provide	Missing ONT or Damaged ONT	3 working days	Existing ONT / appointment mandatory
Provide	1-stage (Greenfield sites) where ONT is pre-installed	3 working days	Existing ONT / appointment optional if using SVR installation option

Provide	Succession provide (where ONT is already installed in the premises)	1 working day	Existing ONT / appointment optional if using SVR installation option
Provide	Real Time Start: Start of a previously stopped service where no Change of Retailer is required	Same day if requested before 14.00 otherwise next working day	Existing ONT / non-appointed
CP Migration	CP Migrations using the Notice of Transfer (NoT) process	10 working days	Existing ONT / non-appointed
Working Line Take Over (WLTO)	For home moves	10 working days	Existing ONT / non-appointed
Modify	Speed change (to or between non-ultrafast speeds)	Same day if requested before 22.00 otherwise next working day	Existing ONT / non-appointed
Modify	Care level, speed change (to or between ultrafast speeds), Remote ID, Handover port	1 working day	Existing ONT / non-appointed
Cease	Stop	5 working days	Existing ONT / non-appointed
Cancel	Before Point of No Return (PONR)	5 working days	n/a

*TMA refers to an area that is assigned as Traffic Sensitive by the local council, and where Openreach would require either a Traffic Management Act (TMA) notice or permit to perform any of the work required for the provision order (aka L2C).

The cost of the TMA is generally covered in the Service charges unless the CP or EU changes an appointment which results in a new permit being required. In such instances, BT Wholesale reserves the right to pass on such costs.

The TMA marker is visible on BBAC for an individual service, and is applied by the Openreach planner when the survey of an area is conducted. In some cases, a TMA is not identified at the planning stage, and will be subsequently flagged via delay KCIs after the external stage appointment.

Field visits associated with provide orders can be appointed for either AM (8am – 1pm) or PM (1pm to 6pm) slots between Monday and Friday (excluding English, Welsh and Scottish public holidays, as appropriate).

All Customer Required by Dates (CRDs) must be within 90 days of order entry.

All product lead times are calculated on the basis that the day the order is entered is considered day 0, and all lead time calculations exclude weekends and UK public and bank holidays. For example, a 4 day lead time product where the order is submitted and accepted on a Friday will be delivered on the following Thursday.

5.14 ECC Charges and Process

In exceptional circumstances where there is significant build associated with a premises, there may be Excess Construction Charges (ECC). The CP has the opportunity to set and amend the ECC band level to advise whether they would accept any additional charges for that specific order. This band level relates to the level above the BT threshold that a CP would be prepared to incur. It is expected that the vast majority of cases involving ECCs would be accommodated by the BT threshold. The charge bands are as follows:

Charge Band 0 - £0

Charge Band 1 - £1-£300

Charge Band 2 - £301-£600

Charge Band 3 - £601-£1000

Charge Band 4 - £1001-£3000

Charge Band 5 - £3001 and above

Where the CP pre-approved charge band has been exceeded, a review date is provided along with the updated charges. The CP must accept the charges by the review date if they plan to do so.

To accept the charges CPs should place an amendment on the order on eCo Plus or via the B2B and select the amend reason "Authorisation of ECCs" and will then allow the correct charge band to be selected.

The order is automatically cancelled at the review date if no response is received. The review date is set 20 working days after the revised charges are sent.

5.15 Overhead Fed Premises

The first stage of the provisioning process for Overhead fed premises involves replacing the drop wire with a new Hybrid cable to avoid overloading. This will involve an outage of any telephony services on the copper wire for up to an hour. This must be communicated to the EU. A premises can be identified as Overhead fed on BBAC.

5.16 Battery Back Up (BBU) and Voice Wiring (VW)

From April 2019, during the installation of the service, Openreach will no longer be supplying a Battery Back Up (BBU) which is used to back up the FVA voice port on the ONT in the event of a power failure. This is used if FVA is provided in the premises to achieve PATS compliance. Voice Wiring (VW) is used to connect the existing copper extensions to the ATA port on the ONT when FVA is provided. CPs are now responsible for providing a back up power supply to their customers.

5.17 ONT Healthcheck

For unappointed Greenfield activations where the ONT has been pre-installed, Openreach will perform a remote ONT Healthcheck test on CCD-3 (prior to KCI2).

If the pre-provision test detects a fault, the order will become appointed and CPs will receive the appointment details in KCI2. CPs will then need to confirm the appointment with the end customer.

5.18 Pre Appointment Call to End User

The engineer will call the end user on the day of the internal appointment prior to starting work and will not commence work unless the end user has confirmed their availability. If the end user is not contactable or available, abortive visit charges will apply. The CP will be asked to make a new appointment.

In a 2-stage install, the pre appointment call applies to the first and second stage if both are being attended by the EU. The engineer will not call ahead for the first stage if the CP has selected "Access Granted" so that the EU does not have to be present.

5.19 Delays

Given the nature of FTTP installations and the required engineering appointments, there are occasionally delays to the order. In this situation, a Delay KCI is sent and the Supplier Notes tab on EcoPlus is updated with any engineering details. In the first instance, the Openreach planning team will agree a plan to resolve the issue directly with the End User wherever possible. Examples of this type of delay could be trees in the way, asbestos etc that may disrupt the build work required.

5.20 Modify

Changing between speed options may be requested using a Modify order type. A modify charge applies, but there is no cease charge on the previous service. The minimum term is reset, and there are no Early Termination Charges (ETCs) applied to the service being left if the product is upgraded (charges apply if downgraded).

5.21 Expedites

For 2-stage install orders, an expedite/escalate can be placed after the external work has been completed, expedites requested at any other point will be rejected.

5.22 CP Migrations via Notice of Transfer (NoT)

The Notice of Transfer process allows users to migrate from one CP to another.

CPs should note that to place a CP Migration order, the CP Transfer or WLTO availability flag on BBAC must be Y, the Change of Retailer option on the provide order must be set to Yes and an ONT reference and port number of a working port must be specified. An unsolicited cease notification will be sent to the losing CP to indicate that the service is being ceased.

Note that if there is an existing FVA service at the customer's property, this will be ceased by Openreach and will need to be re-ordered by the CP.

