SIN 495

Version 1.6
July 2023

Suppliers' Information Note

For The BT Network

BT Wholesale Broadband Connect Fibre to the Cabinet Service

Service Description

This document does not form a part of any contract with BT customers or suppliers.

Users of this document should not rely solely on the information in this document, but should carry out their own tests to satisfy themselves that terminal equipment will work with the BT network.

BT reserves the right to amend or replace any or all of the information in this document.

BT shall have no liability in contract, tort or otherwise for any loss or damage, howsoever arising from use of, or reliance upon, the information in this document by any person.

Due to technological limitations a very small percentage of customer interfaces may not comply with some of the individual characteristics which may be defined in this document.

Publication of this Suppliers' Information Note does not give or imply any licence to any intellectual property rights belonging to British Telecommunications plc or others. It is your sole responsibility to obtain any licences, permissions or consents which may be necessary if you choose to act on the information supplied in the SIN.

This SIN is available in Portable Document Format (pdf) from: https://www.bt.com/about/sinet

CONTENTS

1 Introduction

This SIN refers to the Wholesale Broadband Connect (WBC) Fibre to the Cabinet (FTTC) Service and SOGEA (Single Order Generic Ethernet Access) service.

For an overview of the Services please see the product outline and the WBC FTTC Handbook, which can be found at;

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

Definitions:

For the purposes of this document the following definitions apply.

Communication Provider (CP): The Service Provider (SP) or Business Customer (BC) who purchases the WBC service from BT Wholesale and sells or provides it to End-Users.

End User (EU): The person using their PC to connect to a SP/BC's IP network via the BT WBC service.

Generic Ethernet Access (GEA): Openreach Next Generation Access product

This SIN should be read in conjunction with SIN 472 for the WBC service and SIN 498 for Openreach's Fibre to the Cabinet (FTTC) Generic Ethernet Access service and Openreach's SIN 527 – Generic Ethernet Access Gfast

2 Availability

The availability of WBC FTTC and/or SOGEA for an EU can be obtained from the Broadband Availability Checker, which can be found at;

https://www.broadbandchecker.btwholesale.com/#/ADSL

3 Service Outline

The WBC FTTC and SOGEA services provide an EU Access connection option as part of the overall WBC Service. Openreach provides their Generic Ethernet Access product to enable connectivity between an End User and a point of handover in an exchange (which is not necessarily the same telephone exchange as for the EU's Public Switched Telephone Network exchange line) and WBC provides the core network and aggregation function to connect all Openreach point of handover interconnects into the WBC product for onward connectivity to its CP customers at the WBC Interconnect Nodes.

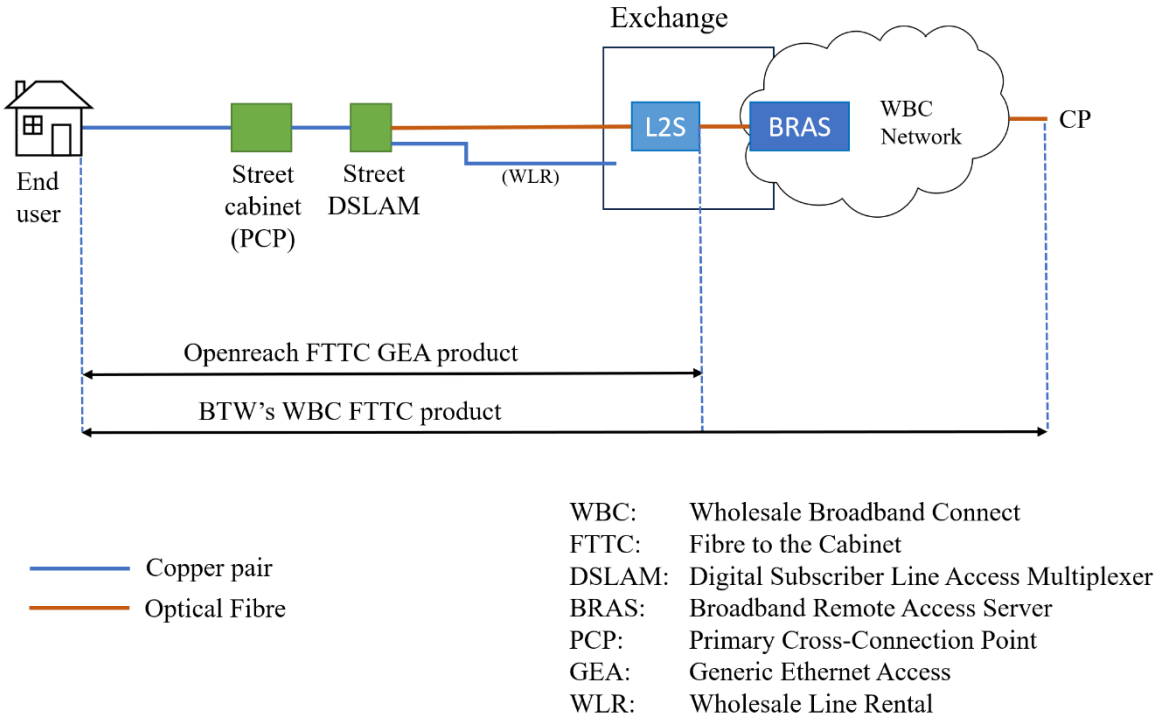

Figure 1 – High Level Overview of BTW's WBC FTTC and SOGEA services

4 BT Wholesale Broadband Connect FTTC service

Wholesale Broadband Connect (WBC) provides Broadband service from the EU to one of 20 WBC interconnect points around the UK.

