

SCHEDULE 2
SERVICE REQUIREMENTS

VERSION CONTROL

| VERSION NUMBER | DATE | COMMENT |
|---------------------|---|---|
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SCHEDULE 2 – SERVICE REQUIREMENTS

A. BACKGROUND

This Schedule 2 sets out the Service Requirements for the purpose of this Contract.

B. SERVICE REQUIREMENTS

The Service Requirements are set out below in paragraphs 1 - 11 of this Schedule.

C. COMPLIANCE MATRIX

- (i) The Compliance Matrix comprises two matrices which shall be set out in Schedule 3.1 (Supplier Solution):
- a. a matrix confirming full, partial or non-compliance for the overall Supplier Solution against the Service Requirements; and
 - b. a matrix confirming full, partial or non-compliance for individual Solution Components against the Service Requirements.

D. SERVICE REQUIREMENTS GLOSSARY

- (i) Capitalised terms in this Schedule 2 that are not defined in Schedule 1 (Definitions) shall have the following meanings:

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| Adds | provision of additional services to an End User; |
| ALA | Active Line Access, as defined by NICC; |
| Automated Retail Online Platform | a range of interfaces, systems and processes which allow Retail Service Providers to deliver, maintain, cease or transfer an End User's retail broadband service, through the inputs needed to build a broadband access service; |
| B2B | Business to business; |
| BSS | the Supplier's business support systems which comprise software applications that support the RSP to the extent provided for in this Schedule 2; |
| Busy Hour Committed Rate | the applicable minimum Service Frame (as defined by NICC ND 1030) throughput rate that each Retail Service Provider shall be able to obtain on a wholesale basis and make available to End User Premises for at least 90% of the time during the busiest (i.e. highest total traffic load) three (3) hours of each day during the Term; |
| Community Build and Benefit Contribution Scheme | a business, operations and services model, under which a community secures the appropriate demand level, bears the cost of civil works, including wayleaves, while the Supplier pays for all active components costs and assumes all operational, billing and revenue collection, and maintenance responsibility for the network extensions. The Supplier will be entitled to the revenues received from this model; <u>a contribution of funding made by a community and provided to the Authority which then procures an extension to the Network for the provision of NGA Broadband, Ultrafast Broadband or Gigabit Broadband services which benefit that Community through this Contract.</u> |
| Community Concession | a business, operations and services model, under which a community may secure the appropriate demand level and offer a concession to the Supplier to build and operate the network as an extension to the Supplier's Superfast Broadband solution. The community bears the cost of civil works, wayleaves and pays for all active components costs. The |

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| | Supplier assumes all operational, billing and revenue collection, and maintenance duties for the network extension for the term of the concession, while title to the assets will remain with the community. The Supplier will be entitled to the revenues received from this model; |
| Community Partnership | a business, operations and services model, under which a community may secure the appropriate demand level and agree to work in partnership with the Supplier to deliver an extension to the NGA solution. The community's contribution will be a combination of 'in kind' services (civil works and associated wayleaves) and financial investment. The Supplier and community secure their investment in a partnership vehicle. The Supplier assumes all operation, billing and maintenance duties for the network extension for the term of the partnership. The revenues received will be negotiated and shared in agreement with the members of the partnership. Title to the assets will be shared by the members of the partnership; |
| Gigabit Broadband | gigabit download speeds of at least 1000Mbps delivered across an NGA network; |
| IEEE | the Institute of Electrical and Electronic Engineering; |
| IETF | the Internet Engineering Task Force; |
| Industry Standards | manufacturers' and industry bodies' standards, whether open or proprietary, as well as all relevant British, European and international standards ¹ ; |
| ISO | the International Standards Organisation; |
| ITU | the International Telecommunication Union; |
| Lead-to-Cash Process | process which starts with a sales dialogue between a buyer and supplier which establishes that a product or service will meet the buyer's needs and ends when this need is fulfilled, the service is available to use and the supplier has been paid; |
| Local Community Project | a project being delivered pursuant to paragraph 4 of these Service Requirements; |
| Local Community Requirements | a set of requirements defined by a community from time to time during the Term in respect of a project attracting a capital contribution from the Authority. A Local Community Requirement will only be eligible for Authority capital contribution in the event that the proposed solution seeks to deploy NGA qualifying technologies and meets the requirements of the Commission Decision; |
| MACD | Moves, Adds, changes and disconnects; |
| Mbps | megabits per second; |
| Minimum Service Requirements | those minimum requirements specified at paragraphs 5.1.1 and 5.1.2 of this Schedule 2; |