5.23 Working Line Take Over (WLTO)

The Working Line Take Over process can be used for home moves and can be ordered with or without a Change of Retailer.

CPs should note that to place a WLTO order, the CP Transfer or WLTO availability flag on BBAC must be Y, the WLTO option on the provide order must be set to Yes and an ONT reference and port number of a working port must be specified. An unsolicited cease notification will be sent to the losing CP to indicate that the service is being ceased. The gaining CP can also place a WLTO on top of an existing open cease. In this case the date on the WLTO will be the later of the existing cease date or the CRD requested by the CP.

Note that if there is an existing FVA service at the customer's property, this will be ceased by Openreach and will need to be re-ordered by the CP.

5.24 Product Migrations

Migrations to FTTP from ADSL or FTTC are supported with or without a change of CP. BT Wholesale will manage the cease of the ADSL or FTTC service in line with the provision of the new FTTP service.

5.25 Ordering a Second ONT or FTTP Service to an address

It is possible to order a second ONT to an address. Where there is a spare data port on an existing ONT, this can be remotely activated be placing a "succession provide". Alternatively, if there are no spare ports on an existing ONT or the customer wishes to install a second ONT, this is also supported if the New ONT flag on BBAC is shown as Y.

5.26 Order Amendment and Cancellations

It is possible to amend or cancel an 'in-flight' order up to a specified time known as the Point of No Return (PONR). PONR is 14.00 hours on CDD-1.

The amendments that can be made after the PONR by contacting the WBC FTTP SMC are:

- Customer Contact Details

- Hazard Notes

- ECC Charge Bands

5.27 Cease

A CP can submit an order for the disconnection and total cease of WBC FTTP. This will involve work at the exchange only. The ONT and any associated wiring to the ONT should remain in place following disconnection where it will be ready for the next customer. The ONT represents both the network and service demarcation points.

Where the WBC FTTP service is ceased within the agreed contract period, charges will be raised for the remainder of the term. This will be in addition to any standard cease charge.

6. Pricing, Contractual and Commercials

6.1 Pricing

Pricing consists of:

- End User Access connection and rental
- Contracted bandwidth rental

Pricing detail is available in the BT Wholesale price list at https://www.btwholesale.com/help-and-support/pricing/service-provider-price-list.html

6.2 Minimum Term and Termination Charges

The minimum contract terms for WBC FTTP are as follows:

- Provision = 12 months
- Speed Upgrade/Downgrade = 12 months

Early Termination Charges (ETC) will apply in the following scenarios:

- Cease
- Speed Downgrade

Early Termination Charges will not apply to bandwidth changes, where the upstream or downstream bandwidth is increased, (e.g. moving from the 40Mbit/s downstream 10Mbit/s upstream product variant to the 80Mbit/s downstream 20Mbit/s upstream product variant). However Early Termination Charges will apply where the bandwidth is decreased in either the upstream or downstream.

6.3 Transition Pricing

A commercial discount may be available on the FTTP data product where a baseband copper service is in place at the premises being served by MPF or WLR. The MPF or WLR needs to be owned by the same legal entity (or entity within the same Group of Companies), although the voice and data services may be purchased through different parts of BT Group.

CPs will be asked to confirm the existence of a "BT Provided Copper Telephone Line" on each order to benefit from the discount. In such circumstances, it may be necessary for such arrangements to be documented by the CP. Without proof of which standard prices will apply, and BT reserves the right to claw back the difference between the standard charges and Transition Pricing.

CPs should note that BT Wholesale has announced the withdrawal of Transition Pricing from 31st March 2020.

6.4 No Access Visit Charges

Visit charges will apply on orders for any of the following reasons: No Access, Customer Absent or Customer Non Readiness. If the order is subsequently cancelled following a No Access charge, the charge still applies.

7. Service Management

The WBC FTTP service is provided and assured on BT Wholesale's eCo Plus service. Orders and faults can be submitted either via the on-line internet based Portal or via XML transactions.

Order and fault updates are provided to CPs via Keeping Customer Informed (KCI) notifications, additionally KCI order and fault message information is available via the order and fault trackers.

7.1 Dialogue Services

Dialogue services offer the following applications for WBC FTTP:

- **Manage Line Characteristics**

- **Address Matching**

- **Appointing –** enables a CP to check appointment availability and reserve appointments for both Provision and Assurance activities

- **Line test and Diagnostics –** this service provides the ability to test a WBC FTTP circuit prior to submitting a fault to Openreach. If using the Portal these activities can be carried out during the order placing or fault reporting process and do not need to be done separately in advance.

- **Order and Fault tracker –** this service provides the ability to view supplier and engineering notes but should only be used where there is a delay or issues with progress of a fault or order. There will be a charge for usage above a quota (which has been designed to cover enquiries by exception).

7.2 View My Job

A View My Job (VMJ) section is available via B2B and Web Services. CPs are able to query their orders and fetch information, including KCI and Milestone information.

JobDetailsQuery - This will return high level information relating to the order, including KCI Dates, the order status, KCIs sent and Milestones completed.

LinkedDetailsQuery - This will return the order status of the linked order from a SIM/SIM2 provide.

NotesQuery - This will return the order notes that Openreach have sent on the order.

AppointmentsQuery - This will return the appointment history that shows all the appointments that have been allocated onto an order.

AmendDetailsQuery - This will return the amendment history on an order.

SiteVisitQuery - This will return the site visits requested on an order.

AubMilestoneQuery - This will return the sub milestones for specific milestone.

CancelDetailsQuery - This will return the cancellation details for an order.

8. Additional Options

The following features are available to order to enhance the standard features.

For pricing please refer to the BT Wholesale price list at https://www.btwholesale.com/help-and-support/pricing/service-provider-price-list.html

8.1 Maintenance Classes

For Maintenance Classes on the WBC service please refer to the WBC Operational Handbook and the Assurance section of this document.

We will provide End User service at Maintenance Class 5 as default. For the reporting of faults, Maintenance Class 5 operates 24 hours a day, seven days a week (including UK Public and Bank Holidays). BT will acknowledge receipt of a fault report logged by the CP and BT will clear the fault within 40 clock hours of receipt of the fault report, excluding any allowable parked time.

Maintenances Class 4 (20 hour clear) and 14 (7 hour clear) can be purchased at additional cost.