WBC FTTC and SOGEA use the same WBC infrastructure as the other WBC services but offer an EU Access option based on VDSL 2 technology (rather than ADSL 1 and ADSL 2+ on WBC.) This type of EU Access provides a higher line rate of up to 80Mbps downstream and up to 20 Mbps upstream. A GFast variant is also available in limited geographies which provides speeds of 160Mbps/30Mbps and 330Mbps/50Mbps downstream/upstream.

The WBC FTTC Handbook provides details of where the WBC FTTC exchange roll out plan can be found on BT Wholesale.com.

The main difference between the WBC FTTC and SOGEA services and the WBC ADSL1 and 2+ Service is that the DSLAM ("Digital Subscriber Line Access Module") for the WBC ADSL1 and 2+ Service is situated in an exchange building but for WBC FTTC and SOGEA the DSLAM is situated in a street cabinet (the "Street DSLAM"). The Street DSLAM is served with a fibre back to the exchange to carry the Broadband signals. The Street DSLAM is connected to the Street Cabinet using tie pair cables. VDSL 2 is used to carry the Broadband over the copper pair from the Street Cabinet to the End User's premises. (See Figure 1).

The FTTC variant of the service is provided on top of the Openreach WLR3 product, the Public Switched Telephony Service (PSTN) is unaffected by this new technology and continues to be supplied over the copper pair between the Exchange and EU's premises.

Please note: WBC FTTC is not currently supported over MPF. This means availability of WBC FTTC will be affected by Openreach's plans to withdraw WLR3 from new supply and ultimately retire the WLR3 product at the end of 2025.

For the SOGEA variant of the service, there is only a data service running over the copper pair between the Exchange and the EU's premises, there is no PSTN service present in this scenario.

The WBC FTTC and SOGEA products use the PPP ("Point-to-Point Protocol") session establishment to inform the BT Wholesale BRAS of the Openreach line rate. It is therefore essential that the PPP session is re-started every time the VDSL line re-trains. To ensure this, the PPP / L2TP timeout values must be set to less than 20 seconds.

CPs supporting L2TP customers will need to ensure they set the parameters accordingly. BT Wholesale will set the PPP timeout on the BRAS accordingly for PTA customers.

5 Further Information

More information can be found in the following documents

1) WBC FTTC Handbook
2) SIN 472 for the WBC service (available from: https://www.bt.com/about/sinet)

   This SIN provides the interface information between BTW's WBC product and the SP. All sections are relevant with the exception of Section 3 End User Access.
3) SIN 498 for Openreach's Fibre to the Cabinet (FTTC) Generic Ethernet Access service (Available from: Suppliers' information notes (SINS) (openreach.co.uk)

   This SIN provides the interface information between Openreach and the EU's equipment. For SPs taking the WBC FTTC product the relevant sections are

   2 SERVICE OUTLINE
   2.1 GENERAL
   2.2 SERVICE AVAILABILITY
   2.3 HEAD END HANDOVER CONNECTIVITY (Not relevant)
   2.4 USE OF NTES
   3. INTERFACE DESCRIPTIONS
   3.1 OLT PORT CONNECTIVITY (not relevant)
   3.2 VDSL2 ACTIVE NTE TECHNICAL SPECIFICATION
   3.3 VDSL2 ACTIVE NTE HOUSING

3.4 PPPOE OR DHCP INSERTION

For further information on the commercial aspects of this service, please refer to:

Your BT National Account Manager
BT Broadband Helpdesk via eChat
BT Broadband Helpdesk on 0800 678 1107

BT Wholesale website http://www.btwholesale.com
BT Terms website http://www.bt.com/terms
WBC website Wholesale Broadband Connect – Products & services | BT Wholesale

If you have inquiries relating to this document, then please contact: sinet.helpdesk@bt.com

6 Abbreviations

Acronym	Expansion
ADSL	Asymmetric Digital Subscriber Line
BB	Broadband
BRAS	Broadband Remote Access Server
BT	British Telecommunications plc
BTW	BT Wholesale [BT]
C7	CCITT Signalling System No. 7
CP	Communications Providers
DHCP	Dynamic Host Configuration Protocol
DSLAM	Digital Subscriber Line Access Multiplexer
EU	End User
FTTC	Fibre To The Cabinet
G.Fast	G.fast technology
IP	Internet Protocol [IETF]
L2TP	Layer 2 Tunnelling Protocol
NDA	Non-Disclosure Agreement
NIPP	Network Information Publication Principles
NTE	Network Termination Equipment
OLT	Optical Line Termination
OR	Openreach
PC	Personal Communications
PPP	Point-to-Point Protocol
PSTN	Public Switched Telephone Network

PTA	PPP Termination and Aggregation
SIN	Supplier Information Note
SOGEA	Single Order GEA
SP	Service Provider
STIN	Suppliers' Trial Information Note
VDSL	Very high speed Digital Subscriber Line
WBC	Wholesale Broadband Connect [BT]

7 History

Issue	Date	Changes
Issue 1.0	5th December 2009	SIN Issued
Issue 1.1	10th September 2013	Section 4 amended to show that 80/20 is now the highest WBC FTTC speed variant.
Issue 1.2	January 2016	FTTC Handbook address url updated Change SINet site references from http://www.sinet.bt.com to http://www.btplc.com/sinet/
Issue 1.3	March 2019	Updates for Single Order
Issue 1.4	August 2020	Change SINet site references from http://www.btplc.com/sinet/ to https://www.bt.com/about/sinet
Issue 1.5	May 2021	General Review GFast included FTTC Handbook URL updated Broadband Checker URL updated Openreach SIN URL provided
Issue 1.6	July 2023	Updated diagram to remove MSIL as interconnect option for WBC Added references to SOGEA as a similar connectivity service to FTTC Added statement highlighting upcoming WLR stop-sell / withdrawal

<END>