¹ These include standards from the following relevant bodies:

- NICC for fixed network elements (<http://www.niccstandards.org.uk/publications>)
- 3GPP for wireless and mobile broadband networks (<http://www.3gpp.org/specifications>)
- IEEE for Ethernet and wireless networks (<http://standards.ieee.org/about/get/802/802.html>)
- IETF RFCs for Internet and IP networks (<https://www.rfc-editor.org/>)
- British Standards (<http://shop.bsigroup.com/en/Browse-by-Subject/ICT/>)
- ESTI Standards (<http://www.etsi.org/standards>)
- ITU-T Recommendations for fixed networks (<http://www.itu.int/en/ITU-T/publications>)
- ITU-R Recommendations for wireless networks (<http://www.itu.int/pub/R-REC>)

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| Moves | refers to an End User that requests to be moved from one RSP to another RSP and/or is moving from one home/office location to a different location; |
| National Competence Centre or NCC | the national competence centre established by the UK in accordance with the Commission Decision; |
| NGA (Next Generation Access) | networks that have the following characteristics: (i) deliver services reliably at a very high speed per subscriber through optical (or equivalent technology) backhaul sufficiently close to user premises to guarantee the actual delivery of the very high speed; (ii) support a variety of advanced digital services including converged all-IP services; and (iii) have substantially higher upload speeds (compared to basic broadband networks). In this context NGA broadband networks must be capable of delivering access line speeds of at least 30 Mbps; |
| NICC | NICC Standards Limited, being a technical forum for the UK communications sector that develops interoperability standards for public communications networks and services in the UK. It is an independent organisation owned and run by its members; |
| NICC ALA Specifications | [1] ND1030 Ethernet ALA Service Definition [2] ND1031 ALA UNI Specification [3] ND1036 ALA NNI Specification [4] ND1642 Requirements for Ethernet Interconnect and Ethernet ALA [5] ND 1644 Architecture for Ethernet Active Line Access (ALA) [6] ND 1704 End to End Network Performance Rules and Objectives for the Interconnect of NGNs; |
| NICC B2B Specifications | [1] ND 1421 NICC B2B User Story Approach [2] ND 1422 NICC B2B Best Practice [3] ND1427 B2B Location & Address Identification Principles [4] ND 1429 Guidelines on Tools for Structuring B2B Specifications [5] ND 1430 B2B Designers and Developers Guide [6] ND 1507 NICC B2B Interface Framework Document [7] ND 1508 Trouble-To-Resolve (T2R) white paper proposal [8] ND 1509 B2B Trouble-To-Resolve (T2R) International Gap Analysis [9] ND 1510 Lead-To-Cash (L2C) White Paper Proposal [10] ND 1617 Automated Business to Business (B2B) Transactions: Architecture and Principles [11] ND 1618 Profile for ebXML Messaging Service 2.0 Gateways [12] ND 1622 NICC B2B Interface Requirements Document [13] ND 1623 B2B Trouble-To-Resolve (T2R) User Story Requirements [14] ND1624 B2B Lead-to-Cash (L2C) User Story Requirements [15] ND 1626 NICC B2B Trouble-To-Resolve (T2R) Interface Standard [16] ND 1627 B2B Lead-to-Cash (L2C) Interface Standard [17] ND 1637 B2B Trouble-To-Resolve (T2R) XML Standard [18] ND 1641 L2C XML Schema |
| Ofcom | the national regulatory authority for the telecommunication industries in the United Kingdom; |
| Open Access | separation of access to the network from delivery of services, where the owner or operator of the network allows other communication providers to make use of the facilities for the provision of Wholesale Access Products and Services on commercial terms which are non- |

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| | discriminatory between the other communication providers; |
| OSS | operational support system which comprises software applications (and occasionally hardware) that support back-office activities in a telecommunications service provider's network including processes such as maintaining network inventory, provisioning services (the process of preparing and equipping a network to allow it to provide services to its users), configuring network components, and managing faults. The OSS layer contains the infrastructure for technical network management; |
| PSN or Public Sector Network | a network to support Local Bodies which is compliant with CESG 2-2-2 assurance; |
| Public Enterprise Network | a network carrying voice and data traffic between public sector offices and which provides access to and from other networks. This may include access to the public switched telephone network (PSTN) and the public internet; |
| SOGE | Sustainable operations on the Government Estate; |
| Step Change | change meeting the requirements of paragraphs 59 – 62 of the Commission Decision; |
| Symmetrical | the capability of the network devices to transmit and receive data at equal rates; |
| Ultrafast Broadband | ultrafast download speeds of at least 100Mbps delivered across an NGA network. |

- (ii) Words and phrases defined in the NICC ALA and NICC B2B specifications (as the same may be updated or amended from time to time) shall have the same meanings in this Contract.