8.2 Quality of Service

The QoS options are intended to assist CPs make cost effective use of their bandwidth budget and ensure end user levels of service for new and leading edge applications.

The introduction of classes of Quality of Service (QoS) is a key benefit of WBC, and allows CPs to offer service level agreements to different groups of end users using a wide range of time-critical and data intensive applications.

WBC FTTP EUA has the following QoS services available:

- Best Efforts

- Assured Services (known as Advanced Services on IPstream)

- Real Time

Please refer to the WBC Operational Handbook for further information.

8.3 Remote Identification

This facility provides the ability for CPs to select text to be returned within the Remote Id field, for example, to manage verification of their end users. This text can be ordered as part of the provision process, or later by submitting a modification order.

8.4 Suspend and Resume

Suspend and Resume is supported on WBC FTTP, providing our customers the ability to place a restriction/bar on customer's connections. This may be required if an end user has not paid a bill and until they have made a payment, and the CP wants to restrict the user from connecting. This option saves time and cost for the service provider as they do not have to order a cease and re-provide.

Suspend Service - WBC EU assets may be suspended by Communication Providers or BT Wholesale Customer Service, typically in response to EU non-compliance with terms of use e.g. non-payment of bills. This can be done as either an urgent (within 2 hours) or standard option (24 hours).

Resume Service - This order type will allow connection to broadband and the same options are available urgent or standard lead times again.

9. Optical Network Termination

The Optical Network Termination (ONT) device terminates the fibre path at your customer's premises. The demarcation point of the Openreach FTTP network is the Ethernet port on the output side of the ONT for the data service. For voice, the demarcation point will be the NTE5, if the voice service is provided over an existing copper line, however if the voice service is provided over the FTTP network, the demarcation point will also be the output port on the ONT. The ONT is owned by Openreach.

9.1 4+2 ONTs

There are four Ethernet data ports available on the ONT and two Analogue Telephone Adapters (ATA) enabled ports for FVA voice products.

For the 4+2 ONT there are two manufacturers (ECI and Huawei) used to supply the exchange head-end and ONT network components, they appear similar and both offer the same facilities. Each exchange area uses only one manufacturer's technology and will not be mixed, so the ONTs should not be treated as compatible between manufacturers.

From November 2017 the 1+1 ONT replaced the 4+2 ONT for new orders.

9.2 1+1 ONTs

One Ethernet data port is available on the ONT and one Analogue Telephone Adapter (ATA) enabled port for FVA voice products.

For the 1+1 ONT there will only be one manufacturer (Huawei), it is a like for like replacement of the 4+2 ONT except that it is smaller – capabilities and functionalities are the same.

9.3 ONT Siting

For all ONTs CPs will be able to plug routers, or other appropriate equipment, into the designated data port(s).

The ONT must be firmly fixed to a wall in order to avoid a fibre fracture. This device requires an external power supply (from AC mains), as it cannot be line-powered over fibre. If necessary an extension power socket can be used. The ONT is designed to remain connected to the power at all times, it is recommended that End Users leave the ONT permanently powered and for this reason the ONT does not include a power on/off button.

Battery back-up power is needed in the event of a power failure to support primary voice services created over the separate FVA product. BT do not proactively react to alarms relating to power failure since we are unable to determine if these are the result of a failure rather than a deliberate switch off by the end user.

The ONT may require firmware upgrades from time to time. This will require the device to download the upgrade and to perform a re-start, which will result in a short loss of service for your customer. It is envisaged that bulk firmware upgrades will take place during Planned Engineering Works (PEW) outage windows.

9.4 ONT Appearance and Light Functions

Below is an illustration of an ONT. The actual equipment installed may vary in appearance to those pictured below.

The ONT will be supplied within an external enclosure.

The ONT has:

- One 10/100/1000 Base-T Etherent data interfaces

- Auto-negotiations and MDI/MDIX auto-sensing

- Data Transferring at wire-speed for all packet size

- Built in layer 2 switch

- One voice port, BT601A connector for FVA services

The technical specification of the interface connections provided by the ONT device for Ethernet physical interfaces are described in SIN 360 – Ethernet Customer Interfaces, Interface Characterisitcs.

The dimensions (H × W × D) for the ONT are:

    1+1 Enclosure 134 mm x 115 mm x 25 mm

9.5   ONT Placement

To enable the flexibility and extension proposals, the ONT placement will follow the following guidelines.

- Target ONT placement location would be within 1.5m from entry point

- Standard install will allow up to 5m from any existing copper entry point

- Premium install will allow up to 30m from any existing copper entry point

- ONT to be within 1m of master power socket
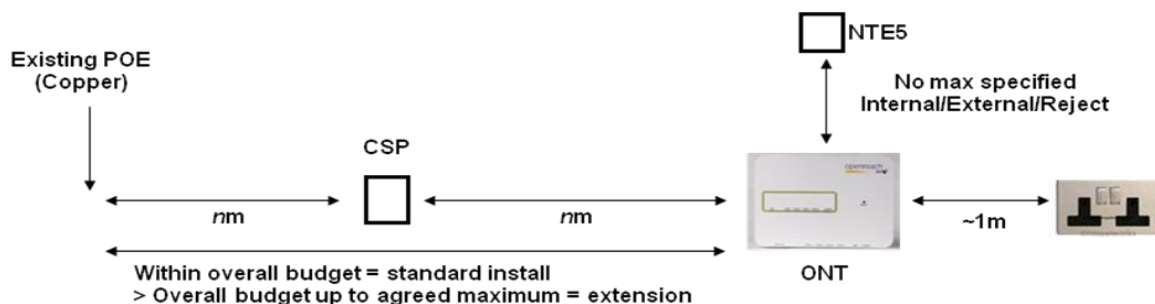
Telephony wiring back to NTE5 – an End User can choose internal or external (where practicable):

- Support for upper floor ONT placement

- Internal ONT placement and extension process/rules aligned with FTTC

ONT Placement Examples

In a ground floor scenario the flexible entry point sought would be closest to the end-user's preferred ONT placement point.