SERVICE REQUIREMENTS

1. AUTHORITY'S SERVICE REQUIREMENTS

- 1.1 This section sets out the Authority's Service Requirements for the Deployed Services.
- 1.2 There are a number of types of requirements, including:
- 1.2.1 State aid Requirements - requirements that specifically relate to compliance with the Commission Decision (this is not exhaustive of all Commission Decision compliance requirements);
 - 1.2.2 Solution Requirements – those requirements that define the Supplier Solution based on Solution Components;
 - 1.2.3 Solution Component Requirements – those requirements that relate to the Solution Components that underpin the Wholesale Access Products and Services and the Supplier Solution; and
 - 1.2.4 Wholesale Access Products and Services Requirements – those requirements that define a minimum set of products and services that shall be retailed by Retail Service Providers.

2. STATE AID REQUIREMENTS

- 2.1 The Supplier Solution must be compliant with the Commission Decision.

- 2.2 The Supplier Solution must comprise and, in accordance with the Service Requirements, provide Next Generation Access infrastructure utilising qualifying NGA technologies capable of delivering broadband services with a download speed of at least 30 Mbps.
- 2.3 The Supplier Solution must deliver a Network which represents a Step Change in terms of broadband availability. Step Change can be achieved by demonstration of all the following:
- 2.3.1 Speeds have to be at least doubled by the intervention and substantially higher upload speeds provided when compared with existing upload and download speeds;
 - 2.3.2 Significant new investments in the broadband network are undertaken (i.e. investments that must include civil works and installation of new passive elements); and
 - 2.3.3 The new infrastructure brings significant new capabilities to the market in terms of broadband service availability, capacity and speeds and / or competition.
- 2.4 The Wholesale Access Products and Services made available by the Supplier shall comply with the requirements of the Commission Decision recognising that the specific requirements vary depending on the specific configuration of the network and the qualifying technologies utilised.
- 2.5 The Supplier must provide:
- 2.5.1 Open Access to the Network;
 - 2.5.2 Wholesale Access Products and Services on an open, fair, reasonable, equal and non-discriminatory basis, as further described in paragraph 5 of this Schedule 2. The pricing of these Wholesale Access Products and Services shall be benchmarked in accordance with Schedule 5.2 (Wholesale Access Pricing), which benchmarking process shall be applied in a manner consistent with Paragraphs 134 to 138 of the Commission Decision.
- 2.6 The Supplier Solution should seek to utilise existing infrastructure and facilities where it is technically feasible, cost effective and commercially viable to do so. This can be achieved through:
- 2.6.1 Use of own infrastructure;
 - 2.6.2 Use of another supplier's infrastructure;
 - 2.6.3 Use of other utilities infrastructure;
 - 2.6.4 Use of Authority assets where identified in Schedule 4.2 (Authority Assets).
- The Supplier shall on request by the Authority confirm the extent that it is currently reusing and will reuse existing infrastructure and facilities as part of the Supplier Solution.
- 3. SOLUTION REQUIREMENTS**
- 3.1 The Supplier Solution shall be an Open Access Network which supports the UK's broadband policy objectives by providing Retail Service Providers the Wholesale Access Products and Services through Solution Components that can support Take-up.

- 3.2 The Supplier Solution must provide NGA Broadband, Ultrafast Broadband and Gigabit Broadband to ~~the~~:
- 3.2.1 the volumes of End User Premises designated per Speed Category (being Speed Categories within the ranges of NGA, Ultrafast Broadband or Gigabit Broadband as applicable) - cumulative level criteria; and
 - 3.2.2 those identified End User Premises designated to Speed Categories within the ranges of NGA, Ultrafast Broadband or Gigabit Broadband (as applicable) - identified NGA End User Premises level criteria,
- as set out in the Speed and Coverage Template, including providing the allocated speeds specified in that Speed and Coverage Template to those identified End User Premises within any designated Priority Areas.
- 3.3 The Supplier shall (i) work with the Authority and Programme Authority; and (ii) co-operate with other suppliers and utility providers, to ensure delivery of the Supplier's Solution and to enable the efficient delivery of other related or interfacing publicly subsidised broadband network programmes (supporting the UK Government's broadband policy objectives).
- 3.4 The Supplier Solution shall provide wholesale access network services from Handover Points to End User network termination points, supporting the provision of Wholesale Access Products and Services in the Coverage Area.
- 3.5 The Supplier shall implement, operate and maintain the Supplier Solution to provide Wholesale Access Products and Services delivering to the End User Premises specified in the Speed and Coverage Template:
- 3.5.1 the corresponding level of Access Line Speed provided under paragraph 3.2;
 - 3.5.2 a minimum of a doubling of ~~the corresponding upload speed for each End User Premise (by 7 digit postcode reference) by comparison~~ download speeds overall across the Network when compared to the existing speed category data in the Speed and Coverage Template and substantially higher upload speeds overall across the Network when compared with the Ofcom reference data (~~average for that 7 digit postcode~~) published at the time of ~~submission of the Supplier's response to the Authority issued~~ the ITT;
 - 3.5.3 a minimum Busy Hour Committed Rate for each End User Premise of 15Mbps;
 - 3.5.4 the capability (without requiring the Supplier to mandate this to Retail Service Providers) for an installation to be completed by a Retail Service Provider based on a Retail Service Provider's standard installation charges, with no excess installation charges payable by the Retail Service Provider to the Supplier;
 - 3.5.5 ensuring that capacity is managed for the duration of the Term so that any End User Premises can place an order with a Retail Service Provider which can be provisioned in accordance with the Service Levels set out in paragraph 5.1.2;
 - 3.5.6 ensuring that the service provided to the End User Premises continues to meet the criteria set out in paragraphs 3.5.1 to 3.5.5 for the duration of the Term following Achievement of the corresponding Milestone Type M2 under which each relevant End User Premises is served; and

3.5.7 such that Wholesale Access Products and Services are provided at charges which allow Retail Service Providers to provide affordable NGA, Ultrafast Broadband and Gigabit Broadband services to End Users.

4. COMMUNITY NETWORK REQUIREMENTS

4.1 The following requirements apply only where the Authority has included a specific Local Community Project requirement as part of the Service Requirements for this Contract. The following establishes the associated minimum requirements to be met by the Supplier.

4.2 The Supplier shall provide, subject to the Change Control Procedure, a network access and data transport components service, as agreed with the Authority, to communities requesting to extend Wholesale Access Products and Services connectivity and/or to increase Access Line Speeds, beyond the Supplier's originally planned Supplier Solution provided that such change falls within the Commission Decision.

4.3 The Supplier shall support extensions to the Supplier Solution by offering and supporting a Local Community Project. Additionally, upon reasonable request, the Supplier may also support extensions to its NGA proposals by ~~offering and~~ supporting a Community ~~Build & Benefit Scheme, a Community Partnership Scheme and/or a Community Concession~~ Contribution Scheme.

4.4 The Supplier shall identify and provide connectivity to nominated points, where the local community (for example, a local authority, residential groups, local businesses) provides, builds and maintains its own access network. This is described as a community backhaul solution.

4.5 The Supplier shall in respect of any Local Community Project:

4.5.1 proactively and effectively engage, interact with and inform each local community to ensure a proper and successful delivery; and

4.5.2 work with the local community to define a set of Local Community Requirements subject to such requirements being incorporated to this Contract via the Change Control Procedure.

4.6 Nothing under this paragraph 4 shall prevent a local community from sourcing services that are available outside of this Contract and which are capable of achieving similar objectives for the local community.

~~[Supplier Note: It is BDUK's intention that these new procurements should – to the greatest extent practicable – establish a reusable and extensible infrastructure platform, as well as increasing the extent of NGA, Ultrafast Broadband and Gigabit Broadband coverage in the Intervention Areas. BDUK envisages the Supplier extending its existing network and/or and other third party operators creating and sustaining new access networks in the future to serve residential and business premises that would otherwise be out of reach and left uncovered by the initial Implementation Plan. This includes being able to take advantage of potential new sources of funding from individuals and communities, as well as any future investment from network operators.]~~

~~The text in this Supplier Note outlines certain potential additional requirements, which are anticipated to improve connectivity options and could help the development of new services in community areas within the intervention area. These requirements 1-6 are also provided for~~