The CSP is fitted externally. From the CSP a patch cable is provided to the end-user's preferred ONT placement point.
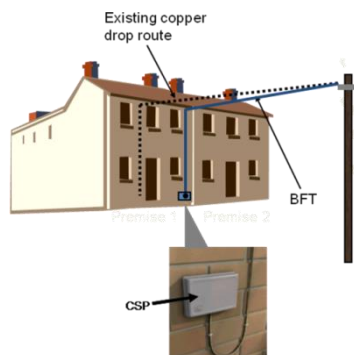
External view ground floor entry

Internal wiring ground floor entry

Flexible entry point closest to end-user preferred ONT placement point (eg upper floor, study, rear).

CSP needs to be at ground level for comfortable/safe splicing work – either below the OH bracket or next to the duct capping.

External view upper floor entry

The exact location of equipment installed is agreed between the Openreach engineer and End User (EU) on the day of installation. However, CPs should ensure that EUs are aware of the installation requirements to avoid a failed engineer visit which will be charged for.

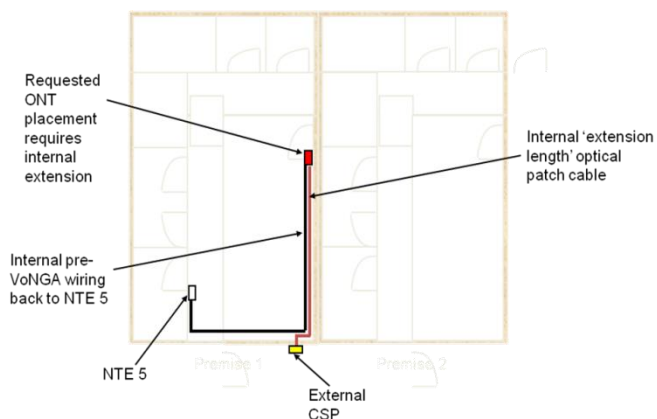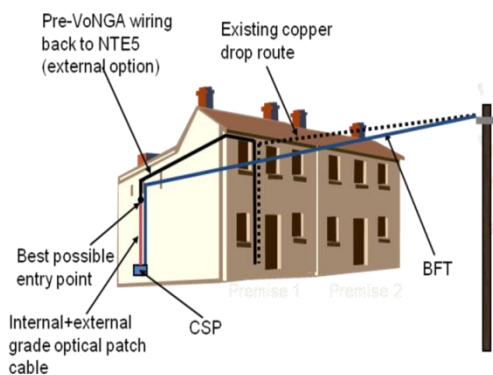## 9.6 Internal Shift of an ONT

For existing services you can request an 'Internal Shift' to satisfy requests from your customer to move an ONT to an alternative location e.g. due to the ONT causing an obstruction, a more appropriate service access location or purely for aesthetic reasons.

Note: This process has been put in place to deal with exceptional situations where an ONT internal move is required. Moving of routers, reconnection of devices within the managed install portfolio and reconnection of FVA voice services are not included in this capability.

If you identify that an internal shift of an ONT is required by your customer, you should contact BT Wholesale by calling 0800 678 1107 (select Option 1, Option 1, Option 3) Inform the adviser that you need an ONT Shift. The adviser will need the following:

- Service id
- Customer Name
- Telephone
- Address
- Alternative Number
- Current ONT Location
- New ONT Location
- Hazard and Warnings
- Additional Notes

BT Wholesale will keep you informed regarding: acknowledgment of request, any delays, faults found (before moving the ONT), cancellation and completion as part of the tactical process.

The process is indicated below:

- Openreach will contact your customers up to 5 working days before, to arrange an appointment.
- An Openreach engineer will need to visit your customer's premises in order to move the ONT, and the customer will need to be on hand to confirm agreement of new ONT position.
- An engineer will call your customer on the day of appointment to ensure they are on site. If your customer cannot be contacted we will re-appoint directly with your customer and send you an email confirmation of the new date.
- There is no amend process, if any changes are required you will have to cancel and re-request using the same e-mail address.
- The engineer moves the ONT, brackets, battery (if applicable) and re-splices fibre tail to CSP and reconnects your router to the Ethernet cable only if it reaches. If the new position prevents reconnection of the router, reconnection will be your and/or the end user responsibility.
- It's your responsibility to arrange the installation of your own customer's premises equipment.
- The engineer will test (fasttest2) the FTTP service before and after the move. If the ONT does not synchronise following the move then the engineer will contact their Service Centre who will arrange resolution.

Please note this process only applies to requests to move ONTs within a customer's premises and not to any other Openreach products. Multiple Dwelling/Multiple Occupancy premises are specifically excluded from this process as is the move of the external CSP.

The pricing for an internal shift can be found on the Openreach website at
http://www.openreach.co.uk

10. Customer Premises Equipment (CPE)

The CP is responsible for providing suitable CPE to work with the FTTP service. CPs should be aware that a router with GigE WAN and LAN ports will be required to make full use of the 220M, 330M, 500M and 1000M service variants. The 80M, 55M and 40M variants are is suited to CPE without GigE ports.

Consideration should be given to the EU's environment to ensure the speed of the service is fully realised. For example, the performance of the computer (and wireless card, if appropriate) may affect the speeds achieved.

11. Service Level Framework

The following is the service level framework for WBC FTTP:

11.1 Assurance (T2R)

Faults can be reported on a self service basis using Knowledge Based Diagnostics (KBD).

BT Wholesale will provide CPs with the capability to test WBC FTTP circuits via dialogue services. In the event of a BT Wholesale fault being identified, there will be 3 maintenance categories as follows.

- Maintenance category 5: BT Wholesale endeavours to clear the fault within 40 clock hours of receipt of a valid trouble report from the CP. Faults can be reported 24 hours a day, 7 days a week.

- Maintenance category 4 (chargeable): BT Wholesale endeavours to clear the fault within 20 clock hours of receipt of a valid trouble report from the CP. Faults can be reported 24 hours, 7 days a week.

- Maintenance category 14 (chargeable): BT Wholesale endeavours to clear the fault within 7 clock hours of receipt of a valid trouble report from the CP. Faults can be reported 24 hours, 7 days a week.

Major Service Outage (MSO) – An MSO will be defined as being at a minimum exchange level and will be reviewed as volumes increase.