~~comment, in particular regarding achievability and underlying cost drivers.~~

~~A) Initiatives to enable extensions to Supplier's implementation plans:~~

- ~~1) "Community Contribution scheme": The Supplier shall support extensions to the Supplier Solution by offering and supporting a Community Contribution scheme: i.e. a business, operations and services model, under which an organisation (for example, a local community) secures the appropriate demand level, bears the cost of civil works, including wayleaves, while the Supplier pays for all active components costs and assumes all operational, billing and revenue collection, and maintenance responsibility for the network extensions. The Supplier will be entitled to the revenues received from this model. (Note, this is intended to be analogous to the approach developed for the Fell End project, whereby Openreach adopted civil infrastructure provided by the community, provided FTTP connectivity and incorporated into its own network)~~
- ~~2) "Public funded upgrade / extension options": The Supplier shall provide, subject to the Change Control Procedure, a network access and data transport components service, as agreed with the Authority, to organisations (for example, local communities) requesting to extend Wholesale Access Products and Services connectivity and/or to increase access line speeds, beyond the Supplier's originally planned Supplier Solution provided that such change falls within the Commission Decision. (Note, this is an approach whereby a community could 'buy-in' to the Supplier's implementation plan, with the community's private funding being committed to the Supplier through the CCP)~~

~~B) Initiatives to ensure infrastructure capability and availability at specific locations:~~

- ~~3) "Gigabit on demand": The successful supplier will develop a standard product that offers gigabit capability to individual premises or clusters of premises upon request. It is expected that the pricing would include a substantially higher connection charge, which would be bespoke to each request, but consistently priced, and preferably with options to offset charges with benefit-in-kind, e.g. free wayleaves or self-install. (Note, this is intended to be analogous to the approach explored by Openreach with their FTTP-On-Demand product)~~
- ~~4) "Local Fibre Infrastructure Connectivity": The Authority may choose to require – either as part of the requirements in the ITT or subsequently through the Change Request Procedure – the Supplier to include, as part of its solution, a dark fibre capacity at specified location. (Note: BDUK envisages this could be used, for example, where an organisation (for example, a local community, local authority, residential groups, local businesses) provides, builds and maintains its own access network and is now seeking fibre access to create a backhaul solution.) The Supplier would be able to, but would not be obliged to, incorporate this capability as part of NGA broadband coverage to the premises in the target area.~~

~~C) Initiatives to reduce backhaul rental charges and improve sustainability of future access networks covering the remaining unserved areas:~~

- ~~5) "Local Point Of Presence": The Authority may choose to require – either as part of the requirements in the ITT or subsequently through the Change Request Procedure – the Supplier to include as part of its solution the creation of a Point of Presence at a chosen connection point in order to reduce any distance-dependent component of the prices for any leased line products ordered by customers in the area local to the Point of Presence. (Note: BDUK envisages that an alternative approach to reduce backhaul costs, that should not require changes to network topology, could be for a Supplier to develop a new backhaul product, specific to the Intervention Area, whereby the rental price is reduced by payment of a one-off (capitalisable) charge).~~
- ~~6) "Managed Bandwidth for Communities": The Supplier would be required to offer a managed (marginal) bandwidth product from Structures in the Intervention Area back to a Point of Presence to support access networks serving small numbers of customers. (Note, this is intended to be analogous to the per-customer data transit from the cabinet to the head end embedded in the Openreach GEA product).]~~

5. SERVICE LEVEL CATEGORY

5.1 The Supplier Solution shall at all times meet or exceed the following service levels set out in paragraphs 5.1.1 and 5.1.2, which together constitute the Minimum Service Requirements:

- 5.1.1 The Supplier shall provide minimum network availability and support for its Retail Service Providers which shall include:
- (a) Network availability of 99.5%, measured on a monthly basis and in accordance with Good Industry Practice;
 - (b) Trouble to Resolve (T2R) (as defined in NICC ND1626) time of a maximum of two (2) Working Days; and
 - (c) technical support and customer care hours – 0800 to 1800 7 days a week.
- 5.1.2 The Supplier Solution for NGA, Ultrafast Broadband and Gigabit Broadband Wholesale Access Product and Services shall be deployed by the Supplier in a manner that will ensure when a retail service is requested by a Retail Service Provider that such orders can be provisioned to End Users with order, installation and availability service levels, including as a minimum a provisioning order installation timescale assessed separately on a per Wholesale Access Product and Service basis of 90% of all orders completed in ~~five~~ ten (10) Working Days and 100% of all orders completed in twenty (20) Working Days, as calculated on a monthly basis.
- 5.1.3 The Supplier Solution for Wholesale Access Product and Service in respect of Wholesale Passive Products, shall ensure provision of such services in accordance with the corresponding order, installation and availability services levels as specified in the Wholesale Product Template.