11.2 Pro-Active Fault Monitoring

BT Wholesale has an established 24/7 Access Operations Centre to monitor the performance of the WBC FTTP network and to proactively manage the restoration of any network element failures. By monitoring and managing the network in real time we hope to identify and clear service issues before CP customers have identified individual service problems.

Any CP raised trouble tickets caused by the proactively identified network failure would be linked to the proactive service restoration activity and closed in the normal way when the proactively raised fault is cleared. Normal SLAs would apply to the CP raised trouble tickets.

11.3 Special Faults Investigation (SFI)

This is an appointed visit to your customer's premises, during which our engineer will investigate the issue and may carry out any or all of the following procedures:

- Check ONT is powered up on arrival
- Check that ONT is working and that the PC/Router connected to the correct port and functioning OK

- Connect to your homepage, if made available, from your router using their PC
- Physical visual inspection of the in-home cabling from ONT to CSP
- Physical visual inspection of the home environment to understand and advise if equipment positioning could be causing poor connection quality e.g. is the router plugged into the correct LAN port,
- Removal of any cables / wiring to troubleshoot connection.
- Physical visual inspection of external cabling, CSP, DP and Splitter
- Swap out ONT where appropriate to support fault finding
- Liaise with your engineer onsite, if required. It's your responsibility to arrange for your engineer to arrive within the appointment slot. You must provide us with your engineer's contact details at the time of placing the order

Please note:

- Before you order SFI, you must have tested the service via dialogue services and received a **Right When Tested** result.
- While we will do our utmost to resolve customer issues, we cannot guarantee to do so.
- SFI is chargeable unless cancelled prior to the Point Of No Return (PONR).

If FVA is available, the Openreach engineer may take the opportunity while there to install the voice wiring and BBU if records indicate it hasn't been done previously.

11.4 Complaints Handling and Escalations

Please refer to the Customer Service Plan available from your Account or Client Relationship Manager or from https://www.btwholesale.com/help-and-support/customer-service-plans.html#customer-service-plans for further details regarding complaints and escalations.

12. FTTP Development Roadmap

WBC developments follow a bi-monthly release cycle.

For product changes affecting structural changes to XML or introducing any new response or error codes, we provide 90 day notification to CPs. All 90 day notifications are accompanied by a CP Walkthrough Call held shortly after notification is published.

For product changes affecting online content, process changes or changes to existing codes, we provide 28 day notification to CPs.

90 Days	28 Days
Any structural change to XML consumed by our CPs: • B2B • BBAC XML • BBPR XML reports • KBD XML • Sentry Webservices	Any changes to online content: • eCo Plus (Onesiebel) • BBAC GUI • BBPR Online reports
Any changes to XML content that makes the interface unusable for CPs	Any changes to XML content e.g. new attribute values where the change does not make the interface unusable
Any new response codes: • eCo Plus • KBD • Sentry Webservices	• Any process changes that impact our CPs • Changes to existing Response code • WCR new report/measure • WCR changes to existing attributes or data on the portal

All Release documentation can be found at https://www.btwholesale.com/help-and-support/broadband/development-releases-and-b2b.html#broadband-development-release-documnetation including:

90 Day CP Notifications
28 Day CP Notifications
Broadband Availability User Guide
B2B Broadband XML interface documents
Lead To Cash (L2C) error and response codes

If CPs would like to receive updates about our Broadband Development Releases, they should subscribe to our Broadband Briefings via www.btwholesale.com

13. WBC FTTP on Demand

The WBC FTTP On-Demand product allows customers to upgrade to FTTP speeds when their premises is served by an FTTC enabled cabinet. FTTP On-Demand is built as an overlay within a WBC FTTC enabled cabinet area (the fibre build usually starts from the fibre Aggregation Node serving the FTTC cabinet in the same area).

The product is limited to specific FTTP speed options. FTTP on-Demand is provisioned at a speed of 330/30Mbit/s. Subsequently customers have the option to upgrade to 500/165Mbit/s or 1000/220Mbit/s speeds. It has the same FTTP network design as WBC FTTP, however the plan and network is built reactively in response to an individual WBC FTTP On-Demand customer order rather than proactively for a geographic area.

There is no minimum lead time for WBC FTTP On-Demand as the plan and build is upon receipt of an order. Typical delivery lead times can take anytime between 6 to 12 months to complete from the date the order is acknowledged and will be no earlier than the 90 working days after the customer has accepted the build charge on the order. In some instances, lead times may be longer than 6 to 12 months if significant build work is identified and required. WBC FTTP On-Demand has its own pricing and terms.

13.1 WBC FTTP On-Demand Availability

WBC FTTP On-Demand is shown as a separate product on the BT Wholesale availability checkers.

WBC FTTP On-Demand will only be available in premises served by an enabled FTTC cabinet and is only available in exchanges which are enabled for the product.

Latest information on the availability of FTTC/FTTP On-Demand and other fibre broadband products can be found at :-

https://www.btwholesale.com/pages/sc/static/broadband/Community/Broadband_Community/21CN_Broadband_Availability/Latest_FTTC_Exchange_and_Cab_Availability.html

13.2 WBC FTTP On-Demand L2C

WBC FTTP On-Demand follows a similar order journey to FTTP and can be ordered via the portal or xml interface. The key points of the process are outlined below.

- WBC FTTP On-Demand is presented on BBAC and XML as a separate item to FTTP.

- Customers can request an initial non-binding desk based survey estimate of the build charges for WBC FTTP On-Demand from BT Wholesale. Requests should be emailed to btw.fibre.prod.line@bt.com with the subject line of the email stating "FTTPoD desk based survey". The information that needs to be provided in the email is as follows;

    Your reference (personal to you)

Gold Address National Address Database (NAD) Key
Address details
Postcode
Exchange Group Code (the letters after the district code)
District Code (the first 2 letters before the Exchange Group Code)
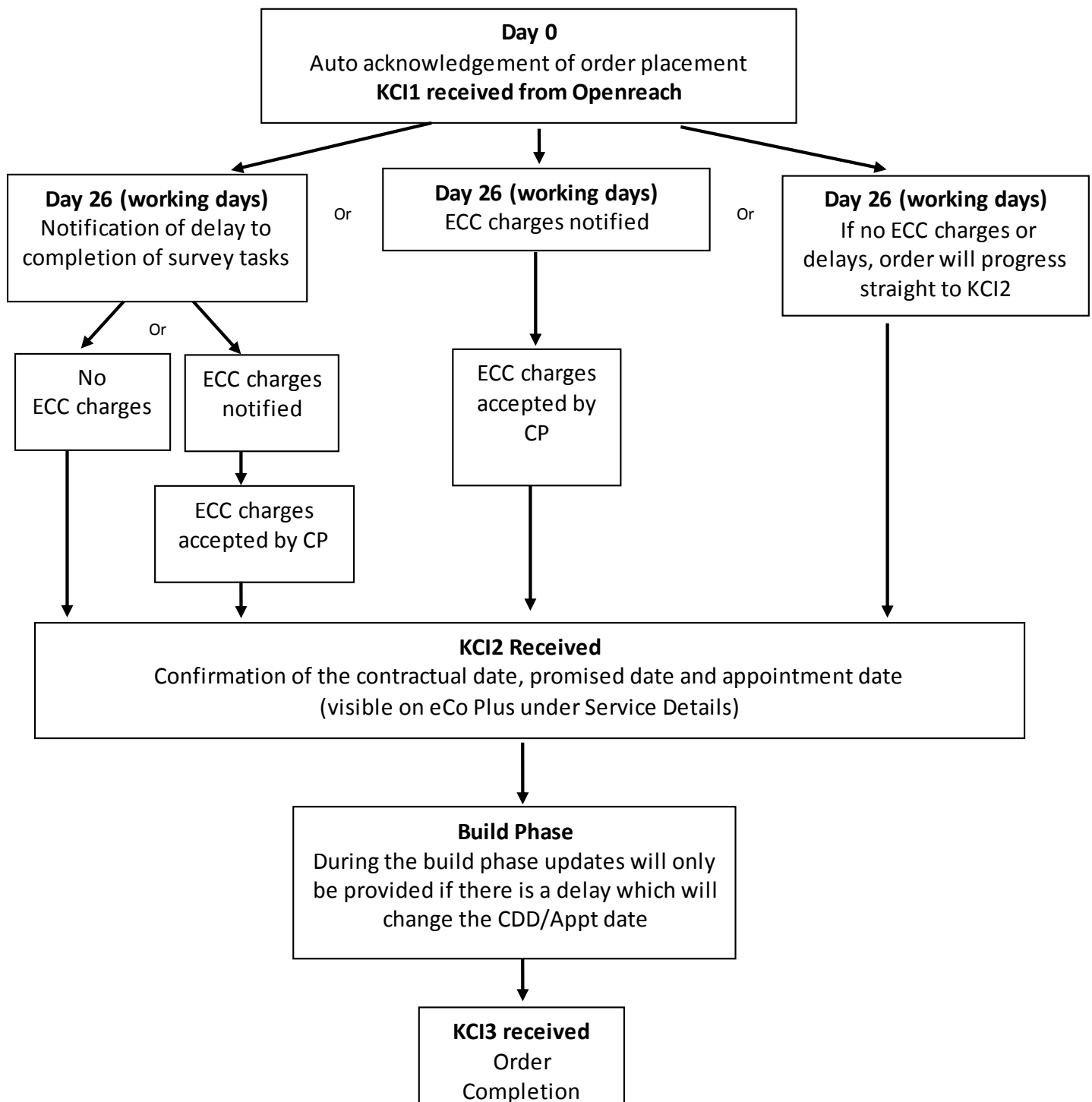
The above information is accessible via the BT Wholesale Broadband Availability Checker.

- Results for the non-binding desk estimate are typically received 12 working days from the date of submission and will include an estimated price (if available) and a list of addresses that are serviced by the same Distribution Point (DP).

- Orders can be placed via EcoPlus and xml. If you wish to proceed with placing an order, select "FTTP" as the Access technology option and "New ONT" as the ONT type.

- Upon receipt of the cutomers order, BT Openreach will need to conduct a survey to determine the actual and final Excess Construction Charges (ECCs). The ECC costs could vary depending on the results of the detailed survey.

- ECCs will be notified via EcoPlus and xml. To accept the charges CPs should place an amendment on the order on eCo Plus or via the B2B and select the amend reason "Authorisation of ECCs" and will then allow the correct charge band to be selected. The final ECCs must be accepted no later than 20 working days from the date provided. If ECCs are not accepted within the timescales the order will be cancelled and the ECC charges may vary for the same L2C order if a resubmission is required.

- Customers who place an order for WBC FTTP On-Demand are committing to pay the survey charge even if subsequently cancelling the order. Please refer to the WBC Price List for pricing information relating to WBC FTTP On-Demand.

- There is no minimum lead time for WBC FTTP On-Demand as the plan and build required is determined upon receipt of an individual customer order. On average orders are typically completed between 6 to 12 months from when the L2C order is placed. Completion of orders will be no less than 90 working days after the acceptence of the ECC on the L2C order.

- L2C orders are placed without an appointment initially, and an ECC charge band can be pre-authorised (or set to zero) at that point. The Variable Connection Charge Band is provided as part of the pre-order check.

- Updates are provided on the Order Tracker, in particular, build delay reasons can be found under Supplier/ Delay Notes.

WBC FTTP on Demand infrastructure is built in response to an order. The fixed and variable connection charges give a good indication of the cost but a detailed survey is required to finalise cost and leadtime. It is expected that the leadtime will typically be between 6 to 12 months and no

less than 90 working days from the date the ECCs are accepted on the L2C order (for feature Band A to E) but could take longer if the network route requires significant build or clearance of duct blockages. Further delays could also occur if BT Openreach need agreement from the Council to close roads etc.

Upon receipt of an order BT Openreach will carry out planning and survey before supplying a statement of costs and leadtime. If these are acceptable the order will progress and fibre network will be built to the customer premises. Key order steps below:

Day 0
Auto acknowledgement of order placement
KCI1 received from Openreach

Or

Day 26 (working days)
Notification of delay to completion of survey tasks

Day 26 (working days)
ECC charges notified

Or

Day 26 (working days)
If no ECC charges or delays, order will progress straight to KCI2

Or

No ECC charges

ECC charges notified

ECC charges accepted by CP

ECC charges accepted by CP

KCI2 Received
Confirmation of the contractual date, promised date and appointment date
(visible on eCo Plus under Service Details)

Build Phase
During the build phase updates will only be provided if there is a delay which will change the CDD/Appt date

KCI3 received
Order
Completion

A table of the KCI points and descriptions can be found below.