- 5.2 In order to enable the Retail Service Providers to support the End User experience, the Supplier shall back up the achievement of the Minimum Service Requirements with appropriate service credits or similar mechanisms to incentivise performance and compensate the Retail Service Providers in the event that the Supplier fails to achieve any of the Minimum Service Requirements.
- 5.3 The Supplier Solution shall provide integrated network access and data transport components to End User Premises and Handover Points that comply with all relevant Industry Standards or achieve functions/performance levels that are equivalent to or better than those provided for by such standards as are necessary to ensure interoperability.
- 5.4 The Supplier shall mitigate and minimise, in accordance with Good Industry Practice, the number of single points of failure within the Network.
- 5.5 The Supplier Solution shall be capable of enabling symmetrical services for RSPs.
- 5.6 The Supplier shall consider potential future demand by itself and alternative operators in the infrastructure design of the Supplier Solution and the deployment of physical assets, and shall design the Supplier Solution accordingly in order to minimise the likelihood of unnecessary further creation of infrastructure assets by itself or alternative operators.

6. OPERATIONS

- 6.1 The Supplier shall provide the same Automated Retail Online Platform (capable of handling volume transactions) for use by all Retail Service Providers. Where the Supplier is developing new systems and associated processes, these shall align with an industry standard service management framework (e.g. FTM Framework, eTOM, ITIL).
- 6.2 The Supplier shall provide a Lead-to-Cash Process to support Retail Service Providers which, as a minimum, shall include the following:
 - 6.2.1 order entry;
 - 6.2.2 order fulfilment such as line testing;
 - 6.2.3 distribution;
 - 6.2.4 billing and invoicing; and
 - 6.2.5 buyer payment/collection.
- 6.3 The Supplier Solution shall include capabilities so as to be able to service MACDs.
- 6.4 The Supplier shall provide full OSS facilities to provide high quality and on-going operational management to Retail Service Providers, and which as a minimum shall include:
 - 6.4.1 maintaining network inventory (including both physical and logical);
 - 6.4.2 providing communications providers with location-based, capacity management information for all offered products on subsidised infrastructure;
 - 6.4.3 provisioning services;
 - 6.4.4 configuring network components;

- 6.4.5 monitoring and managing performance using relevant performance indicators;
 - 6.4.6 monitoring and managing faults;
 - 6.4.7 trouble-ticketing; and
 - 6.4.8 service assurance.
- 6.5 The Supplier's OSS shall be designed so as to be capable of being scaled to manage increased Take-up delivered by Retail Service Providers as necessary to achieve the Minimum Service Requirements. All OSS/BSS Supplier systems that are not as at the date of this Contract capable of dealing with large volumes of operations shall be upgraded as part of the Deployed Services so as to become compliant with the NICC B2B specifications or equivalent Industry Standards.
- 6.6 The Supplier shall operate a BSS, which as a minimum shall include the following B2B processes:
- 6.6.1 RSP contact service;
 - 6.6.2 customer relationship management;
 - 6.6.3 order management;
 - 6.6.4 order fulfilment;
 - 6.6.5 service activation; and
 - 6.6.6 billing and invoicing.
- 6.7 The Supplier's BSS shall be designed so as to be capable of being scaled to manage increased Take-up delivered by Retail Service Providers whilst continuing to meet at least the Minimum Service Requirements.
- 6.8 The Supplier shall provide a service management model which describes the processes and communication needed to address disputes with and complaints from Retail Service Providers, including a dispute escalation procedure.
- 6.9 The Supplier shall have standard OSS and BSS processes and procedures for Retail Service Providers. These shall, as applicable, comply with the relevant NICC standards, or Industry Standards, or achieve functions/performance levels that are equivalent to or better than those standards.
- 6.10 The Supplier Solution shall enable RSPs using it to adhere to Ofcom's Approved Code of Practice for Complaints Handling as the same may be amended, updated or replaced from time to time.
- 6.11 The Supplier shall report on Take Up, RSP availability, active wholesale connections and average end user pricing as set out in Schedule 6.4 (Reports).
- 7. PROJECT DELIVERY**
- 7.1 The Supplier shall roll out the Network and its Wholesale Access Products and Services in accordance with this Contract and in doing so shall:
- 7.1.1 adopt a standard project management approach;
 - 7.1.2 meet, communicate and co-operate with the Authority as required in accordance with this Contract to allow the Authority to adequately

understand progress of the project, achievement of Milestones and associated issues and risks.