Day	KCI number	Content
Day 0	1	Auto Acknowledgement received automatically following order submission confirming the BBEU references. KCI1 received from Openreach and pass through to CP.
Day 26 - If no delay notification or confirmation of ECCs received.	2	Openreach aim to complete the survey activities by working day 26. The survey includes planning of the route, a desktop survey, the survey of the route up to and including the customer premise. The date for the survey of the planned route will be visible on eCo Plus under Supplier Notes. Any ECC costs will then be calculated and returned to the CP for approval. If ECC charges are applicable, these will have to be accepted before the Committed Delivery Date (CDD) can be provided with the KCI2 message. You will have 20 working days (30 calendar days) to accept the ECC charge after which the order will be cancelled. A reminder will be sent after 10 working days (15 calendar days) if no acceptance has been received prior to that date. If there is a delay to the survey activities completing then a delay KCI will be sent on or by working day 26. Updates on delay messages will be visible in the Notes section on eCo Plus – Delay messages relate to the current phase of the order Once the delay is resolved and survey activities have been completed Openreach will return either an ECC charge for approval or a KCI2. The KCI2 will confirm the CPD date and Appointment Date. The Appointment date will be the date that Openreach will attend the premises to do the internal installation of the ONT, so your end user will need to be available for this date. N.B. CPs have up to KCI2+5 days to cancel an order without incurring cancellation charges. After KCI2+5 days the full cancellation charges would apply, these will include the full connection charge, the variable connection charge (distance based charge) and, where relevant, ECCs.
Between KCI2 and the CPD	N/A	During this time Openreach will complete the TR&T (Test, Rod and Tube) of the route to identify any duct blockages which will require clearance and build the fibre network to the

		customer.
		Openreach typically expect the TR&T to take 15 working days. The TR&T will run in parallel with some of the other activities with the overall aim of completing all activities within 25 working days.
		TR&Ts can take significantly longer than the 15 working days should any blockages be identified as this could mean that Planning will need to review if additional build work will be required. Please be aware that this could potentially mean that ECCs will be applicable and that there could be a longer lead-time due to the build requirement, but this cannot be confirmed until the survey/planning work has been completed.
		The CSP will be fitted to the external wall of the premise. The CSP appointment will be visible on eCo Plus when available.
		Commissioning activity will take place between the installation of the CSP and the ONT.
		On the day of the appointment the Openreach engineer will take the fibre from the CSP into the premise and install the ONT.
		Please Note – During the build phase no updates will be provided unless there is a delay that will affect the CDD. Delay notifications will include the revised CDD.
		Delay messages relate to the current phase of the order
On Completion	KCI3	KCI3 sent confirming order completion

Please note – No amendment can be made to the order prior to KCI2, this includes any change to dates, site contacts or hazard notes.

There is an 85 day minimum and a 90 day maximum leadtime for FTTP on Demand on eCo Plus when submitting your order. This will not be the confirmed CDD for an order. The CDD will be confirmed when the results of the full survey is completed and ECCs accepted.

13.3 WBC FTTP On-Demand PONR

The Point of No Return (PONR) for WBC FTTP On-Demand is the same as the WBC FTTP product – CCD-1 (14.00). However, because the build work is conducted purely for an individual end customer, there are additional costs if an order is cancelled after KCI2 + 5 working days. The customer will be charged the fixed connection, variable connection, and any ECCs quoted.

Where ECCs apply and a customer has pre authorised ECC Charge Band 0, the order will be stopped for the customer to agree to the ECCs. The customer has 20 working days (30 calendar days) to do this before the order is cancelled. This activity happens prior to KCI2. However, for orders that have no ECCs, customers will need to ensure they want to proceed prior to KCI2 to avoid these extra charges.

13.4 WBC FTTP On-Demand T2R

The installation in the customers' premises is exactly the same as WBC FTTP. Once the product is installed, it behaves in the same way. As a result T2R is the same as WBC FTTP.

13.5 WBC FTTP On-Demand Pricing

WBC FTTP On-Demand Pricing is available in the WBC Price List Entry (PLE). The key differences from the main WBC FTTP portfolio are listed here as guidance:

- Fixed connection charge (which is different from WBC FTTP connection charge).

- Variable connection charge (in addition to the fixed connection charge). The Variable Connection Charge band is provided to customers via the portal or xml as part of the pre-order check, and customers should cross reference the band with the WBC PLE.
  The variable connection charge is determined by the radial distance from end user premises to the relevant NGA aggregation node. As of March 2016 BT Wholesale will only be accepting orders for FTTP On Demand circuits with distance bands Band A to B and E (Distance Range to 999m).

- In some cases ECCs will also apply in addition to the fixed and variable connection charges.

- Rental charges for specific WBC FTTP on-Demand speed options may differ from the main WBC FTTP rental charges.

- WBC Bandwidth charges also apply.

13.6 WBC FTTP On-Demand Minimum Contract

The minimum contract term for WBC FTTP On-Demand is 12 months. For orders pre 26th February 2018 the minimum contract term for WBC FTTP On-Demand of 36 months will still apply.

Customers selling this product to consumer EUs should be aware of their responsibilities under Ofcom's General Conditions of entitlement – condition 9.4.

The following table explains what changes are possible within the minimum contract, and any Early Termination Charges (ETCs) that would apply.

Change	Impact
Modify – Speed change	The speed can be upgraded to 500/165Mbit/s or 1000/220Mbit/s

	within the minimum contract term. A free port on the ONT provided for FTTP on Demand can be used to support conventional FTTP circuits at any time after the FTTP on Demand contract term starts. This is only applicable where a 4+2 ONT was originally provided (see Section 9).
Other Modify including Standard/elevated	This is possible within the minimum contract term and does not change the end date of the minimum contract term.
Migration to ADSL/ADSL2+/FTTC	This is not possible within the minimum contract term.

At the end of the minimum contract term the FTTP on-Demand circuit can be ceased without early termination penalty. The customer is free to move to FTTP at any available speed or other option.