7.2 The Supplier shall, where the Authority's investment includes European Regional Development Fund (ERDF) funds, meet standards required by ERDF as identified in Schedule 5.5 (External Funding) of this Contract.

7.3 The Supplier Solution shall include:

7.3.1 the agreed and defined Milestones for delivery of the Supplier Solution;

7.3.2 the timetable for the preparation and delivery of the Supplier's detailed marketing strategy;

7.3.3 the Supplier's change management process for change to the Project Plan, an example of which could be the rollout delivery phasing;

7.3.4 details of the Supplier's project management processes including its procedures, standards, tools and documentation that it will use to deliver its Supplier Solution;

7.3.5 details of the Supplier's quality management process, including standards, tools and key performance indicators that shall be used by the Supplier to deliver the Supplier Solution;

7.3.6 the Supplier's project organisation and staffing including key roles and responsibilities;

7.3.7 the type of project team availability (on site / back office / remotely / on call, etc.) during the various project phases;

7.3.8 a detailed project plan for each Phase including key planning information with respect to the design, build and testing of the Supplier Solution associated with each Milestone;

7.3.9 details of the Wholesale Access Product and Service documentation to be provided by the Supplier to Retail Service Providers and the Authority, such as functional and technical admin specifications and guides, training manuals, configuration and customisation manuals; and

7.3.10 details of the Supplier's project finance management processes, including with respect to audit.

7.4 The Supplier shall produce and maintain suitable documentation, information and records such that it can at all times demonstrate to the Authority on request that the Supplier Solution will provide the required Network performance as specified in the Supplier Solution, which shall include:

In the case of a fibre based solution:

7.4.1 A list of Structures to be built under the Supplier Solution;

7.4.2 The network design, topology and element dimensioning;

7.4.3 The list of NGA white premises and applicable postcodes for each Structure.

In the case of a wireless based solution:

7.4.4 The network design, topology and element dimensioning;

- 7.4.5 Radio and interference plans that are specific to the proposed technologies;
- 7.4.6 Frequency plan;
- 7.4.7 The list of NGA white Premises and applicable postcodes that will receive an NGA solution.

In the case of other solutions, should include comparable documentation, information and records to that outlined above.

- 7.5 During the term of this Contract the Supplier shall provide assistance to the Authority which may include:
 - 7.5.1 test validation reports;
 - 7.5.2 site visits;
 - 7.5.3 systems/records review;
 - 7.5.4 field strength measurements and surveys;
 - 7.5.5 witnessing testing; and
 - 7.5.6 End User visits.

8. **SUSTAINABILITY**

The Supplier shall as a minimum:

- 8.1.1 roll out Deployed Services which are sustainable and comply with or exceed the UK Government sustainability targets, including SOGE and 'Greening Government ICT';
- 8.1.2 ensure compliance with relevant environmental legislation; and
- 8.1.3 in association with the Authority develop, implement and operate the Supplier's plans to meet the Authority targets, as agreed with the Supplier, for sustainability in accordance with the Authority's ITT when developing the Supplier Solution.

9. **DELIVERING TAKE-UP**

- 9.1 The Supplier shall create and deliver within the timescales specified in the Project Plan a detailed marketing strategy (including a programme of activities) which supports the maximum Take-up during the term of this Contract for NGA, Ultrafast Broadband and Gigabit Broadband.
- 9.2 As a minimum the Supplier's marketing strategy shall provide for:
 - 9.2.1 white label generic unbranded marketing to encourage maximum business and residential take up;
 - 9.2.2 white label generic unbranded marketing approaches for NGA, Ultrafast Broadband and Gigabit Broadband campaigns;
 - 9.2.3 the establishment of a marketing and account resource to support Take Up;
 - 9.2.4 a range of marketing communications channels (examples: web, newspaper, radio, brochures, stickers etc.) to ensure maximum coverage of information

during the NGA, Ultrafast Broadband and Gigabit Broadband implementation.

- 9.3 The Supplier methodology for measuring both NGA, Ultrafast Broadband and Gigabit Broadband Take Up and how delivery will be validated and shared with the Authority is set out in Schedule 3.1 (Supplier Solution).
- 9.4 The Supplier shall provide reports on the adoption by RSPs of Wholesale Access Products and Services in accordance with Schedule 6.4 (Reports) in order to enable monitoring of the success of the marketing plan.
- 9.5 The Supplier, together with the Authority, shall engage with local businesses, residents and communities to discuss an engagement and resourcing plan for Demand Stimulation in the identified target areas detailed in this Contract.
- 9.6 The Supplier shall conduct such additional Demand Stimulation activities as may be requested and funded jointly between the Parties.