Change	Impact
Modify – Speed change	At the end of the contract term CPs can place a modify order against the existing FTTP on Demand service and convert it to any standard FTTP speed.
Other Modify including Standard/elevated	FTTP rules will apply
Migration to ADSL/ADSL2+/FTTC	FTTP rules will apply

14. Where to Go For Help

For availability queries, if the Broadband Availability Checker is not showing FTTP as available or planned and you believe that the premise should be enabled for FTTP, CPs can e mail btw.fibre.prod.line@bt.com.

Note that for Greenfield enquiries, CPs will need to provide the following information for us to raise a query into Openreach:

1. Has your customer moved in?

2. If not, when is their move in date?

3. What is the Developer Name?

4. Is there an ONT already installed in the premise?

5. If so, can the serial number be provided?

6. Can you tell us the colour of the lights and if they are steady or flashing on the ONT box?

For all other queries, the Contact Us section of the BT Wholesale website will direct you to the right place to go to get issues resolved.

https://www.btwholesale.com/contact-us.html

Broadband Orders – Details of how to contact us if you have a query about a broadband order.

Broadband Faults – Details of how to contact us if you have a query about a broadband fault.

Billing - If you want to raise a billing enquiry you can use our online eQuery tool.

System Support Helpdesk - Our System Support Helpdesk can help you if you're experiencing technical issues with the applications and systems you access via btwholesale.com.

Broadband Incident Helpdesk - If you are having issues with faults (over 25) that you believe are impacted by the same issue, wish to report a WBMC fault, raise a query on a PEW or obtain an update on an existing Major Service Outage.

High Level Escalation – How to raise a HLE.

15. Glossary of Terms

Acronym	Expansions
AP	Aggregation Point
ATA	Analogue Telephone Adaptor
BBAC	Broadband Availability Checker
BBU	Battery Back-Up
BTW	BT Wholesale
Brownfield	Brownfield refers to sites or areas with established premises that already have
CCD	Customer Confirmed Date
CP	Communications Provider
CPE	Customer Premise Equipment
CRD	Customer Required Date
CSP	Customer Splice Point
ebXML	electronic business eXtensible Markup Language
ECC	Excess Construction Charges
ETC	Early Termination Charge
EU	End User
EUA	End User Access
FTR	Fault Threshold Rate
FTTC	Fibre To The Cabinet
FTTP	Fibre To The Premises
FVA	Future Voice Access
GEA	Generic Ethernet Access
GigE	Gigabit Ethernet
KBD	Knowledge Based Diagnostics
KCI	Keeping Customers Informed
L2C	Lead to Cash
MDU	Multi Dwelling Unit
MOU	Multi Occupancy Unit
MSO	Major Service Outage
MPF	Metallic Path Facility
NAD	National Address Database
NTE	Network Termination Equipment
NTE5	Network Terminating Equipment No. 5

OH	Over Head
OHP	Optical Handover Point
OLT	Optical Line Termination
ONT	Optical Network Termination
PATS	Publicly Available Telephone Service
PC	Personal Computer
PCP	Primary Cross-connect Point
PIR	Peak Information Rate
PLE	Price List Entry
PoH	Point of Handover
PONR	Point Of No Return
PSTN	Public Switched Telephone Network
QoS	Quality of Service
SFFA	Openreach's Super-Fast Fibre Access
SFI	Special Faults Investigation
SIN	Supplier Information Notes
SLA	Service Level Agreement
SMC	Service Management Centre
SMPF	Shared Metallic Path Facility
SSFP	Service Specific Front Plate
SVR	Site Visit Reason
T2R	Trouble to Repair
TMA	Traffic Management Act
VDSL	Very high speed Digital Subscriber Line
VLAN	Virtual Local Area Network
WBC	Wholesale Broadband Connect
WLR	Wholesale Line Rental
VMJ	View My Job
VW	Voice Wiring

16. Document History

Issue	Date	Notes	Author
Issue 1	22/2/10	First draft	L. Martin
Issue 2	8/9/10	FVA, Home environment, throughput and Transition Pricing	L. Martin / N. Walker
Issue 3	5/11/11	Updated to reflect Early Market Deployment product	N. Walker
Issue 4	26/3/12	Updated URL's, MDU process, new speeds, ONT power consumption etc	N. Walker
Issue 5	29/3/13	New section on FTTP On-Demand, speed section updated for FTTP, Strategic New Sites added.	N. Walker
Issue 5.1	1/11/13	Minor changes to FTTP On-Demand sections, ECC clarification, products available, and MC14.	N. Walker
Issue 6	13/01/14	Changes to Minimum Throughput speeds.	J Cardew
Issue 7	26/06/14	Modification to FTTP minimum contract terms as part of Fixed Access Market Review, Clarifications to FTTP on Demand description, removal of 100Mbit/s and 110Mbit/s and other rates that are no longer offered.	A Cameron
Issue 8	26/03/15	Updates to embedded URLs	A Cameron
Issue 9	4/9/15	Changes to ECC Charge band 2, 3 and 4	S Eccles
Issue 10	04/02/16	Updated to reflect changes to Openreach product details for FTTP on Demand	A Cameron
Issue 11	8/12/16		S Clyant
Issue 12	31/10/17	Updated with ultrafast speed options	A Wilks
Issue 13	20/11/17	Update with 1+1 ONT details	A Wilks
Issue 14	10/1/18	Updated to include Pre-Order, CP Migrations	A Wilks
Issue 15	30/5/18	Re-ordered some sections, added extra information about availability checking, WLTO, Real Time Start, Expedites and 500/165 & 1000/220 options	A Wilks
Issue 16	15/01/19	Added additional information on new availability flags, Product Migration and Second ONT sections	A Wilks

Issue 17	22/03/2019	Updates to FTTP On Demand sections, including timescales, contract terms and additional information added to order process plus updates to Lead Times table and additional KCI2 Assure section	F Ionta/ A Wilks
Issue 18	12/5/2019	Release BR updates – added SVR sections, amended references to BBU	A Wilks
Issue 19	8/7/2019	BBU, Transition Pricing and Minimum Lead time sections updated. New Future Availability, MDU, SNN, ONT Healthcheck, VMJ, Supported Order Journeys, Development Roadmap and Where to go for Help sections added.	A Wilks