10. **SOLUTION COMPONENT REQUIREMENTS**

The following requirements relate to the Solution Components as detailed in the Solution Components Template as part of the Supplier Solution.

- 10.1 The Solution Components shall have a lifespan and an upgrade path for the Term. The Supplier shall report (where applicable) on advances and opportunities for trials or piloting of new NGA qualifying technology through the governance arrangements set out in Schedule 6.1 (Governance), for consideration for inclusion under this Contract (subject to Commission Decision and procurement constraints).
- 10.2 The Solution Components, including data transport components, shall be upgradable so as to support increasing Access Line Speeds throughout the Term.
- 10.3 The Solution Components when configured together shall be capable of providing Wholesale Access Products and Services that underpin the broadband products and services offered by Retail Service Providers in the marketplace as at the Effective Date.
- 10.4 The Solution Components shall support the following ALA (as defined in ALA ND 1644) classes of service or the equivalent Industry Standard:
 - 10.4.1 Class A Real time, delay sensitive, applications (e.g. voice);
 - 10.4.2 Class B Streaming applications (e.g. video);
 - 10.4.3 Class C Internet Data; and
 - 10.4.4 Class D Guest or 3rd party access,having taken account of the packet loss, delay, round trip delay, jitter and wander characteristics inherent in the Supplier Solution. For QoE and QoS harmonisation, NICC ND 1030 recommendations will be used as a guideline.
- 10.5 Throughout the Term the Supplier shall ensure all Solution Components comply with the applicable Industry Standards or achieve function/performance levels that are equivalent to or better than those standards.
- 10.6 The Solution Components shall independently, and as part of the Supplier Solution, be capable of meeting the requirements for technical acceptance detailed in the Test Strategy. These shall include, at a minimum:

- 10.6.1 interoperability tests;
 - 10.6.2 operations tests, including end to end testing of BSS, OSS and Network;
 - 10.6.3 performance tests;
 - 10.6.4 operations readiness tests, including monitoring, failovers; and
 - 10.6.5 other relevant technology-specific tests.
- 10.7 The Supplier shall maintain, and when appropriate publish to Retail Service Providers a technical release schedule for each Solution Component which supports new software and hardware changes to continue service delivery with equal or higher quality and/or performance.

11. **WHOLESALE ACCESS PRODUCTS AND SERVICES**

- 11.1 The Wholesale Product Template shall set out the Supplier's range of Wholesale Products and Services which will be published and available to the Retail Service Providers, including any new forms of access granted pursuant to paragraph 11.6.
- 11.2 Wholesale Access Products and Services shall support Retail Service Providers in gaining Take-up, excluding the impact the Retail Service Provider may have on the retail products and services consumed by the End User.
- 11.3 The Supplier shall develop and configure new or existing Wholesale Access Products and Services on a regular basis throughout the Term in line with reasonable Retail Service Provider requirements and the goal of maximising Take-up.
- 11.4 The Supplier shall offer Wholesale Products and Services:
- 11.4.1 suitable to allow access seekers to obtain effective Open Access on fair-~~s~~
[reasonable](#) and non-discriminatory terms;
 - 11.4.2 consistent with the Service Requirements;
 - 11.4.3 consistent with the Commission Decision, in particular with regard to paragraphs 122 to 127 of the Commission Decision.

This obligation shall, as a minimum, apply to all infrastructure assets in the Coverage Area that have been subsidised by State aid as well as all existing infrastructure in the Coverage Area that is used in the deployment of the subsidised network. The Supplier shall document how multiple communication providers can use the physical assets and how capacity is managed between multiple communications providers.

- 11.5 Specific Forms of Network Access: In all cases the Supplier must make available from the point of deployment the forms of physical access as identified in paragraph 126 of the Commission Decision.
- 11.6 General forms of new network access: In all cases the Supplier must make available other forms of wholesale access in accordance with paragraph 127 of the Commission Decision, insofar as it relates to Open Access procurement. The Parties shall agree and apply a process for receipt and handling of applications for new forms of network access [which shall include the requirement for notification of such requests to the Authority prior to such other form of wholesale access being provided by the Supplier to the access seeker.](#)
- 11.7 Where the circumstances described in Paragraphs 139 and 140 of the Commission Decision occur, any supplementary or increased regulatory requirements

supplementary access requirements shall be deemed automatically included in this Schedule 2.